



CITY OF LOMPOC

NOTICE OF DETERMINATION

X Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

Clerk of the Board
County of Santa Barbara
105 E. Anapamu Street, Room 407
Santa Barbara, CA 93101

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 22152 of the Public Resources Code.

City of Lompoc General Plan Update	SCH No. 2008081032
<u>Project Title</u>	<u>State Clearinghouse Number (If submitted to Clearinghouse)</u>
<u>Environmental Impact Report (EIR 09-01)</u>	<u>General Plan Update (GP 07-04)</u>
<u>Zone Change (ZC 10-01)</u>	
<u>City Project Files</u>	

<u>Effective Citywide</u>	<u>City of Lompoc, County of Santa Barbara</u>
<u>Project Location</u>	

Final Environmental Impact Report (EIR 09-01) for the City of Lompoc Comprehensive General Plan Update, Study area included four (4) potential expansion areas; Land Use, Circulation, and Housing Elements; Land Use Map; and Zone Change to achieve consistency with the Land Use Map..

Project Description

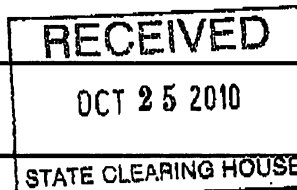
The City of Lompoc certified the Final Environmental Impact Report on October 19, 2010, and made the following determinations:

1. The project will have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
3. The EIR and record of certification may be examined at the Planning Division, 100 Civic Center Plaza, Lompoc.
4. Mitigation measures were made a condition of approval for this project.
5. A Statement of Overriding Considerations was adopted for this project. Findings were made pursuant to CEQA.

Lucille T. Breese, AICP, Planning Manager
Contact Person Title

Lucille T. Breese
Signature

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805.875.8273
Telephone

October 20, 2010
Date



CITY OF LOMPOC

2010 OCT 21 AM 10:33

COUNTY OF SANTA BARBARA
CLERK OF THE
BOARD OF SUPERVISORS

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City of Lompoc General Plan Update

SCH No. 2008081032

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City of Lompoc, County of Santa Barbara

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Contact Person

Title

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Signature

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State of California—The Resources Agency
 DEPARTMENT OF FISH AND GAME
 2010 ENVIRONMENTAL FILING FEE CASH RECEIPT

RECEIPT# 27
STATE CLEARING HOUSE # (If applicable)

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY

LEAD AGENCY CITY OF LOMPOC		DATE 10/22/10	
COUNTY/STATE AGENCY OF FILING SANTA BARBARA / CA		DOCUMENT NUMBER	
PROJECT TITLE CITY OF LOMPOC GENERAL PLAN UPDATE			
PROJECT APPLICANT NAME CITY OF LOMPOC		PLANNER: LUCILLE BREESE	
PROJECT APPLICANT ADDRESS 100 CIVIC CENTER PLAZA / P.O. BOX 8001		CITY LOMPOC	STATE CA
		ZIP CODE 93438	PHONE NUMBER 875-8273
PROJECT APPLICANT (Check appropriate box):			
<input checked="" type="checkbox"/> Local Public Agency	<input type="checkbox"/> School District	<input type="checkbox"/> Other Special District	<input type="checkbox"/> State Agency
			<input type="checkbox"/> Private Entity

CHECK APPLICABLE FEES:

<input checked="" type="checkbox"/> Environmental Impact Report (EIR)	\$2,792.25	\$	\$2,792.25
<input type="checkbox"/> Negative Declaration (ND)(MND)	\$2,010.25	\$	\$0.00
<input type="checkbox"/> Application Fee Water Diversion (State Water Resources Control Board Only)	\$850.00	\$	\$0.00
<input type="checkbox"/> Projects Subject to Certified Regulatory Programs (CRP)	\$949.50	\$	\$0.00
<input checked="" type="checkbox"/> County Administrative Fee	\$50.00	\$	\$50.00
<input type="checkbox"/> Project that is exempt from fees			
<input type="checkbox"/> Notice of Exemption			
<input type="checkbox"/> DFG No Effect Determination (Form Attached)			
<input type="checkbox"/> Other _____		\$	_____

PAYMENT METHOD:

Cash Credit Check Other _____

TOTAL RECEIVED \$ 2,842.25

SIGNATURE <i>x N. U. Rodriguez</i>	TITLE DEPUTY CLERK
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MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires that a reporting or monitoring program be adopted for the conditions of project approval that are necessary to mitigate or avoid significant effects on the environment (Public Resources Code § 21081.6). The mitigation monitoring and reporting program (MMRP) is designed to ensure compliance with adopted mitigation measures during project implementation. For each mitigation measure recommended in the Environmental Impact Report, the MMRP identifies the action required and the monitoring that must occur. In addition, a responsible agency is identified for verifying compliance with individual conditions of approval contained in the MMRP.

In order to implement this MMRP, the City of Lompoc shall designate a Project Mitigation Monitoring and Reporting Coordinator (“coordinator”). The coordinator shall be responsible for ensuring that the mitigation measures incorporated into the project are complied with during project implementation. Further, the coordinator will distribute copies of the MMRP to those responsible agencies identified in the MMRP, which have partial or full responsibility for implementing certain measures. Failure of a responsible agency to implement a mitigation measure shall not in any way prevent the lead agency from implementing the proposed project.

The MMRP contains a compilation of mitigation measures that require future action, for example, in the form of revisions to elements of either phase (Phase I or Phase II) of the General Plan Update (2030 Update) or in the form of fair-share contributions for identified traffic mitigation measures. For mitigation measures identified in the EIR that specify revisions to the Phase I General Plan Update Elements (the Land Use, Housing, and Circulation Elements), these measures would be implemented as part of the City’s adoption of the Phase I General Plan Update. For mitigation measures identified in the EIR that specify revisions to the Phase II General Plan Update Elements (the Conservation/Open Space, Safety, Noise, Parks and Recreation, Urban Design, and Public Services Elements), these measures would be implemented as part of the City’s adoption of the Phase II General Plan Update. The timing requirements for implementation of these measures are noted in the below table and once incorporated into the final, updated and adopted General Plan, no further tracking of these measures will be required.

The following table shall be used as the coordinator’s checklist to determine compliance with required mitigation measures.

Lompoc General Plan Update EIR
Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification	
					Initial	Date
AIR QUALITY						
<p>AQ-3(a) Odor Abatement Plan. The 2030 Update to the Conservation/Open Space Element shall include the following new policy.</p> <p><i>Applicants for potential odor generators shall develop and implement an Odor Abatement Plan (OAP), which shall be submitted to the Community Development Department and approved by the City prior to zoning clearance. The OAP shall include the following:</i></p> <ul style="list-style-type: none"> <i>Name and telephone number of contact person(s) responsible for logging and responding to odor complaints;</i> <i>Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the responsible party on how to respond to an odor complaint;</i> <i>Description of potential odor sources (i.e. odors associated with a fast food restaurant may include cooking and grease aromas);</i> <i>Description of potential methods for reducing odors, including minimizing potential add-on air</i> 	<p>Verify that the policy has been added to the 2030 General Plan Conservation/ Open Space Element. An appropriate policy number will need to be assigned.</p>	<p>Prior to approval of Phase II of the 2030 General Plan update.</p>	<p>Once</p>	<p>LCDD</p>		

Key: LBD - Lompoc Building Division
 LCDD - Lompoc Community Development Department

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<p><i>pollution control equipment; and</i></p> <ul style="list-style-type: none"> <i>Contingency measures to curtail emissions in the event of a continuous public nuisance.</i> 						
<p>AQ-3(b) Prohibited Commercial Uses in Mixed-Use Zones. To ensure that future residents of mixed-use development would not be exposed to nuisance odors, the following revisions to the 2030 Update of the Land Use Element shall be made:</p> <p>1) Table LU-1 shall be revised to include in the Description for both the Old Town Commercial (OTC) and Mixed Use (MU) land use designations the following additional text:</p> <p><i>Prohibited uses include chemical-based photographic studios, laundry facilities, and other potentially incompatible uses.</i></p> <p>2) A new implementation measure shall be added as follows:</p> <p>Measure 36. The Zoning Code shall be updated to include a list of prohibited uses in mixed use developments. The list shall include chemical-based photographic studios, dry-cleaning laundry facilities, and other potentially</p>	<p>Verify that the revisions to Table LU-1 in the 2030 General Plan Land Use Element have been made and that Measure 36 has been added.</p>	<p>Prior to approval of Phase I of the 2030 General Plan update</p>	<p>Once</p>	<p>LCDD</p>		

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incompatible uses.						
AQ-4(a) GHG Emissions Reduction Planning. To ensure that future development under the General Plan meets the GHG emissions reduction requirements in AB 32, the following policy shall be added to the General Plan Conversation/Open Space Element: <i>The City shall participate in regional planning efforts with SBCAG and the SBCAPCD to reduce basin-wide GHG emissions in compliance with SB 375.</i> The City's participation in regional planning efforts to reduce basin-wide GHG emissions is anticipated to include City assistance in developing a GHG emissions inventory, and identifying reduction measures related to site design, energy conservation, and trip reduction: This requirement to meet AB 32 emissions reductions shall lapse once the Resource Agency adopts guidelines for the mitigation of GHG emissions, pursuant to SB 97.	Verify that the policy has been added to the 2030 General Plan Conservation/Open Space Element.	Prior to approval of Phase II of the General Plan update	Once	LCDD		
AQ-4(b) Consideration of Project Greenhouse Gas Emissions Reduction Measures. The following policy shall be	Verify that the policy has been added to the	Prior to approval of Phase II of the General Plan	Once	LCDD		

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added to the 2030 General Plan Conservation/Open Space Element: <i>Through the CEQA environmental review process for discretionary permit applications, the City shall consider all feasible GHG emissions reduction measures to reduce direct and indirect emissions associated with project vehicle trip generation and energy consumption.</i>	2030 General Plan Conservation/Open Space Element.	update.				
BIOLOGICAL RESOURCES						
BIO-2(a) Special Status Species Policy. The following policy shall be added to the General Plan Conservation/Open Space Element: <i>The City shall protect significant biological resources, including sensitive plant and animal species.</i>	Verify that the policy has been added to the 2030 General Plan Conservation/Open Space Element.	Prior to approval of Phase II of the General Plan update.	Once	LCDD		
BIO-2(b) Native Tree Protection Policy. The following policy shall be added to the General Plan Conservation/Open Space Element: <i>The City shall protect, preserve, and restore native trees, particularly oak tree species.</i>	Verify that the policy has been added to the 2030 General Plan Conservation/Open Space Element.	Prior to approval of Phase II of the General Plan update.	Once	LCDD		
CULTURAL RESOURCES						
CR-1(a) Update Archaeological Sensitivity Map and Guidelines. The	Verify that the Archaeological	Prior to approval of Phase II of the	Once, for updates to the	LCDD		

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<p>City shall update the existing Archaeological Sensitivity Map to encompass all areas covered by the General Plan Update to take into account the currently available data on the nature and distribution of prehistoric and historical archaeological sites (including buried archaeological sites) and the most current methods of sensitivity modeling. The City also shall update the Guidelines for use of the sensitivity map and provide training to planning staff in its application and use. The Sensitivity Map and Guidelines update as well as training shall be performed by professionals certified by the Register of Professional Archaeologists who have expertise in the historical and archaeological resources of the Lompoc Valley.</p>	<p>Sensitivity Map and Guidelines have been updated in the 2030 General Plan Conservation/Open Space Element.</p>	<p>General Plan update.</p>	<p>2030 General Plan. Ongoing and periodic for training of planning staff on use of the Sensitivity Map and Guidelines.</p>			
<p>CR-2(a) Adopt a Historic Landmarks Ordinance. The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows. <i>The City shall revise its current Landmarks Ordinance to accomplish the following, as recommended in the 2005 Historic Resources Survey and Planning Analysis:</i></p>	<p>Verify that the implementation measure has been added to the 2030 General Plan Conservation/Open Space Element.</p>	<p>Prior to approval of Phase II of the General Plan update.</p>	<p>Once</p>	<p>LCDD</p>		

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<ul style="list-style-type: none"> Formally adopt the historic district defined in the 2005 Historic Resources Survey and Planning Analysis; Establish a formal process for landmark designation including application, nomination form, and research and documentation requirements, as well as designate a reviewing entity; Adopt designation criteria for individual landmarks and historic district contributors, possibly using other municipalities' criteria as a basis; Establish an adequate and qualified historic preservation review commission or reactivate the Advisory Landmarks Committee as outlined in the City's Landmark Ordinance; Establish design review guidelines for designated landmarks and contributing structures to historic districts based upon the Secretary of the Interior's standards; Provide for use of the California State Historical Building Code, as appropriate, to include designated city landmarks and district 							

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<p><i>contributors. Currently the SHBC is only used in the Old Town Lompoc Specific Plan Area.</i></p> <p>CR-2(b) Adopt a Historic Resource Inventory and Districts Ordinance. The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows.</p> <p><i>The City shall adopt an ordinance that relates specifically to the conduct of historic resource surveys and designation of historic districts. The city shall extend the current survey into adjacent parts of the City, as recommended in the 2005 Historic Resources Survey and Planning Analysis, use available data from prior surveys to prepare a formal historic resources inventory, and develop procedures for maintaining the accuracy of the inventory, updating its information, and covering additional areas of the City by conducting surveys on a regular basis.</i></p>	<p>Verify that the implementation measure has been added to the 2030 General Plan Conservation/Open Space Element.</p>	<p>Prior to approval of Phase II of the General Plan update.</p>	<p>Once</p>	<p>LCDD</p>			
GEOLOGY AND SOILS							
<p>GEO-5(a) Radon Gas Policies. The following policies shall be added to the 2030 General Plan Safety Element:</p> <ul style="list-style-type: none"> <i>Promote community education regarding potential hazards associated with radon exposure;</i> 	<p>Verify that the policies have been added to the 2030 General Plan Safety Element.</p>	<p>Prior to approval of Phase II of the General Plan update.</p>	<p>Once</p>	<p>LCDD</p>			

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<ul style="list-style-type: none"> Require radon testing for new development within areas with moderate or high potential for indoor radon levels exceeding U.S. EPA recommended limits; Where radon levels may exceed U.S. EPA recommended limits, require developers to implement effective measures – such as "sub-slab depressurization" systems – to limit exposure to radon. 						
HAZARDS						
<p>HAZ-1 Previously Unidentified Hazardous Materials. The following policies shall be added to the 2030 General Plan Safety Element:</p> <ul style="list-style-type: none"> Any work on a known remediation site or discovery of hazardous materials during excavation must be reported to the Santa Barbara County Fire Department Hazardous Materials Unit (HMU). In the event that hazardous waste and/or materials, including chemical odors or stained soils, are encountered during construction of future development sites, the following actions shall be taken by the applicant or authorized agent thereof: (1) all work in the vicinity of 	Verify that the policies have been added to the 2030 General Plan Safety Element.	Prior to approval of Phase II of the General Plan update.	Once	LCDD		

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<p><i>the suspected contaminant will be halted; (2) all persons shall be removed from the area; (3) the site shall be secured under the direction of the County Fire Department; and (4) the City of Lompoc Hazardous Waste/Materials Coordinator shall be notified. Work shall not recommence until such time as the find is evaluated and appropriate measures are implemented as necessary to the satisfaction of the California Department of Toxic Substances Control.</i></p>						
LAND USE AND AGRICULTURE						
<p>LU-3 Purchase of Agricultural Conservation Easements (PACE) Program. The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows.</p> <p><i>The City shall implement a program that facilitates the establishment and purchase of on- or off-site Agricultural Conservation Easements for prime farmland and/or important farmland converted within the expansion areas, at a ratio of 1:1 (acreage conserved: acreage impacted). A coordinator at the City shall oversee and monitor the</i></p>	<p>Verify that this measure is incorporated into the 2030 General Plan Conservation and Open Space Element.</p>	<p>Prior to approval of Phase II of the General Plan update.</p>	<p>Once</p>	<p>LCDD</p>		

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<p><i>program, which will involve property owners, developers, the City, and potentially a conservation organization such as The Land Trust for Santa Barbara County. Implementation of a PACE program shall be coordinated with similar efforts of Santa Barbara County.</i></p>							
NOISE							
<p>N-3(a) Truck Delivery Limitations. The following policy shall be added to the 2030 General Plan Noise Element: <i>Truck deliveries to commercial uses on mixed-use development sites shall be limited to between the hours of 8:00 AM and 6:00 PM on weekdays and Saturdays. No deliveries shall occur on Sundays.</i></p>	<p>Verify that the policy has been incorporated into the 2030 General Plan Noise Element.</p>	<p>Prior to approval of Phase II of the General Plan update.</p>	<p>Once</p>	<p>LCDD</p>			
<p>N-3(b) Common Wall Insulation. The following policy shall be added to the 2030 General Plan Noise Element: <i>Common walls between horizontal (side-by-side) and vertical (stacked) mixed use commercial/residential development shall be noise-insulated to provide attenuation of indoor noise levels.</i></p>	<p>Verify that the policy has been incorporated into the 2030 General Plan Noise Element.</p>	<p>Prior to approval of Phase II of the General Plan update.</p>	<p>Once</p>	<p>LCDD</p>			
<p>N-3(c) Sound Barriers for External Equipment. The following policy shall be added to the 2030 General Plan Noise Element:</p>	<p>Verify that the policy has been incorporated into the 2030 General</p>	<p>Prior to approval of Phase II of the General Plan update.</p>	<p>Once</p>	<p>LCDD</p>			

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<i>External noise-generating equipment associated with commercial uses (e.g., HVAC units, etc.) that are located in mixed use developments and/or adjacent to residential uses shall be shielded or enclosed with solid sound barriers.</i>	Plan Noise Element.						
TRANSPORTATION AND CIRCULATION							
TC-1(a) V Street/North Avenue. This intersection is forecast to operate at LOS F at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection. <ul style="list-style-type: none"> Install a traffic signal and restripe northbound and southbound approaches to include left-turn lanes. 	Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.	LPWD shall ensure payment of fees prior to occupancy clearance.	Ongoing, during review of new development projects.	LPWD			
TC-1(b) V Street/College Avenue. This intersection is forecast to operate at LOS F at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In	Applicants for development projects shall contribute fair share fees toward the installation of improvements	LPWD shall ensure payment of fees prior to occupancy clearance.	Ongoing, during review of new development projects.	LPWD			

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<p>order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> Install a traffic signal and restripe northbound and southbound approaches to include left-turn lanes. 	<p>prior to occupancy clearance.</p>					
<p>TC-1(c) V Street/Laurel Avenue. This intersection is forecast to operate at LOS D/E at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> Install a traffic signal. 	<p>Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.</p>	<p>LPWD shall ensure payment of fees prior to occupancy clearance.</p>	<p>Ongoing, during review of new development projects.</p>	<p>LPWD</p>		
<p>TC-1(d) V Street/Ocean Avenue. This intersection is forecast to operate at LOS E/D at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p>	<p>Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.</p>	<p>LPWD shall ensure payment of fees prior to occupancy clearance.</p>	<p>Ongoing, during review of new development projects.</p>	<p>LPWD</p>		

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<ul style="list-style-type: none"> Install a traffic signal. 						
<p>TC-1(e) O Street/North Avenue. This intersection is forecast to operate at LOS E during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> Add a right-turn lane to the westbound approach by restriping the roadway. 	Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.	LPWD shall ensure payment of fees prior to occupancy clearance.	Ongoing, during review of new development projects.	LPWD		
<p>TC-1(f) O Street/Pine Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> Add right-turn lanes to all intersection approaches by restriping the roadways. 	Applicants for development projects shall share fees toward the installation of improvements prior to occupancy clearance.	LPWD shall ensure payment of fees prior to occupancy clearance.	Ongoing, during review of new development projects.	LPWD		
<p>TC-1(g) H Street/Central Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p>	Applicants for development projects shall share fees toward the installation of improvements prior to	LPWD shall ensure payment of fees prior to occupancy clearance.	Ongoing, during review of new development projects.	LPWD		

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					Initial	Date
<ul style="list-style-type: none"> Add a second left-turn lane to the southbound intersection approach and modify the existing traffic signal. This improvement would require the acquisition of right-of-way (ROW). The intersection is in the SBCAG CMP and would meet the minimum level of service criteria of LOS D under buildout conditions. 	occupancy clearance.					
<p>TC-1(h) D Street/North Avenue. This intersection is forecast to operate at LOS E during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> Add right-turn lanes to all intersection approaches by restriping the roadways. 	Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.	LPWD shall ensure payment of fees prior to occupancy clearance.	Ongoing, during review of new development projects.	LPWD		
<p>TC-1(i) A Street/North Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> Add a right-turn lane to the eastbound intersection approach by restriping the roadway. 	Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.	LPWD shall ensure payment of fees prior to occupancy clearance.	Ongoing, during review of new development projects.	LPWD		

Key: LBD - Lompoc Building Division
 LCDD - Lompoc Community Development Department
 LPWD - Lompoc Public Works Department
 SBCAPCD - Santa Barbara County Air Pollution Control District

Lompoc General Plan Update EIR
Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
<p>TC-1(j) A Street/Ocean Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • Add a right-turn lane to the westbound intersection approach. This mitigation measure will require acquisition of ROW and widening of the roadway. Because of existing development on the northeast corner of the intersection this mitigation may not be feasible. The intersection is in the SBCAG CMP and would meet the minimum level of service criteria of LOS D under buildout conditions. 	<p>Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.</p>	<p>LPWD shall ensure payment of fees prior to occupancy clearance.</p>	<p>Ongoing, during review of new development projects.</p>	<p>LPWD</p>			
<p>TC-1(k) 12th Street-S.R. 1/Ocean Avenue-S.R. 246. This intersection is forecast to operate at LOS D during the P.M. peak hour at build-out of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • Add a through lane to the northbound intersection approach, convert the existing shared left- 	<p>Applicants for development projects shall contribute fair share fees toward the installation of improvements prior to occupancy clearance.</p>	<p>LPWD shall ensure payment of fees prior to occupancy clearance.</p>	<p>Ongoing, during review of new development projects.</p>	<p>LPWD</p>			

Key: LBD - Lompoc Building Division
LCDD - Lompoc Community Development Department

LPWD - Lompoc Public Works Department
SBCAFCD - Santa Barbara County Air Pollution Control District

Lompoc General Plan Update EIR
Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
turn/through lane to an exclusive left-turn lane and modify the existing traffic signal. This mitigation measure may require acquisition of ROW and will require widening of the roadway.							

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Key: LBD - Lompoc Building Division
 LCDD - Lompoc Community Development Department
 LPWD - Lompoc Public Works Department
 SBCAPCD - Santa Barbara County Air Pollution Control District

Lompoc General Plan Update Environmental Impact Report Addendum #7

State Clearinghouse No. 2008081032



Prepared by:
City of Lompoc
Community Development Department

Prepared with the assistance of:
Rincon Consultants, Inc.



December 2021

Bailey Avenue Sphere of Influence Amendment

Addendum #7 to the Lompoc General Plan Update 2010 Final EIR
SCH#2008081032

prepared by

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December 2021



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Appendices

Appendix A Addendum #3 to the Lompoc General Plan Update 2010 Final EIR

1 Introduction

A. Summary

In October 2017, the City of Lompoc (City) submitted an application (referred to herein as the Application; also referred to as ANX No. 76) to the Santa Barbara County Local Agency Formation Commission (LAFCO), which included a proposed adjustment to the City's Sphere of Influence (SOI) and an annexation (Annexation) proposal for the following properties (as shown on Figure 1 below): (i) **the Bailey Property** (constituting approximately 40.6 acres) located on Assessor Parcel Number (APN) 093-070-065, and (ii) **the Bodger Property** (constituting approximately 107.7 acres), located on APNs 093-111-007, -008, -009, -010, -011, and -012 (collectively referred to herein as the Bailey Ave. Properties because both properties are located on Bailey Avenue).

The City intends to amend its Application in order to separate out the City's SOI adjustment proposal from its Annexation proposal for the Bailey Ave. Properties and, instead, proceed solely with the SOI adjustment proposal (Project) for the Bailey Ave. Properties.

In the event that the City's proposed SOI adjustment/amendment for the Bailey Ave. Properties (Amendment) is approved by LAFCO, any future Annexation application for the Bailey Ave. Properties will require additional environmental review in accordance with the California Environmental Quality Act (CEQA) and the *State CEQA Guidelines* and, among other things, the rezoning in accordance with the Cortese/Knox/Hertzberg Local Government Reorganization Act of 2000 (CKH Act).

A prior Addendum (Addendum #3 to the Final Environmental Impact Report [Final EIR] for the City of Lompoc's 2030 General Plan Update, as described below) was prepared in December 2016 in accordance with CEQA for the City's Annexation Application to LAFCO for the Bailey Ave. Properties. However, the 2016 Annexation Application ultimately did not proceed. Addendum #3, including the Initial Study for the Bailey Ave. Properties, is provided for reference in Appendix A.

This Addendum #7 to the Final EIR includes this introduction, background and previous environmental review related to the Project, a description of the Project, and a comparison of the impacts for all environmental issues areas listed in Appendix G of the *State CEQA Guidelines*.

The City of Lompoc shall consider this Addendum prior to the submission of the Amendment to LAFCO for review. This Addendum and the Final EIR are available for review at the Planning Division of the City of Lompoc Economic & Community Development Department, located at 100 Civic Center Plaza, Lompoc, California 93436.

B. Legal Framework

This Addendum was prepared in accordance with CEQA and the *State CEQA Guidelines*. This document is an Addendum to the Final EIR that was previously prepared and certified on October 19, 2010, for Phase 1 of an update to the City of Lompoc's 2030 General Plan (State Clearinghouse No. 2008081032). The Final EIR included an evaluation of an update to the Land Use, Circulation, and Housing Elements in the 2030 General Plan, including evaluation of a buildout scenario that included the development of the then-proposed Bailey Avenue Specific Plan Area (i.e., all properties between W. Olive Avenue and W. North Avenue to the east of Bailey Avenue [also referred to as the

Bailey Avenue Corridor]) as an Expansion Area for the City (within the City's proposed Urban Limit Line [ULL]). Following the adoption of the Final EIR by the City in 2010, in 2016, the City determined to proceed with a SOI and Annexation proposal with LAFCO solely for the Bailey Ave. Properties, not the entire Bailey Avenue Specific Plan Area. The 2016 proposal (i.e., ANX No. 76) was analyzed pursuant to CEQA and the State CEQA Guidelines under Addendum #3.

When an EIR has been adopted and a project is modified or otherwise changed after adoption, additional CEQA review may be necessary. The key considerations in determining the need for the appropriate type of additional CEQA review and associated documentation are outlined in Section 21166 of the Public Resources Code and Sections 15162, 15163 and 15164 of the *State CEQA Guidelines*.

According to Section 15164(b) of the *State CEQA Guidelines* an addendum to an EIR is the appropriate environmental document in instances where "only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred."

Section 15162(a) of the *State CEQA Guidelines* provides that a Subsequent EIR is not required for a project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following has occurred:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The changes that are being proposed by the Amendment/Project analyzed in this Addendum are considered minor in the sense they would not create potentially significant environmental impacts in addition to those already identified in the Final EIR and/or Addendum #3. The Project would not substantially increase the magnitude or severity of impacts that were previously identified. This Addendum does not require public circulation because it does not provide significant new information that changes the Final EIR or Addendum #3 in a way that deprives the public of a

meaningful opportunity to comment upon a substantial adverse environmental effect of the Project or a feasible way to mitigate or avoid such an effect.

The scope of possible development analyzed in this Addendum was previously analyzed under Addendum #3, includes the same properties that were previously analyzed under Addendum #3, and does not involve any changes to the potential development or land uses within the Bailey Avenue Corridor in comparison to what was previously studied under Addendum #3. However, the Project analyzed herein only involves a SOI Amendment, and does not include the Annexation proposal that was previously analyzed under Addendum #3. This Addendum has been prepared in order to clarify that the proposal that the City intends to submit to LAFCO is solely a SOI Amendment in order for the City's SOI Application to be accepted by LAFCO and to clarify that the Project proposal does not include an annexation proposal. The City has no specific development proposal to analyze under CEQA at this time for the Bailey Ave. Properties and, therefore, no additional CEQA analysis is necessary for the City's proposed SOI Amendment. Moreover, no project development can occur unless and until additional CEQA review is prepared for a specific project proposal or annexation proposal in the future.

2 Background and Previous Environmental Review

The City's Land Use Element defines the SOI as the "probable ultimate physical boundaries and service area of the City", which must be formally determined by LAFCO, in accordance with Government Code Section 56076 and the CKH Act. The City's existing SOI is shown on the City Land Use Element Map for informational purposes.

In November 1998, the City applied for a SOI amendment for the full 272-acre Bailey Avenue Corridor to LAFCO, which included the Bailey and Bodger Properties and the properties in between. The original request and a subsequent request in March 1999 to include the Bailey Avenue Corridor in the City's SOI ultimately were not approved by LAFCO.

In January 2010, the City of Lompoc adopted its 2030 General Plan along with the Final EIR, which evaluated a buildout scenario that included development of the Bailey Avenue Specific Plan Area/Bailey Avenue Corridor as an Expansion Area (an area that was already included within the City's ULL under the City's 1997 General Plan). The Final EIR assumed that development of the Bailey Avenue Corridor would include a maximum of 2,718 dwelling units, including low and very low density residential development; approximately 228,700 square feet of commercial with a mixed-use overlay; and 22 acres of park area, open space on 37 acres, and 10 acres of streets and trails. Environmental impacts associated with this level of development were identified throughout the Final EIR, along with applicable mitigation measures where feasible. However, prior to any development within the Bailey Avenue Corridor, the City was required to obtain approval from LAFCO for a SOI change and annexation of the properties within the corridor along with all required environmental review under CEQA and the *State CEQA Guidelines*.

Subsequently, the City decided to no longer proceed with a SOI adjustment or Annexation proposal for the full Bailey Avenue Corridor and, instead, proceed with only a SOI adjustment and Annexation proposal for just the Bailey Ave. Properties (representing a reduction in the overall acreage by approximately 123.7 acres). An Addendum to the City's 2030 General Plan Final EIR was prepared in December 2016 (Addendum #3), which evaluated the City's proposed adjustment to its SOI and annexation proposal for the Bailey Ave. Properties into the City (pursuant to the Application/ANX No. 76) without any land use changes beyond what was allowed by the City's 2030 General Plan. The 2016 Addendum #3 determined that the proposed actions would not result in any physical impacts that could exceed those analyzed under the Final EIR for the City's 2030 General Plan (see Appendix A for reference to Addendum #3). However, the SOI change/annexation proposal pursuant to ANX No. 76 was not brought forward for approval by the LAFCO Board and has not yet been implemented. Instead, the City has determined to proceed solely with its original SOI proposal for the Bailey Ave. Properties (with only minor modifications and clarifications to the original Application [ANX No. 76]). If the current SOI Amendment proposal is approved by the LAFCO Board, any annexation proposal for the Bailey Ave. Properties by the City will require environmental review under CEQA and the *State CEQA Guidelines*, among other pre-requisites, including compliance with the CKH Act.

3 Project Description

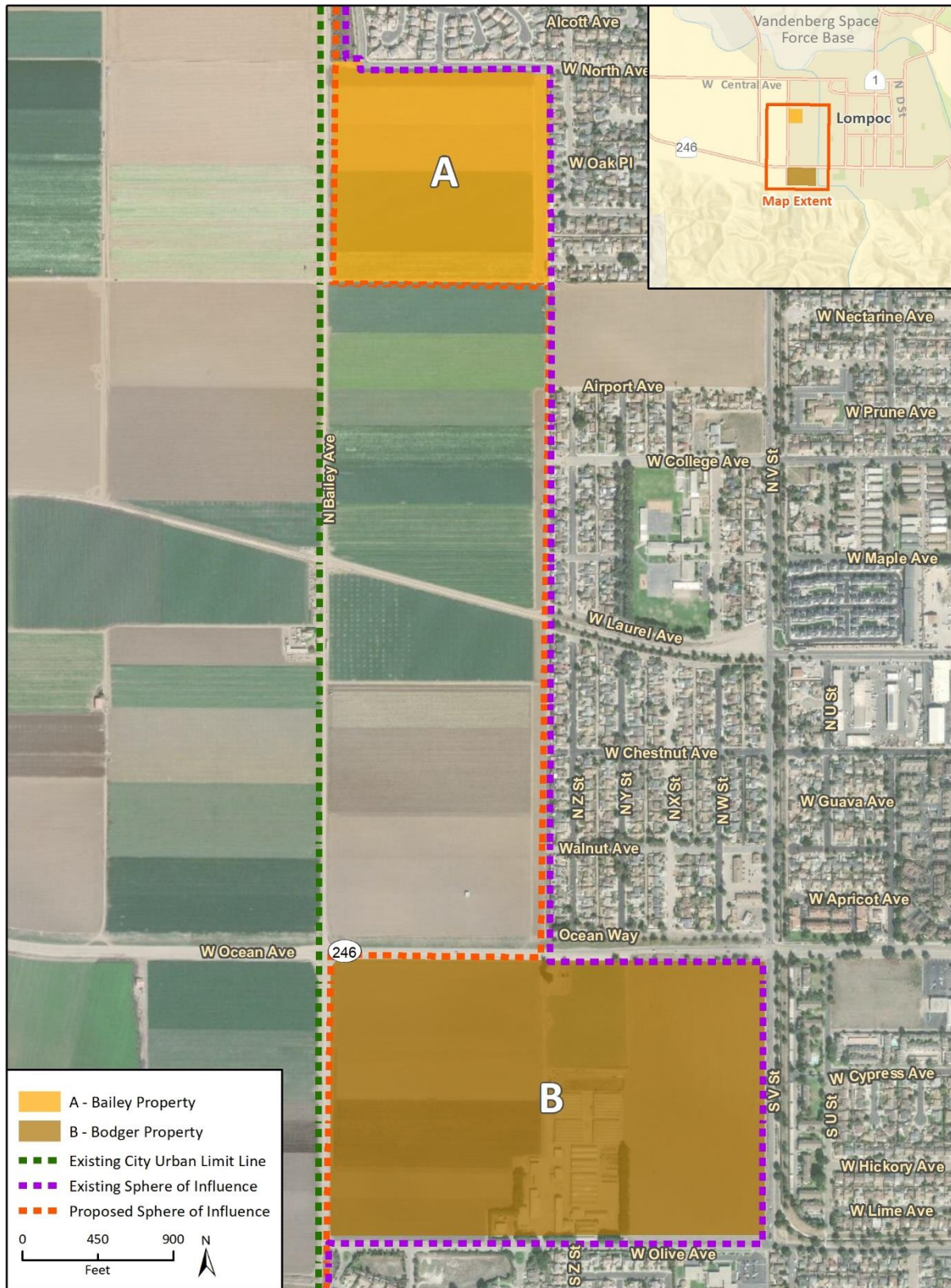
The proposed Project area consists of the Bailey Property and the Bodger Property - two non-contiguous properties located within the northerly and southerly portions of the Bailey Avenue Corridor (see Figure 1). These two properties are located within the City's ULL (pursuant to the boundaries defined by the 2030 General Plan) but lie outside of the City limits. The two properties are described as follows:

- The Bailey Property is a single approximately 40.6-acre parcel (APN 093-070-065) in unincorporated Santa Barbara County. The Bailey Property has County land use designations of Rural and Agricultural Commercial and is zoned AG-II-100 (minimum gross lot area of 100 acres). The property is currently in use for irrigated crops.
- The Bodger Property consists of six parcels totaling approximately 107.7 acres in unincorporated Santa Barbara County (APNs 093-111-007, -008, -009, -010, -011, and -012). The Bodger Property has County land use designations of Rural and AG-II and is zoned AG-II-40 (minimum gross lot area of 40 acres). The current land uses include flowers, irrigated field crops, maintenance facilities, storage sheds, greenhouses, and a farmhouse/residence.

The proposed Project would involve expanding the City's SOI to include the Bailey Ave. Properties, which was previously analyzed under Addendum #3 to the Final EIR (as described above). The Project does not include any annexation of the Bailey Ave. Properties to the City of Lompoc, and no specific development plan is proposed at this time.

Any future annexation proposal for the Bailey Property or Bodger Property will require, at a minimum, further CEQA analysis and environmental review pursuant to the *State CEQA Guidelines*, to evaluate the City's proposed pre-zoning for the properties and/or any development plan proposed for the properties.

Figure 1 Project Location and Sphere of Influence Boundaries



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Fig 1 SOI Boundary...

4 Discussion

The potential environmental effects of the current Project (i.e., the proposed amendment to the SOI to include the Bailey Ave. Properties), do not require any further environmental review or impact analysis beyond what was previously provided under the Final EIR and Addendum #3. The Final EIR analyzed a full buildout scenario for the entire Bailey Avenue Corridor, while Addendum #3 specifically analyzed the potential environmental impacts expected to result from the proposed annexation of the Bailey Ave. Properties. No further analysis is warranted because the City's proposed SOI Amendment/Project represents a reduction in the potential for any possible development and does not propose any actual development, annexation, or land use changes. In summary, the Project would not result in additional development potential beyond that evaluated and disclosed in the Final EIR and Addendum #3.

The precise location, timing, and details of any development in the Project area are not known at this time, and no development plan, rezoning, or annexation is currently proposed. An evaluation of the environmental impacts of such actions/potential projects would be speculative and, therefore, is not provided in this Addendum.

If the Project is approved by LAFCO, further environmental analysis and CEQA documentation would be required if and when a rezoning, annexation, and/or development application is provided for the Bailey Property or Bodger Property. Any future annexation proposal and/or development of the Bailey Property or Bodger Property would be subject to City and LAFCO requirements and approvals for land use changes and development projects, including CEQA review and analysis in accordance with the *State CEQA Guidelines*.

5 Conclusion

In accordance with Section 15164 of the *State CEQA Guidelines*, the City of Lompoc has determined this Addendum to the Final EIR is necessary to document changes that have occurred in the Project description for the Bailey Avenue Corridor since the Final EIR and Addendum #3 were originally prepared. As established in the analysis above regarding the potential environmental effects that may be generated by the proposed SOI Amendment as compared to the development of the Bailey Avenue Specific Plan as an Expansion Area, no new or more severe environmental impacts beyond those disclosed in the Final EIR or Addendum #3 would occur as a result of the Project. The City of Lompoc has reviewed and considered the information contained in this Addendum in its consideration of the Final EIR and Addendum #3 and finds the preparation of a supplemental or subsequent EIR is not necessary.

6 References

- Lompoc, City of. 2010. Lompoc General Plan Update Environmental Impact Report (EIR).
<https://www.cityoflompoc.com/government/departments/economic-community-development/planning-division/planning-documents-and-maps/-folder-109>. Accessed November 2021.
- Lompoc, City of. 2010a. 2030 General Plan Land Use Element.
<https://www.cityoflompoc.com/home/showpublisheddocument/1762/63733607907550000>. Accessed November 2021.

Appendix A

Addendum #3 to the Lompoc General Plan Update 2010 Final EIR

Lompoc General Plan Update Environmental Impact Report Addendum #3

State Clearinghouse No. 2008081032



Prepared by:
City of Lompoc
Community Development Department

Prepared with the assistance of:
Rincon Consultants, Inc.



December 2016

City of Lompoc General Plan Update

Final Environmental Impact Report Addendum #3

State Clearinghouse No. 2008081032

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December 2016

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Appendices

Appendix A: Bailey Avenue Corridor Annexation Initial Study

Appendix B: Existing Conditions Analysis for the Bailey Avenue Corridor Annexation



ADDENDUM #3 TO FINAL ENVIRONMENTAL IMPACT REPORT CITY OF LOMPOC GENERAL PLAN UPDATE

1. INTRODUCTION

This document is an Addendum to the Final Environmental Impact Report (Final EIR) that was previously prepared and certified on October 19, 2010, for Phase 1 of an update to the City of Lompoc 2030 General Plan (State Clearinghouse No. 2008081032). The Final EIR for Phase 1 included an evaluation of an update to the Land Use, Circulation, and Housing Elements in the 2030 General Plan, including evaluation of a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area for the City. The Final EIR was previously subject to two other Addenda. Addendum #1 was prepared in 2011 to update the greenhouse gas emissions analysis based on new information, and to address revised policy language in the Land Use Element and Circulation Element. Addendum #2 was prepared in 2014 to evaluate the environmental effects associated with adoption of Phase 2 of the General Plan Update Program, which included the Safety, Noise, Conservation and Open Space, Parks and Recreation, Public Services, Urban Design and Economic Development Elements. This current document is Addendum #3 to the General Plan Update Final EIR.

This Addendum #3 has been prepared in accordance with the relevant provisions of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the State CEQA Guidelines as implemented by the City of Lompoc. According to Section 15164(b) of the State CEQA Guidelines, an addendum to an EIR is the appropriate environmental document in instances when “only minor technical changes or additions are necessary or none of the conditions described in Section 15261 calling for the preparation of a subsequent EIR have occurred.” Section 15162(a) of the State CEQA Guidelines states no subsequent EIR shall be prepared for a project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental



effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The changes that are being proposed with the Bailey Avenue Corridor Annexation (Project) are minor in the sense they would not create potentially significant environmental impacts in addition to those already identified in the Final EIR. The Project would also not substantially increase the magnitude or severity of impacts that were previously identified. This Addendum #3 does not require public circulation because it does not provide significant new information that changes the Final EIR in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Project or a feasible way to mitigate or avoid such an effect.

This Addendum #3 includes this introduction, a description of the Project, and a comparison of the impacts for all environmental issues areas listed in Appendix G of the State CEQA Guidelines.

The City of Lompoc shall consider this Addendum #3 with the Final EIR prior to making a decision on the Project. The Final EIR is available for review at the Planning Division of



the City of Lompoc Economic & Community Development Department, located at 100 Civic Center Plaza, Lompoc, CA 93436.

2. PREVIOUS ENVIRONMENTAL REVIEW

The Lompoc 2030 General Plan Final EIR evaluated a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area. Consistent with a previously proposed Specific Plan that was subsequently withdrawn by the applicants at the request of the City, the Final EIR assumed that development of the Bailey Avenue Corridor would include a maximum of 2,718 dwelling units (a mix of single-family and multi-family development); approximately 228,700 square feet of commercial with a mixed-use overlay; and 22 acres of park area, open space on 37 acres, and 10 acres of streets and trails. Environmental impacts associated with this level of development were identified throughout the Final EIR, along with applicable mitigation measures where feasible.

As part of the adopted Land Use and Circulation Element and associated Final EIR, the City Council retained the Bailey Avenue Corridor within the Urban Limit Line (ULL) with the Low and Very-Low Density Residential Designation from the 1997 General Plan. Those land use designations would allow for the development of 87 residential units on the Bailey property, 382 residential units on the Bodger property, and 364 residential units on the balance of the Bailey Avenue Corridor, for a total of 833 residential units. No commercial development is allowable under the existing General Plan land use designations.

3. PROJECT DESCRIPTION

The proposed Project area consists of two non-contiguous properties located within the northerly and southerly portions of the Bailey Avenue Corridor. The two properties are held under separate ownership, but are being processed together under the Project. The Project is described as follows, specific to each property involved:

The Bailey Property (Annexation Area A) is a 40.6-acre property, owned by LB & L-DS Ventures Lompoc II LLC. The Project would involve annexation of the Bailey Property to the City of Lompoc, which includes adjustments to the City's municipal boundaries and sphere of influence (SOI).

The Bodger Property (Annexation Area B) is a 107.7-acre property, owned by John Bodger & Sons Co., a corporation. The south-central portion of the property is currently developed with the Bodger seed complex, which consists of agricultural support



buildings including maintenance facilities, storage sheds, greenhouses and farmhouse/residence. The Project would involve the annexation of the Bodger Property to the City of Lompoc, which includes adjustments to the City's municipal boundaries and SOI. The City's ULL along Bailey Avenue would remain unchanged.

Those proposed actions would not result in physical impacts that exceed those associated with City buildout, as described in the Final EIR for Phase 1 of the Lompoc 2030 General Plan.

4. IMPACT ANALYSIS

The Final EIR evaluated a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area. The current Project, the annexation and SOI modification without land use changes, was reviewed in relation to the certified Final EIR, and relative to the current baseline environmental conditions, in an Initial Study (IS; see Appendix A). The IS determined none of the conditions that trigger the need to prepare a Subsequent EIR are likely to occur with respect to the Project, and an Addendum to the Final should be prepared. The IS identified the need for Addendum #3 to provide additional information with respect to hazards and hazardous materials, noise, and traffic to confirm this conclusion, because updated baseline condition information was not available.

This section addresses each of those environmental issue areas discussed in the Final EIR and updates the analysis based on current conditions. Evaluation of other environmental issue areas is provided in the Initial Study (see Appendix A).

Hazards and Hazardous Materials

As described in the Initial Study, the proposed Bailey Avenue Corridor annexation and SOI modification, when compared to the evaluation of a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area in the Lompoc 2030 General Plan, would not result in any new or substantially more severe hazard impacts to the public or environment through transport, use, disposal, or release of hazardous materials, to surrounding schools due to hazardous emissions and/or hazardous materials handling, to safety associated with nearby airport operations, or associated with wildland fire hazards. However, an updated search of a hazardous materials database was conducted for the IS and identified a Leaking Underground Storage Tank (LUST) cleanup site at the Bodger Seed development on the Bodger Property. The presence of that cleanup site is new information that was not described in the Final EIR and is evaluated further herein.



Rincon conducted a search of the following databases in November 2016 for the most up-to-date records relating to any known hazardous materials contamination within the Bailey Avenue Corridor project site:

- The State Water Resources Control Board (SWRCB) Geotracker database;
- Superfund Enterprise Management System (SEMS; formerly Comprehensive Environmental Response, Compensation, and Liability Information System [CERCLIS]) database;
- Department of Toxic Substances Control's Envirostor database;
- State Water Resources Control Board (SWRCB) solid waste disposal sites, active Cease and Desist Orders (CDOs), and Cleanup and Abatement Orders (CAOs); and
- The Cortese list.

The search of the SWRCB Geotracker database identified one listing of the Bailey Property and five listings of the Bodger Property in the Irrigated Lands Regulatory Program (ILRP), a program which regulates discharges from irrigated agricultural land to prevent impairment of the receiving waters. Two listings of the Bodger Property in the ILRP were terminated, while the site is listed with "enrolled" ILRP status under the three other listings. Under the ILRP, SWRCB regulates agricultural discharge by issuing waste discharge requirements (WDRs) or conditional waivers of WDRs (Orders) to growers that contain conditions requiring water quality monitoring of receiving waters and corrective actions when impairments are identified. The SWRBC Geotracker database also identified a Leaking Underground Storage Tank (LUST) cleanup site at the Bodger Seed development on the Bodger Property. The facility is identified to have three former gasoline and waste oil underground storage tanks. The identified LUST cleanup site has an "Open - Assessment and Interim Remedial Action" cleanup status and is currently being managed to avoid and/or minimize impacts due to hazardous materials release.

On May 1, 2012, the State Water Board adopted a Low-Threat Underground Storage Tank Case Closure Policy (LTCP). The LTCP applies to petroleum UST sites subject to Chapter 6.7 of the Health and Safety Code and establishes both general and media-specific criteria. If both the general and applicable media-specific criteria are satisfied, then the LUST case is generally considered to present a low threat to human health, safety and the environment. The LTCP recognizes, however, even if all of the specified criteria in the LTCP are met, then there may be unique attributes of the case or site-specific conditions that increase the risk associated with the residual petroleum constituents. A LTCP checklist was completed for the LUST cleanup site on the Bodger Property on June 15, 2016. The checklist identifies an exemption for the site because the upper 10 feet of soil is free of petroleum contamination and, therefore, is considered low-threat for direct contact and outdoor air exposure. However, the site did



not meet other criteria to determine the site to be of low-threat to human health, safety, and the environment. If a case does not satisfy the criteria in the LTCP or does not present a low-risk based upon a site-specific analysis, then impediments to closure are required to be identified. Accordingly, a Path to Closure Plan was prepared for the site and includes the identified impediments at the site and steps for resolution of such impediments. Those steps include, but are not limited to, submittal of recent groundwater monitoring results, complete site assessment, APCD permitting approvals, proper abandonment of all wells, removal of the treatment system, and removal of all wastes from the site.

The SEMS, EnviroStor, SWRCB solid waste disposal site, CDO, CAO, and Cortese databases did not list any potential contamination sites within the Bailey Avenue Corridor. No other sites with known hazardous materials contamination were identified on the Project site.

The evaluation of a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area in the Lompoc 2030 General Plan concluded impacts associated with identified hazardous materials sites would be potentially significant. The existing hazards and hazardous materials conditions identified herein would not result in any new significant impacts or substantially more severe impacts when compared to those that were anticipated in the Final EIR. As described in the Final EIR, the Project would be required to comply with federal, state, and local regulations, as well as Lompoc 2030 General Plan Safety Element policies 6.1 through 6.4, 6.7, and 6.7, which are intended to minimize impacts to health and quality of life associated with exposure to hazardous materials and Mitigation Measure HAZ-1 of the General Plan EIR, to ensure the public and environment are protected from exposure to previously unidentified hazardous materials that may exist on the Project site.

Noise

As described in the IS, the proposed Bailey Avenue Corridor annexation and SOI modification, when compared to the evaluation of a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area in the Lompoc 2030 General Plan, would not result in any new or substantially more severe noise impacts related to airport-noise exposure or associated with exposure of new noise-sensitive land uses to traffic noise.

The Final EIR identified several roadway segments along which receptors would be exposed to unacceptable noise levels due to vehicle traffic associated with General Plan buildout. Identified roadways included segments of Ocean Avenue, Central Avenue, and V Street. Each of those roadways would carry traffic generated by future development in



the Bailey Avenue area. General Plan Noise and Circulation Element policies were identified that would reduce noise exposure impacts to a less than significant level. Those policies included a requirement to use the noise standards presented in the table entitled "Interior and Exterior Noise Standards" in determining land use designations and maximum noise levels allowable for new developments.

Associated Transportation Engineers, Inc. (ATE) prepared an existing conditions traffic analysis for the Project in December 2016 (see Appendix B). The existing conditions analysis concluded all intersections that were operating at acceptable Levels of Service (LOS) when the Final EIR was prepared in 2009 are still operating at acceptable levels. Under existing conditions, the H Street/Central Avenue intersection is operating at LOS D during the P.M. peak hour, exceeding the City's LOS C standard. However, that intersection also operated at LOS D during the P.M. peak hour when the Final EIR was prepared. As such, existing traffic conditions are not substantially different when compared to the evaluation of a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area in the Lompoc 2030 General Plan and, thus, would not result in substantial changes to the existing noise environment in the City. Therefore, the Bailey Avenue Corridor annexation and SOI modification would not result in any new significant impacts or substantially more severe impacts related to traffic noise when compared to those that were anticipated in the Final EIR.

Transportation and Circulation

As described in the IS, the proposed Bailey Avenue Corridor annexation and SOI modification, when compared to the evaluation of a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area in the Lompoc 2030 General Plan, would not result in any new or substantially more severe transportation and circulation impacts related to changes in air traffic patterns, hazardous design features, inadequate emergency access, or conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities.

The Final EIR identified impacts to various intersections in the City associated with buildout, including future development of the Bailey Avenue Expansion Area; and mitigation measures were identified. Potential buildout under the existing land use and zoning designations would be substantially less intensive than what was evaluated in the Final EIR. Therefore, the Project would not result in new or substantially more severe impacts to circulation and congestion when compared to what was analyzed for the Bailey Avenue Specific Plan Area in the Final EIR. In addition, General Plan Circulation Element improvements and policies were identified that would reduce traffic impacts to a less than significant level.



As described in the evaluation of potential noise impacts above, ATE prepared an existing conditions traffic analysis for the Project in December 2016 (see Appendix B). The analysis concluded existing traffic conditions are not substantially different when compared to the evaluation of a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area in the Final EIR. Therefore, the Project would not result in any new significant impacts or substantially more severe impacts to area roadways and intersections when compared to those that were anticipated in the Final EIR.

Furthermore, the City has identified an improvement project for H Street/Central Avenue intersection, which operates at LOS D during the P.M. peak hour, exceeding the City's LOS standard. Those proposed improvements include installing dual left-turn lanes on the northbound and southbound approaches. The intersection is forecast to operate at an acceptable LOS with those improvements. Although no development approvals are requested as part of the Project, more detailed traffic impact studies will be prepared at the time of development applications to determine the amount of traffic that would be added to the H Street/Central Avenue intersection in order to determine the fair-share contributions for each development. Contributions toward that improvement would reduce potential impacts to area roadways and intersections upon future development within the Project area.

5. DETERMINATION

In accordance with Section 15164 of the CEQA Guidelines, the City of Lompoc has determined this Addendum #3 to the Final EIR is necessary to document changes or additions that have occurred in the Project description since the Final EIR was originally prepared. No new or more severe environmental impacts beyond those disclosed in the Final EIR would occur as a result of the proposed annexation project. The City has reviewed and considered the information contained in this Addendum #3 in its consideration of the Final EIR and finds the preparation of a subsequent EIR is not necessary.



REFERENCES

- Associated Transportation Engineers (ATE). December 14, 2016. *Existing Conditions Analysis for the Bailey Avenue Corridor Annexation Project, City of Lompoc*.
- California Department of Toxic Substances Control. 2016. EnviroStor database. Accessed at: <https://www.envirostor.dtsc.ca.gov/public/>
- Lompoc, City of. October 2009. General Plan Update Environmental Impact Report (EIR). Available at: http://www1.cityoflompoc.com/departments/comdev/Environmental/GeneralPlan/GPUpdateDEIR_NoAppendices.pdf
- Lompoc, City of. 2030 General Plan. Available at: <http://www.cityoflompoc.com/comdev/GeneralPlan.htm>
- State Water Resources Control Board (SWRCB). 2016. Geotracker database. Accessed at: <https://geotracker.waterboards.ca.gov/>
- State Water Resources Control Board, California Environmental Protection Agency (CalEPA). 2016. Cortese List: Section 65962.5(c). Available at: <http://www.calepa.ca.gov/sitecleanup/corteselist/SectionC.htm>
- United States Environmental Protection Agency (U.S. EPA). 2016. Superfund Enterprise Management System. Accessed at: <https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm>



Appendix A

Bailey Avenue Corridor Annexation Initial Study



City of Lompoc

BAILEY AVENUE CORRIDOR ANNEXATION

Initial Study



September 2016

Environmental Scientists Planners Engineers

BAILEY AVENUE CORRIDOR ANNEXATION

Initial Study

Prepared by:

City of Lompoc
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Lompoc, California 93438
Lucille Breese, AICP, Planning Manager
Economic Development Department
(805) 875-8273

Prepared with the assistance of:

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September 2016

This report prepared on 50% recycled paper with 50% post-consumer content.

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INITIAL STUDY

Project Title	Bailey Avenue Corridor Annexation
Lead Agency	City of Lompoc Economic Development Department 100 Civic Center Plaza Lompoc, CA 93438
Contact Person	Lucille Breese, AICP, Planning Manager Telephone: (805) 875-8273 Email: l_breese@ci.lompoc.ca.us
Project Location	<p>The project includes two sets of parcels within the Bailey Avenue Corridor, also known as Expansion Area A: Bailey Avenue Specific Plan Area, as designated in the City of Lompoc General Plan. The specific location of the two sets of parcels are described as follows:</p> <p><i>Bailey Property – Annexation Area A</i> (Assessor’s Parcel Number [APN] 093-070-065) is located at the southeast corner of the intersection of West North Avenue and Bailey Avenue within the unincorporated area of Santa Barbara County, contiguous to the City of Lompoc existing municipal boundary and within the City’s Urban Limit Line (ULL).</p> <p><i>Bodger Property – Annexation Area B</i> (APNs 093-111-007, -008 -009, -010, -011, -012) is located at the southeast corner of the intersection of Ocean Avenue and Bailey Avenue within the unincorporated area of Santa Barbara County, contiguous to the City of Lompoc’s existing municipal boundary and within the City’s ULL.</p>
Project Sponsor’s Name and Address	Harridge Development Group, LLC (c/o Marc Annotti) 6363 Wilshire Boulevard, Suite 600 Los Angeles, CA 90048
General Plan Land Use Designation	<i>Bailey Property – Annexation Area A</i> : Very Low Density Residential (VLDR) <i>Bodger Property – Annexation Area B</i> : Very Low Density Residential (VLDR), Low Density Residential (LDR)
Zoning	<i>Bailey Property – Annexation Area A</i> : Residential-Agricultural District (RA) <i>Bodger Property – Annexation Area B</i> : Residential-Agricultural District (RA)
Project Description	The proposed project consists of two non-contiguous properties located within the northerly and southerly portions of the Bailey Avenue Corridor. The two properties are held under separate



ownership, but are being processed together under the project. The project is described as follows, specific to each property involved:

The Bailey Property (Annexation Area A) is a 40.6-acre property, owned by LB & L-DS Ventures Lompoc II LLC. The project would involve annexation of the Bailey Property to the City of Lompoc, which includes adjustments to the City's municipal boundaries and sphere of influence (SOI).

The Bodger Property (Annexation Area B) is a 107.7-acre property, owned by John Bodger & Sons Co., a Corporation. The south-central portion of the property is currently developed with the Bodger seed complex, which consists of agricultural support buildings including maintenance facilities, storage sheds, greenhouses and farmhouse/residence. The project would involve the annexation of the Bodger Property to the City of Lompoc, which includes adjustments to the City's municipal boundaries and SOI. The City's ULL along Bailey Avenue would remain unchanged.

Figure 1 shows the regional location of the project. Figure 2 shows the project site location and proposed annexation Areas A and B, which would require adjustments to the City's municipal boundaries and SOI.

Surrounding Land Uses and Setting

The Bailey Property is located in the northernmost portion of Bailey Avenue Corridor. The site is bordered on the north and east by LDR uses within the City's existing SOI. The property to the south of the site is also within the Bailey Avenue Corridor, outside of the City's existing SOI, and is designated for VLDR land uses. The site is bordered on the west by Agricultural Commercial (AC) land uses in the Lompoc Valley Rural Region of Santa Barbara County.

The Bodger Property is located in the southernmost portion of the Bailey Avenue Corridor. The site is bordered on the south by LDR and Community Facility (CF) land uses, on the east by Open Space (OS) with High Density Residential (HDR) uses beyond, and on the north-northeast by Neighborhood Commercial (NC), LDR, and HDR uses. The property to the north-northwest of the site is within the Bailey Avenue Corridor, outside of the City's existing SOI, and is designated for VLDR land uses. The site is bordered on the west by AC land uses in the Lompoc Valley Rural Region of Santa Barbara County.

Previous Environmental Review. The Lompoc 2030 General Plan Environmental Impact Report (EIR) evaluated a buildout scenario that included development of the Bailey Avenue Specific Plan as an Expansion Area. Consistent with a previously proposed Specific Plan that was subsequently withdrawn by the applicants at the



request of the City, the EIR assumed that development of the Bailey Avenue Corridor would include a maximum of 2,718 dwelling units (a mix of single-family and multi-family development); approximately 228,700 square feet of commercial with a mixed-use overlay; and 22 acres of park area, open space on 37 acres, and 10 acres of streets and trails. As part of the adopted Land Use and Circulation Element and associated certified General Plan EIR, the City Council retained the Bailey Avenue Corridor within the ULL with the Low and Very-Low Density Residential Designation from the 1997 General Plan. These land use designations would allow for the development of 87 residential units on the Bailey property, 382 residential units on the Bodger property, and 364 residential units on the balance of the Bailey Avenue Corridor, for a total of 833 residential units. No commercial development is allowable under the existing General Plan land use designations.

**Required
Entitlements**

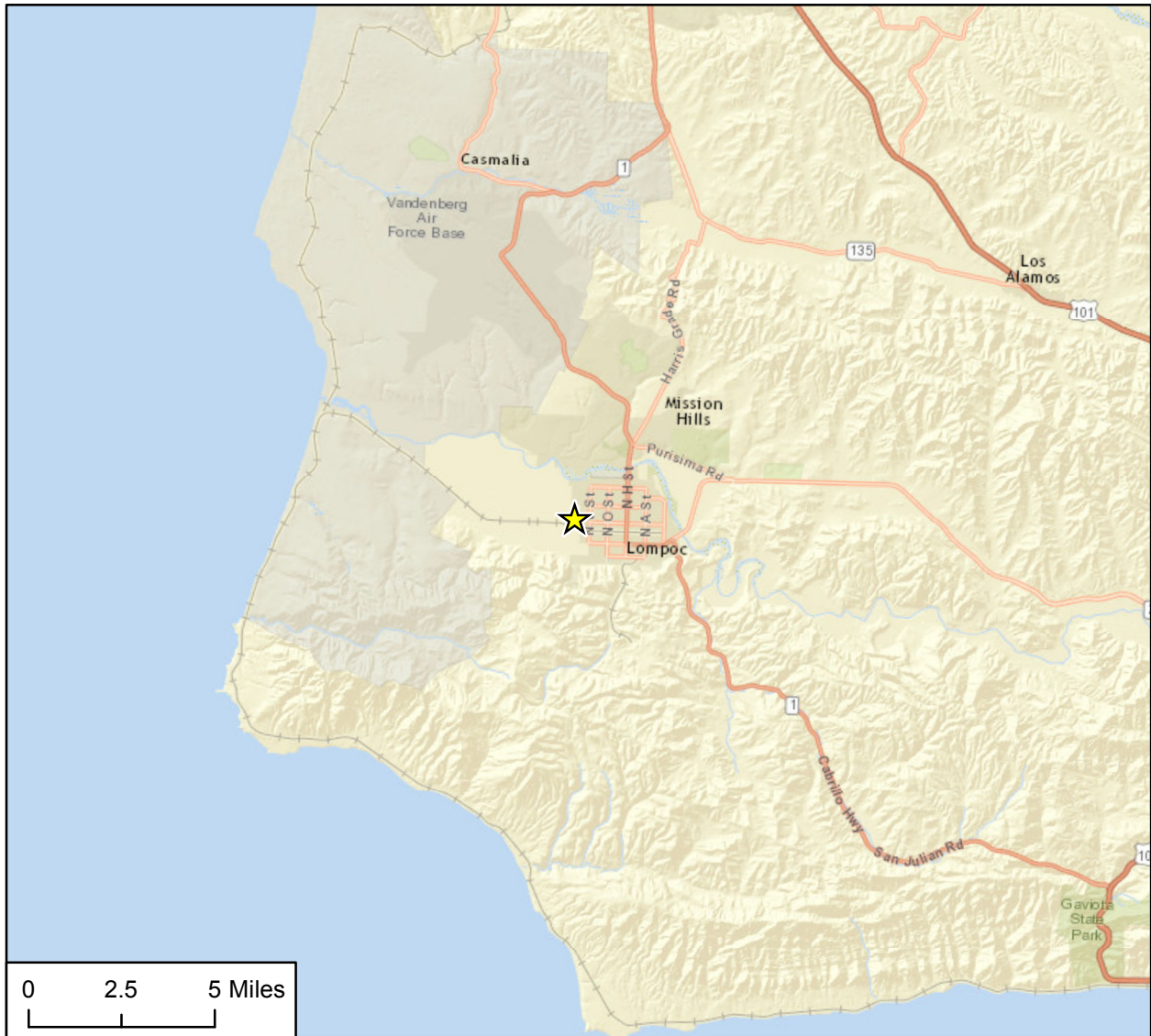
The project requires the following discretionary approvals:

- City Sphere of Influence modification and annexation request
- Santa Barbara County Local Agency Formation Commission (LAFCO) Sphere of Influence modification and annexation approval

**Other Public
Agencies Whose
Approval is
Required**

Santa Barbara County Local Agency Formation Commission (LAFCO)





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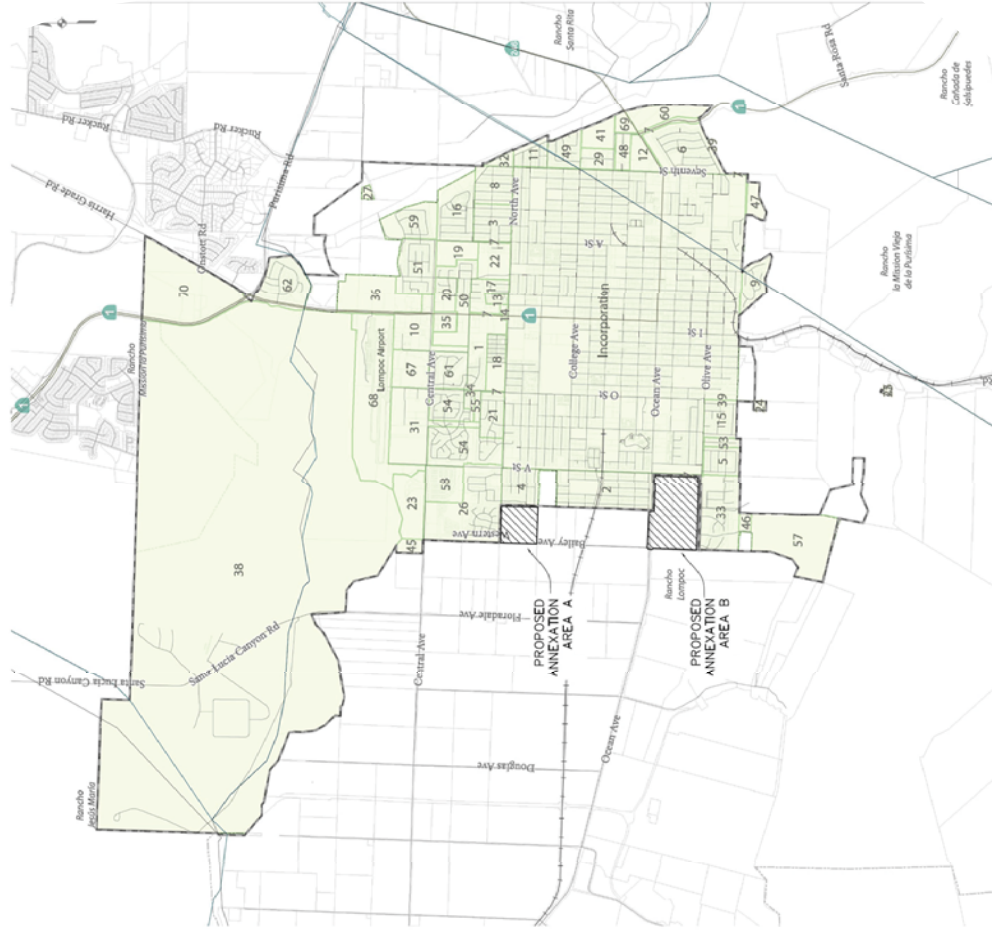
★ Project Location



Regional Location

Figure 1
City of Lompoc





ANNEXATION NO. _____
TO THE CITY OF LOMPOC
NOVEMBER 2014

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is “Potentially Significant” or “Potentially Significant Unless Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |



DETERMINATION

On the basis of this initial evaluation:

- I find that substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects, and a SUBSEQUENT EIR will be prepared.
- I find that substantial changes have occurred with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects, and a SUBSEQUENT EIR will be prepared.
- I find that new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows that: the project will have one or more significant effects not discussed in the previous EIR; significant effects previously examined will be substantially more severe than shown in the previous EIR; mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative; and a SUBSEQUENT EIR will be prepared.
- I find that none of the conditions described above calling for preparation of a Subsequent EIR are likely to occur with respect to the proposed project, and an EIR ADDENDUM will be prepared and will focus on:
- Hazards and Hazardous Materials
 - Noise
 - Transportation and Circulation

Signature

Date

Printed Name



ENVIRONMENTAL CHECKLIST

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/Resolve New or More Severe Project Impacts?
I. AESTHETICS. Would the Project:					
a) Have a substantial adverse effect on a scenic vista?	Impact AES-1	No	No	No	N/A
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Impact AES-1	No	No	No	N/A
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	Impact AES-3	No	No	No	N/A
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Impact AES-2	No	No	No	N/A

a-c) Visual conditions on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Similarly, no new scenic vistas or scenic highways with views of the project site have been designated since preparation of the General Plan EIR. The project does not propose any land use changes on the Bailey and Bodger properties in the Bailey Avenue Corridor, and buildout under the existing designations would be substantially less intensive than evaluated in the General Plan EIR. As such, the project would not result in new or substantially more severe impacts to a scenic vista or scenic resources when compared to what was analyzed for the Bailey Avenue Specific Plan Area, which included residential and commercial buildout of the Bailey and Bodger properties, in the General Plan EIR.

d) Light and glare conditions on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Potential buildout under the existing land use and zoning designations would be substantially less intensive than evaluated in the General Plan EIR. As such, the project would not result in a new source of substantial light or glare beyond what was analyzed for the Bailey Avenue Specific Plan Area in the General Plan EIR. Therefore, the project would not introduce a new or substantially more severe impact related to light and glare.



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/Resolve New or More Severe Project Impacts?
<p>II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the project:</p>					
a) Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Impact LU-3	No	No	No	N/A
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Impact LU-3	No	No	No	N/A
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	N/A; New CEQA checklist item added subsequent to General Plan EIR	No	No	No	N/A
d) Result in the loss of forest land or conversion of forest land to non-forest use?	N/A; New CEQA checklist item added subsequent to General Plan EIR	No	No	No	N/A
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	Impact LU-3	No	No	No	N/A

a-e) As determined in the Lompoc 2030 General Plan EIR, the Bailey Property, Bodger Property, and surrounding properties are composed primarily of Prime Farmland and in use as cultivated farmland with agricultural support structures located on the Bodger Property. The northern portion of the Bailey Avenue Specific Plan Area, which includes the Bailey Property, was also determined to be under a Williamson Act Contract. Land use on and adjacent to the Bailey Property and Bodger Property has not changed since the analysis of the Bailey Avenue Specific Plan Area in the General Plan EIR and a Williamson Act Contract is still in effect on the Bailey Property. No forest land is located on the site. Additionally, potential buildout under the existing designations would be substantially less intensive than evaluated in the General Plan



EIR and Mitigation Measure LU-3, included therein, would serve to mitigate potential impacts to the maximum extent feasible through implementation of a City program for the purchase of Agricultural Conservation Easements. Therefore, the project would not result in any new or substantially more severe impacts to agriculture or forest resources.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
III. AIR QUALITY. Would the Project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	Impact AQ-1	No	No	No	N/A
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Impact AQ-2	No	No	No	N/A
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	Impact AQ-2	No	No	No	N/A
d) Expose sensitive receptors to substantial pollutant concentrations?	Impact AQ-2	No	No	No	N/A
e) Create objectionable odors affecting a substantial number of people?	Impact AQ-3	No	No	No	N/A

a) Analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR determined that development under the proposed land use changes and development plans for the Bailey Avenue Corridor would result in inconsistencies with the local clean air plan (CAP) due to the projected population growth. The project does not propose any land use changes or development on the Bailey and Bodger properties in the Bailey Avenue Corridor that would result in an increase to the City of Lompoc’s population. As such, the project would not result in population growth that exceeds forecasts or results in inconsistencies with the Santa Barbara County Air Pollution Control District’s CAP for the region. Additionally, potential buildout of the project site under existing designations would not result in growth to the City’s population beyond what was analyzed for the Bailey Avenue Specific Plan Area in the General Plan EIR. Therefore, the project would not result in any new or substantially more severe impacts relative to implementation of the local CAP.

b-d) Operational emissions sources on the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Potential buildout under the existing land use and zoning designations would be substantially less intensive than evaluated in the General Plan EIR. As such, the project would



not violate air quality standards, contribute substantially to existing or projected violations, result in a net increase of a criteria pollutant for which the region is in non-attainment, or expose sensitive receptors to substantial pollutant concentration beyond what was analyzed for the Bailey Avenue Specific Plan Area in the General Plan EIR. Therefore, the project would not result in new or substantially more severe impacts to air quality.

e) No new sources of odors have been located on and adjacent to the Bailey Property and Bodger Property since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR and would be required to comply with Mitigation Measure AQ-3(a) to reduce potential odor impacts to a less than significant level by developing an Odor Abatement Plan for any potential odor generators. Therefore, the project would not result in new or substantially more severe significant impacts relative to odor nuisance.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/Resolve New or More Severe Project Impacts?
IV. BIOLOGICAL RESOURCES. Would the Project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Impact BIO-2	No	No	No	N/A
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Impact BIO-4	No	No	No	N/A
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Impact BIO-1	No	No	No	N/A
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Impact BIO-3	No	No	No	N/A



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
IV. BIOLOGICAL RESOURCES. Would the Project:					
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Impacts BIO-1 through BIO-4	No	No	No	N/A
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Section 4.15.1	No	No	No	N/A

a-c) Biological conditions on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The Bailey Property and Bodger Property are comprised of farmland and agricultural structures with no permanent ditches or ponds present on the site. No native or otherwise undisturbed habitats are present on the properties. The Bailey Wetland, located north of the Bailey Property, would not be affected by the annexation. The project does not propose any land use changes on the Bailey and Bodger properties. As such, potential buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR and would be required to comply with Mitigation Measure BIO-2(a) to encourage the protection of significant biological resources, including sensitive plant and animal species. Therefore, the project would not result in new or substantially more severe significant impacts to sensitive plant and animal species or communities, or wetlands.

d) As determined in the Lompoc 2030 General Plan EIR, the proximity of the Bailey Property and Bodger Property to agricultural and urban land use areas decreases the likelihood of wildlife movement on or through the properties. The project does not propose any land use changes on the Bailey and Bodger properties in the Bailey Avenue Corridor. As such, buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR. Therefore, the project would not result in interference with the movement of native resident or migratory wildlife.

e, f) According to the Lompoc 2030 General Plan EIR, no habitat conservation or natural community plans apply to the City of Lompoc or the Bailey Avenue Corridor within the Bailey Avenue Specific Plan Area. These conditions have not changed since the analysis of the Bailey Avenue Specific Plan Area in the General Plan EIR. Additionally, the project does not propose any land use changes on the Bailey and Bodger properties in the Bailey Avenue Corridor and potential buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR. Therefore, the project would not result in new or substantially more severe conflicts with local policies or ordinances protecting biological resources, or a habitat conservation plan.



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
V. CULTURAL RESOURCES. Would the Project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	Impact CR-2	No	No	No	N/A
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	Impact CR-1	No	No	No	N/A
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Impact CR-1	No	No	No	N/A
d) Disturb any human remains, including those interred outside of formal cemeteries?	Impact CR-1	No	No	No	N/A

a) According the Lompoc 2030 General Plan EIR, the Bailey Property and Bodger Property do not contain known historical buildings or structures. Conditions related to historic buildings or structures on the property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the General Plan EIR, as no new historic structures or building are known to have been identified on the properties. As such, buildout under the existing land use and zoning designations would not result in the disturbance or adverse change in the significance of historical resources on the Bailey and Bodger properties in the Bailey Avenue Corridor. Therefore, the project would not result in any new or substantially more severe impacts to historical resources.

b) As determined in the Lompoc 2030 General Plan EIR, the Bailey Property, Bodger Property, and surrounding properties are located within a low archeological sensitivity zone. The project does not propose any land use changes on the Bailey and Bodger properties in the Bailey Avenue Corridor and buildout under the existing land use and zoning designations would not result in additional site disturbance beyond what was evaluated in the General Plan EIR for the properties. Therefore, the project would not result in any new or substantially more severe impacts to archeological resources on the Bailey and Bodger properties in the Bailey Avenue Corridor.

c, d) The Bailey Property and Bodger Property are comprised of farmland and agricultural structures and no known paleontological or unique geologic resources are recorded on the site. As such, the project would not result in the destruction of unique paleontological resources or unique geologic features on the Bailey and Bodger properties in the Bailey Avenue Corridor. The project would not result in any new or substantially more severe impacts to paleontological resources or unique geological features.



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/Resolve New or More Severe Project Impacts?
VI. GEOLOGY AND SOILS. Would the Project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	Impact GEO-1	No	No	No	N/A
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	Impact GEO-1	No	No	No	N/A
ii) Strong seismic ground shaking?	Impact GEO-1	No	No	No	N/A
iii) Seismic-related ground failure, including liquefaction?	Impact GEO-2	No	No	No	N/A
iv) Landslides?	Impact GEO-4	No	No	No	N/A
b) Result in substantial soil erosion or the loss of topsoil?	Impact GEO-3	No	No	No	N/A
c) Be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	Impact GEO-3	No	No	No	N/A
d) Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?	Impact GEO-1	No	No	No	N/A
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Impact GEO-3	No	No	No	N/A

a-e) Geological conditions on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR and would be required to comply with the California Building Code (CBC), the City’s municipal code and General Plan Safety Element policies to minimize and/or avoid risks to life and property associated with geologic and soil hazards. Therefore, the project would not result in new or substantially more severe significant impacts relative to geological conditions.



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
VII. GREENHOUSE GAS EMISSIONS. Would the Project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Impact AQ-4; General Plan EIR Addendum	No	No	No	N/A
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Impact AQ-4; General Plan EIR Addendum	No	No	No	N/A

a, b) Sources of greenhouse gas emissions (GHGs) on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The project does not propose any land use changes or development on the Bailey and Bodger properties in the Bailey Avenue Corridor. As such, the project would not result in the generation of greenhouse gas (GHG) emissions or conflict with any applicable GHG reduction plan, policy or regulation. Additionally, buildout under the existing land use and zoning designations would be substantially less intensive than what was evaluated in the General Plan EIR. Future development would be required to comply with General Plan policies required by Mitigation Measures AQ-4(a) and AQ-4(b) in the General Plan EIR for the purpose of reducing and/or avoiding potential impacts associated with GHG emissions. Therefore, the project would not result in new or substantially more severe impacts associated with GHG emissions.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the Project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Impact HAZ-2	No	No	No	N/A
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Impact HAZ-2	No	No	No	N/A



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the Project:					
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	Impact HAZ-1	No	No	No	N/A
d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Impact HAZ-1	No	Yes	Yes	Partially; Additional analysis is required
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	Impact HAZ-4	No	No	No	N/A
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	Impact HAZ-4	No	No	No	N/A
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Impact HAZ-3	No	No	No	N/A
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Impact HAZ-3	No	No	No	N/A

a, b) As identified in the Lompoc 2030 General Plan EIR, the Bodger Property the Bailey Avenue Specific Plan Area is bordered on the north by Ocean Avenue. The Union Pacific Railroad (UPRR) corridor is located approximately half way between the Bailey and Bodger properties within the Bailey Avenue Corridor. Ocean Avenue and UPRR may be used in the transport of hazardous materials in close proximity to the properties involved in the project. Hazardous materials transport conditions are not known to have changed since preparation of the General Plan EIR. Potential buildout under the existing designations would be substantially less intensive than evaluated in the General Plan EIR. Therefore, the project would not result in any new or substantially more severe hazard impact to the public or environment through transport, use, disposal, or release of hazardous materials.



c) Hazardous material use on and adjacent to the Bailey Property and Bodger Property is not known to have changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The Bodger Property is located less than one quarter mile from Miguelito Elementary School. However, the project does not propose any land use changes, and buildout under the existing land use and zoning designations would not result in any uses that would involve hazardous materials on the Bailey or Bodger properties in the Bailey Avenue Corridor beyond what was evaluated in the General Plan EIR. Therefore, the project would not result in new or substantially more severe significant impacts to surrounding schools due to hazardous emissions and/or hazardous materials handling.

d) According to the Lompoc 2030 General Plan EIR, no sources of contamination were listed in the GeoTracker database for the Bailey Property and Bodger Property. However, an updated search of the database was conducted and identified enrollment in the Irrigated Lands Regulatory Program for both properties. A Leaking Underground Storage Tank (LUST) cleanup site at the Bodger Seed development on the Bodger Property was also identified. The identified LUST cleanup site has an “Open – Assessment and Interim Remedial Action” cleanup status and is currently being managed to avoid and/or minimize impacts due to hazardous materials release. Buildout under the existing land use and zoning designations would be substantially less intensive than what was evaluated in the General Plan EIR and would be required to comply with existing local, state, and federal regulations that require remediation of contamination that exceeds action levels. Further research, testing and remediation, including soil and groundwater sampling, under the appropriate oversight agency would reduce the risk of possible contamination. In addition, General Plan EIR Mitigation Measure HAZ-1 requires reporting and actions to ensure that previously unidentified hazardous materials do not result in hazards to the public or the environment. Nevertheless, this issue requires further study in additional CEQA documentation.

e, f) The Bailey Avenue Specific Plan Area is located within the Lompoc Airport Influence Area (AIA) but, outside of the Airport Safety Zones 1 through 6, as specified in the Lompoc 2030 General Plan EIR. Buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR and would be subject to the Santa Barbara County Airport Land Use Commission (ALUC) review. Therefore, the project would not result in any new or substantially more severe impacts to safety associated with nearby airport operations.

g, h) According to the Lompoc 2030 General Plan EIR, the majority of the Bailey Avenue Specific Plan expansion area was classified as a Low Wildland Fire Hazard Area with the southern portion of the area designated as a Moderate Wildland Fire Hazard Area. The Bailey and Bodger properties are located outside of the identified High and Very High wildfire hazard areas. Although there is moderate risk of nearby wildland fires spreading into the project site, the project would not result in the increase of such risks. Additionally, buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR and would be required to comply with policies in the General Plan Public Services and Safety Elements to reduce the risk of injury or damage from wildland fires. Therefore, the project would not result in new or substantially more severe impacts associated with wildland fire hazards.



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
IX. HYDROLOGY AND WATER QUALITY. Would the Project:					
a) Violate any water quality standards or waste discharge requirements?	Impact HWQ-4	No	No	No	N/A
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	Impact HWQ-3	No	No	No	N/A
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	Impact HWQ-4	No	No	No	N/A
d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Impact HWQ-4	No	No	No	N/A
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Impact U-4	No	No	No	N/A
f) Otherwise substantially degrade water quality?	Impact HWQ-4	No	No	No	N/A
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	Impact HWQ-1	No	No	No	N/A
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	Impact HWQ-1	No	No	No	N/A



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/Resolve New or More Severe Project Impacts?
IX. HYDROLOGY AND WATER QUALITY. Would the Project:					
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	Impact HWQ-2	No	No	No	N/A
j) Inundation by seiche, tsunami, or mudflow?	Section 4.5	No	No	No	N/A

a-f) Hydrological conditions on and adjacent to the Bailey Property and Bodger Property have not substantially changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The project does not propose any land use changes on the Bailey and Bodger properties in the Bailey Avenue Corridor. As such, buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR and would be required to comply with the General Plan Land Use Element policies to reduce potential development impacts to water quality. Therefore, the project would not result in new or substantially more severe significant impacts related to hydrology and water quality.

g, h) The Bailey Property and Bodger Property are not located within the 100-year floodplain according to the analysis for the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The identified 100-year floodplain areas on and around the project site have not changed since the preparation of the General Plan EIR. Potential buildout under the existing designations would be located outside of the 100-year floodplain. Therefore, the project would not result in new or substantially more severe impacts to hydrology or water quality associated with a 100-year floodplain.

i) The Bailey Property is within the inundation area for the Bradbury Dam according to the analysis for the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Buildout of the Bailey Property under the existing designations be substantially less intensive that what was evaluated in the General Plan EIR and would be required to comply with the County of Santa Barbara Multi-Jurisdictional Hazard Mitigation Plan to ensure that impacts related to the potential for dam inundation would be less than significant. Therefore, the project would not result in new or substantially more severe impacts due to hazards associated with dam or levee failure.

j) According to the analysis for the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR, the Bailey Property and Bodger Property are not located within an area subject to tsunamis or seiches. Due to the distance of the project site from the Pacific Ocean and major water bodies, these conditions have not changed since the preparation of the General Plan EIR and potential buildout under existing designations would be located outside of the areas subject to inundation by tsunamis or seiches. Additionally, buildout under the existing



conditions would occur on a relatively flat landscape and would not be subject to inundation by mudflow. Therefore, the project would not result in new or substantially more severe impacts associated with inundation by seiche, tsunami, or mudflow.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
X. LAND USE AND PLANNING. Would the Project:					
a) Physically divide an established community?	Section 4.8	No	No	No	N/A
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Impact LU-1	No	No	No	N/A
c) Conflict with an applicable habitat conservation plan or natural community conservation plan?	Section 4.15.3	No	No	No	N/A

a-c) Land uses on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The proposed project would be consistent with the the current land use designations on the site. Buildout under the existing designations would be substantially less intensive than what was evaluated in the General Plan EIR. Therefore, the project would not result in new or substantially more severe significant impacts associated with land use or applicable land use plans.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XI. MINERAL RESOURCES. Would the Project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	Initial Study	No	No	No	N/A
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	Initial Study	No	No	No	N/A



a, b) Based on the City’s General Plan and the County of Santa Barbara Comprehensive Plan Environmental Resources Management Element map for the Lompoc Area, the project site does not contain any valuable mineral resources or delineated mineral resource recovery sites (City of Lompoc, 2014; County of Santa Barbara, 2009). As such, changes to the project site as a result of potential buildout under the existing designations would not directly result in loss of availability of a known or locally important mineral resource. Therefore, the project would not result in new or substantially more severe significant impacts relative to mineral resources.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XII. NOISE. Would the Project Result in:					
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Impacts N-2 and N-3	No	Potentially; Additional analysis required.	No	Partially; Additional analysis required.
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	Impact N-1	No	No	No	N/A
c) A substantial permanent increase in ambient noise levels above levels existing without the project?	Impacts N-2 and N-3	No	No	No	N/A
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Impacts N-1 and N-5	No	No	No	N/A
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Impact N-4	No	No	No	N/A
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise?	Impact N-4	No	No	No	N/A

a-d) According to the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR, development on the Bailey and Bodger properties could result in exposure of existing and proposed noise-sensitive uses to temporary construction and long term operational noise in excess of local standards. No new sources of noise within the project site have been



developed since preparation of the General Plan EIR and buildout of the site under the existing land use and zoning designations would be substantially less intensive than evaluated in the General Plan EIR. Additionally, buildout under the existing designations would be required to comply with the City’s Noise Ordinance (Section 8.08 of the Lompoc Municipal Code and policies in the General Plan Noise and Circulation Elements that reduce and/or avoid potential noise impacts associated with exposure of new noise-sensitive land uses to traffic noise.

The General Plan EIR identified several roadway segments along which receptors would be exposed to unacceptable noise levels due to vehicle traffic associated with General Plan buildout. Identified roadways included segments of Ocean Avenue, Central Avenue, and V Street. Each of these roadways would carry traffic generated by future development in the Bailey Avenue area. General Plan Noise and Circulation Element policies were identified that would reduce noise exposure impacts to a less than significant level. These policies included a requirement to use the noise standards presented in the table entitled "Interior and Exterior Noise Standards" in determining land use designations and maximum noise levels allowable for new developments. In addition, the General Plan EIR evaluated a Low Growth Alternative, which assumed future development in the H Street Infill Area, but no development in potential expansion areas including the Bailey Avenue Specific Plan Area, and concluded that the alternative would not result in noise impacts. Although this suggests that the programmatic noise impacts of future development of the annexation area would not be significant at these receptors, current baseline and future traffic and related noise conditions have not been programmatically updated since the preparation of the General Plan EIR. This issue requires further study in additional CEQA documentation to confirm this conclusion.

e, f) According to the Lompoc 2030 General Plan EIR, the Bailey Avenue Specific Plan Area is located within the 60 dBA noise contour area of the Vandenberg Air Force Base (VAFB). The closest public use airport is the Lompoc Municipal Airport, located at 1801 North H Street. The project study area is not located within the Lompoc Airport Master Plan (LAMP) planning area. The City of Lompoc 2030 General Plan Noise Element (Figure N-3) identifies Airport Noise Contours for both the Lompoc Municipal Airport and the VAFB. The project site is wholly outside the influence of the Lompoc Municipal Airport. Buildout of the project site under the existing land use and zoning designations would be less intensive than what was evaluated in the General Plan EIR. Future development would be required to coordinate with the Airport Land Use Commission and comply with City regulations to avoid potential airport-related noise impacts. Therefore, the project would not result in new or substantially more severe impacts related to airport-noise expose.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XIII. POPULATION AND HOUSING. Would the Project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or	Impact PH-2	No	No	No	N/A



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XIII. POPULATION AND HOUSING. Would the Project:					
indirectly (for example, through extension of roads or other infrastructure)?					
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	Impact PH-1	No	No	No	N/A
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	Impact PH-1	No	No	No	N/A

a) Population and housing on the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Potential buildout of the project site under the existing land use and zoning designations would be substantially less intensive and would result in a lower population generation than what was analyzed for the area in the General Plan EIR. Therefore, the project would not result in new or substantially more severe impacts related to an increase in population in the City.

b, c) The Bailey Property and Bodger Property have remained undeveloped with the exception of agricultural support uses, which do not include any housing or residential uses, since the analysis of the Lompoc 2030 General Plan EIR. Therefore, the project would not result in any new or substantially more severe impacts relative to population growth or housing/ population displacement.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XIV. PUBLIC SERVICES					
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
i) Fire protection?	Impact PS-1	No	No	No	N/A
ii) Police protection?	Impact PS-3	No	No	No	N/A
iii) Schools?	Impact PS-4	No	No	No	N/A



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XIV. PUBLIC SERVICES					
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
iv) Parks	Impact REC-1	No	No	No	N/A
v) Other public facilities?	Impacts PS-5 and PS-6	No	No	No	N/A

a) As determined in the Lompoc 2030 General Plan EIR, development within the Bailey Avenue Specific Plan Area would be served by the City of Lompoc Fire Department, Police Department, Unified School District, and other public facilities. Annexation of the Bailey and Bodger Properties would require the Fire Department to amend their Five Minute Response Zone Map to include the project sites as well as require the area to develop emergency access. Potential buildout under the existing land use and zoning designations would be substantially less intensive than evaluated in the General Plan EIR and would be required to pay in-lieu fees for public services. Therefore, the project would not result in new or substantially more severe impacts related to the provision of new or expanded public services.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XV. RECREATION.					
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	REC-1	No	No	No	N/A
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	REC-1	No	No	No	N/A

a, b) Recreational use in the vicinity of the Bailey Property and Bodger Property has not substantially changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The project does not propose any additional recreational uses or



permanent alterations of existing recreational uses on the Bailey and Bodger properties in the Bailey Avenue Corridor, and buildout under the existing designations would be substantially less intensive than evaluated in the General Plan EIR and would be required to pay in-lieu park fees. Additionally, General Plan Land Use Element Policy 4.6 specifies that the City will ensure requested annexations meet needs for parks, open spaces, and/or public facilities. As such, the project would not result in an increase use of recreational facilities that would induce physical deterioration or require construction with a potential adverse effect on the environment when compared to what was analyzed for the Bailey Avenue Specific Plan Area in the General Plan EIR. Therefore, the project would not result in new or substantially more severe impacts to parks or recreational facilities in the City.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XVI. TRANSPORTATION AND TRAFFIC. Would the Project:					
a) Conflict with an applicable plan, ordinance or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?	Impact TC-1	No	Potentially; Additional analysis required	No	Partially; Additional analysis required.
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	Impact TC-1	No	Potentially; Additional analysis required	No	Partially; Additional analysis required.
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	Impact HAZ-4	No	No	No	N/A
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	Impact TC-2	No	No	No	N/A
e) Result in inadequate emergency access?	Impact TC-2	No	No	No	N/A



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XVI. TRANSPORTATION AND TRAFFIC. Would the Project:					
f) Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?	Impact TC-3	No	No	No	N/A

a, b) The General Plan EIR identified impacts to various intersections in the City associated with buildout, including future development of the Bailey Avenue Expansion Area. Potential buildout under the existing land use and zoning designations would be substantially less intensive than what was evaluated in the General Plan EIR. Therefore, the project is not anticipated to result in new or substantially more severe impacts to circulation and congestion when compared to what was analyzed for the Bailey Avenue Specific Plan Area in the General Plan EIR.

General Plan Circulation Element improvements and policies were identified that would reduce traffic impacts to a less than significant level. Nevertheless, current baseline and future traffic conditions have not been programmatically updated since the preparation of the General Plan EIR. This issue requires further study in additional CEQA documentation, including updated traffic conditions and impacts to area roadways and intersections based on buildout of the project site under the existing designations, to confirm this conclusion.

c-e) Safety conditions on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Potential buildout under the existing designations would be substantially less intensive than evaluated in the General Plan EIR. As such, the project would not result in new or substantial increase in hazards to the project site when compared to what was analyzed for the Bailey Avenue Specific Plan Area in the General Plan EIR.

f) Transit, bikeway and pedestrian policies and facilities on and adjacent to the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. The project would not result in new or substantially more severe conflict with plans, policies, or programs for these facilities than what was analyzed in the General Plan EIR.



Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XVII. UTILITIES AND SERVICE SYSTEMS. Would the Project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Impact U-2	No	No	No	N/A
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Impact U-1	No	No	No	N/A
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Impact U-4	No	No	No	N/A
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	Impact U-1	No	No	No	N/A
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Impact U-2	No	No	No	N/A
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	Impact U-5	No	No	No	N/A
g) Comply with federal, state, and local statutes and regulations related to solid waste?	Impact U-5	No	No	No	N/A

a-e) Analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR determined that development on the Bailey Property and Bodger Property would not significantly impact the wastewater treatment or water supply in the City of Lompoc. The General Plan EIR also determined that an increase in impervious surfaces within the City would result in the need for additional stormwater infrastructure in compliance with the City's Stormwater Management Plan (SWMP). Potential buildout under the existing land use and zoning designations would be substantially less intensive than what was evaluated for the Specific Plan area in the General Plan EIR. Therefore, the project would not result in new or substantially more severe impacts to water, wastewater, or stormwater service systems in the City.



f, g) Solid waste disposal needs on the Bailey Property and Bodger Property have not changed since the analysis of the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR. Buildout under the existing land use and zoning designations would be substantially less intensive than evaluated in the General Plan EIR. As such, the project would not result in new or substantially more severe impacts related to solid waste when compared to what was analyzed for the Bailey Avenue Specific Plan Area in the General Plan EIR.

Environmental Issue Area	Where Impact Was Analyzed in the Lompoc 2030 General Plan EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Lompoc 2030 General Plan EIR Mitigation Measures Address/ Resolve New or More Severe Project Impacts?
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. Would the Project:					
a) Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Impacts BIO-1 through BIO-4, CR-1, CR-2	No	No	No	N/A
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Sections 4.1 through 4.15	No	Potentially; Additional analysis required.	No	Partially; Additional analysis required.
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Sections 4.1 through 4.15	No	Potentially; Additional analysis required.	No	Partially; Additional analysis required.

a) The project would not result in potentially significant impacts to sensitive plant and animal species, sensitive communities, jurisdictional waters and wetlands, or cultural resources, beyond those identified in the General Plan EIR.

b) As described throughout this report, the project is not expected to result in any new or substantially more severe impacts than what was analyzed for the Bailey Avenue Specific Plan Area in the Lompoc 2030 General Plan EIR in most environmental issue areas. However, additional analysis to determine the level of impacts associated with noise, and transportation and circulation will be required in an EIR Addendum.



c) The project is not anticipated to result in new or substantially more severe environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly, beyond what was analyzed in the General Plan EIR. This is evidenced in the preceding discussions of each of the environmental issue areas. Nevertheless, additional analysis of exposure to hazardous materials, noise, and traffic congestion are necessary in the EIR Addendum to confirm this conclusion.



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<http://geotracker.waterboards.ca.gov/>



Appendix B

*Existing Conditions Analysis for the
Bailey Avenue Corridor Annexation*





ASSOCIATED TRANSPORTATION ENGINEERS

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Since 1978

Richard L. Pool, P.E.
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December 14, 2016

16099L01

Richard Dalton
Rincon Consultants
1530 Monterey Street, Suite D
San Luis Obispo, CA 93401

EXISTING CONDITIONS ANALYSIS FOR THE BAILEY AVENUE CORRIDOR ANNEXATION PROJECT, CITY OF LOMPOC

Associated Transportation Engineers (ATE) is submitting the following existing conditions analysis for the Bailey Avenue Corridor Annexation (the "Project") proposed in the western area of Lompoc.

Project Description

The Project includes two sets of parcels within the Bailey Avenue Corridor, also known as Expansion Area A: Bailey Avenue Specific Plan Area, as designated in the City of Lompoc General Plan. The Bailey Property – Annexation Area A – is located at the southeast corner of the intersection of West North Avenue and Bailey Avenue within the unincorporated area of Santa Barbara County. The Bodger Property – Annexation Area B – is located at the southeast corner of the intersection of Ocean Avenue and Bailey Avenue within the unincorporated area of Santa Barbara County.

Scope of Analysis

The proposed annexations within the Bailey Avenue Specific Plan were analyzed as part of the General Plan EIR prepared in 2009. Given the age of the General Plan EIR analysis, ATE used new count data (2015-2016) to calculate Existing levels of service for key intersections in the vicinity of the Project sites in order to determine if conditions have changed substantially since 2009. The key intersections are listed below and the new count data is attached for reference.

Study Intersections

V Street/Central Avenue

V Street/North Avenue

V Street/Ocean Avenue

O Street/Central Avenue

H Street/Central Avenue

Levels of Service

As stated in the City of Lompoc General Plan, the City's traffic impact threshold is: *"The City shall maintain intersection traffic levels of service (LOS) at LOS C or better throughout the City, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections shall maintain a LOS in accordance with the most recent CMP standards (at LOS D or better), when it can be demonstrated that all feasible mitigation measures have been applied to the project and LOS C, with said mitigation, cannot be achieved."*

Tables 1 and 2 compare the A.M. and P.M. peak hour levels of service reported in the General Plan EIR with the levels of service based on the current counts (level of service calculation worksheets are attached for reference).

Table 1
Existing Levels of Service – A.M. Peak Hour

Intersection	Control	Delay/LOS(a)	
		GP EIR(a)	Current Data(b)
V Street/Central Avenue	Signal	13.9 Sec./LOS B	9.5 Sec./LOS A
V Street/North Avenue	All-Way Stop	9.4 Sec./LOS A	15.8 Sec./LOS C
V Street/Ocean Avenue	All-Way Stop	11.4 Sec./LOS B	17.2 Sec./LOS C
O Street/Central Avenue	Signal	29.5 Sec./LOS C	20.8 Sec./LOS C
H Street/Central Avenue	Signal	23.7 Sec./LOS C	31.1 Sec./LOS C

(a) LOS taken from Table 4.13-3, Lompoc General Plan Update EIR, 2009.

(b) LOS based on counts collected in 2015-2016.

**Table 2
Existing Levels of Service – P.M. Peak Hour**

Intersection	Control	Delay/LOS(a)	
		GP EIR(a)	Current Data(b)
V Street/Central Avenue	Signal	13.9 Sec./LOS B	11.8 Sec./LOS B
V Street/North Avenue	All-Way Stop	10.0 Sec./LOS A	15.3 Sec./LOS C
V Street/Ocean Avenue	All-Way Stop	10.7 Sec./LOS B	11.8 Sec./LOS B
O Street/Central Avenue	Signal	21.5 Sec./LOS C	26.3 Sec./LOS C
H Street/Central Avenue	Signal	35.6 Sec./LOS D	37.3 Sec./LOS D

(a) LOS taken from Table 4.13-3, Lompoc General Plan Update EIR, 2009.

(b) LOS based on counts collected in 2015-2016.

Bolded values exceed City’s LOS C standards.

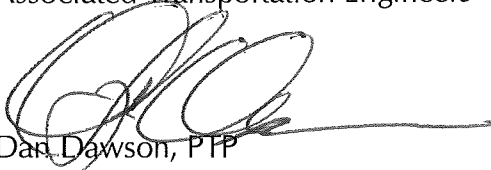
As shown in Tables 1 and 2, most of the intersections currently operate at LOS C or better based on the new count data, which meets the City’s LOS C standard. The H Street/Central Avenue intersection currently operates at LOS D during the Weekday P.M. peak hour period, which exceeds the City’s LOS C standard. The H Street/Central Avenue intersection also operated at LOS D during the P.M. peak hour in 2009 when the General Plan EIR was prepared. The City has identified an improvement project for the intersection, which includes installing dual left-turn lanes on the northbound and southbound approaches. The H Street/Central Avenue intersection is forecast to operate at LOS C with the planned improvements.

Recommendations

It is our understanding that the Project includes Sphere of Influence modifications and annexation approvals only. No development approvals are being requested at this time. It is recommended that more detailed traffic impact studies be prepared at the time of development applications. The traffic studies should be completed pursuant to City requirements and include assessment of potential impacts to streets and intersections in the vicinity of the Project sites. The traffic studies should also determine the amount of traffic that would be added to the H Street/Central Avenue intersection so that fair-share contributions to the planned improvements can be calculated for each development.

This concludes our existing conditions analysis for the Bailey Avenue Corridor Annexation proposed in the western area of Lompoc. Please give us a call to discuss any questions.

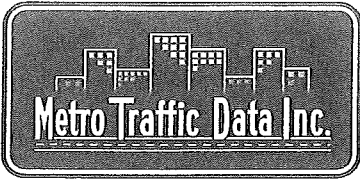
Associated Transportation Engineers

A handwritten signature in black ink, appearing to read 'Dan Dawson', with a long horizontal line extending to the right.

Dan Dawson, PTP
Supervising Transportation Planner

SAS/DLD

Attachments



Metro Traffic Data Inc.
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 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotrafficdata.com

Turning Movement Report

Prepared For:
 Associated Transportation Engineers
 100 N. Hope Avenue, Suite 4
 Santa Barbara, CA 93110

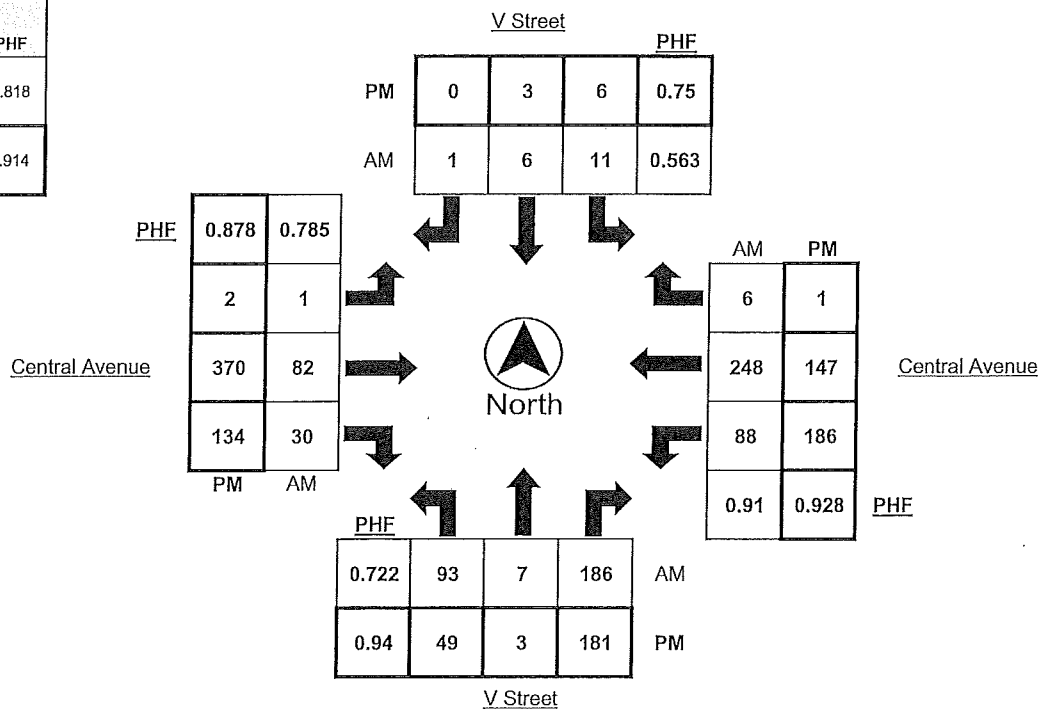
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 COUNTY Santa Barbara LONGITUDE -120.4752
 COLLECTION DATE Tuesday, November 15, 2016 WEATHER Clear

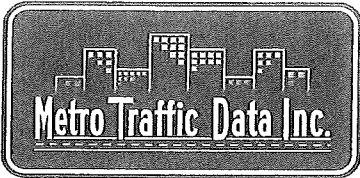
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	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR
7:00 AM - 7:15 AM	24	1	36	20	2	2	0	0	1	14	7	2	10	82	0	0
7:15 AM - 7:30 AM	24	6	29	16	5	3	0	0	0	24	2	1	19	53	1	1
7:30 AM - 7:45 AM	23	0	44	36	2	1	0	0	0	17	12	4	24	57	2	2
7:45 AM - 8:00 AM	22	0	77	49	2	0	1	1	0	27	9	2	35	56	3	2
8:00 AM - 8:15 AM	16	0	50	38	0	2	0	0	0	35	11	3	21	41	3	2
8:15 AM - 8:30 AM	11	0	43	35	4	0	0	0	0	29	10	4	28	32	2	2
8:30 AM - 8:45 AM	6	1	26	19	2	0	0	0	0	22	4	0	22	29	3	3
8:45 AM - 9:00 AM	12	1	30	21	2	1	1	1	0	27	5	2	21	32	4	2
TOTAL	138	9	335	234	19	9	2	2	1	195	60	18	180	382	18	14

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR
4:00 PM - 4:15 PM	15	1	34	23	2	0	0	0	0	101	31	6	48	38	1	1
4:15 PM - 4:30 PM	12	0	44	35	0	1	0	0	0	97	32	11	46	37	0	0
4:30 PM - 4:45 PM	11	0	51	34	2	1	0	0	1	89	25	7	34	43	1	0
4:45 PM - 5:00 PM	15	3	38	19	2	0	0	0	1	89	28	6	54	29	0	0
5:00 PM - 5:15 PM	11	0	48	32	2	1	0	0	0	95	49	14	52	38	0	0
5:15 PM - 5:30 PM	6	0	42	35	0	1	0	0	1	92	26	4	58	38	0	0
5:30 PM - 5:45 PM	9	0	32	21	1	0	0	0	0	62	26	6	40	34	0	0
5:45 PM - 6:00 PM	5	0	37	30	0	0	0	0	0	56	25	7	36	31	0	0
TOTAL	84	4	326	229	9	4	0	0	3	681	242	61	368	288	2	1

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR
7:00 AM - 8:00 AM	93	7	186	121	11	6	1	1	1	82	30	9	88	248	6	5
4:15 PM - 5:15 PM	49	3	181	120	6	3	0	0	2	370	134	38	186	147	1	0

	PHF
AM	0.818
PM	0.914





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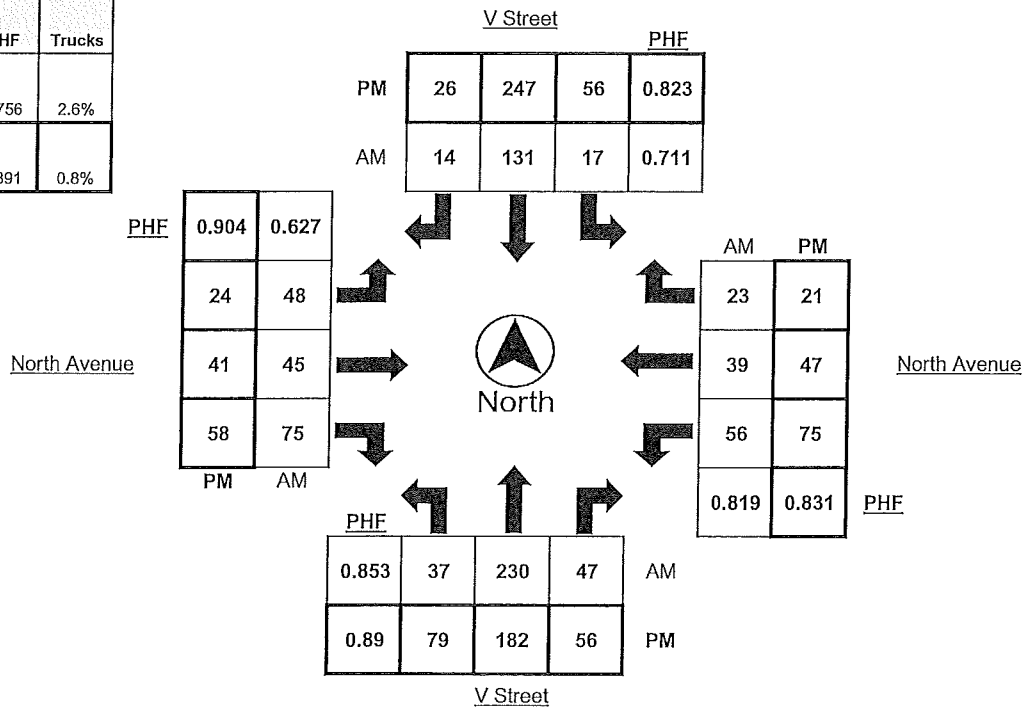
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 COUNTY Santa Barbara LONGITUDE -120.4753
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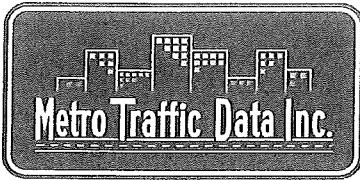
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	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	8	41	8	1	0	18	4	2	8	8	10	0	11	10	7	2
7:15 AM - 7:30 AM	8	44	8	1	1	31	0	3	7	13	15	0	10	9	11	2
7:30 AM - 7:45 AM	9	54	17	3	4	22	6	0	9	7	25	0	15	8	5	0
7:45 AM - 8:00 AM	12	69	11	4	9	40	8	4	22	18	27	0	18	15	3	0
8:00 AM - 8:15 AM	8	63	11	1	3	38	0	0	10	7	8	1	13	7	4	1
8:15 AM - 8:30 AM	17	40	8	1	3	38	4	0	10	4	7	1	9	3	2	1
8:30 AM - 8:45 AM	4	22	7	1	5	19	6	2	4	4	4	0	5	3	5	0
8:45 AM - 9:00 AM	6	33	8	1	2	27	1	0	3	13	12	0	9	3	4	1
TOTAL	72	366	78	13	27	233	29	11	73	74	108	2	90	58	41	7

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	15	53	11	2	9	65	4	1	3	7	10	0	8	13	4	0
4:15 PM - 4:30 PM	15	56	15	2	14	50	7	3	3	10	19	0	16	10	2	0
4:30 PM - 4:45 PM	22	48	14	1	7	51	2	1	6	8	11	0	7	13	5	0
4:45 PM - 5:00 PM	28	51	10	3	8	66	4	1	8	9	16	0	16	9	6	0
5:00 PM - 5:15 PM	23	50	14	1	26	69	5	2	7	13	13	0	20	11	5	0
5:15 PM - 5:30 PM	18	38	19	0	5	62	11	0	4	12	18	0	17	13	3	0
5:30 PM - 5:45 PM	10	43	13	0	17	50	6	0	5	7	11	0	22	14	7	0
5:45 PM - 6:00 PM	14	36	7	0	6	55	6	0	6	5	13	0	12	8	6	0
TOTAL	145	375	103	9	92	468	45	8	42	71	111	0	118	91	38	0

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:15 AM - 8:15 AM	37	230	47	9	17	131	14	7	48	45	75	1	56	39	23	3
4:45 PM - 5:45 PM	79	182	56	4	56	247	26	3	24	41	58	0	75	47	21	0

	PHF	Trucks
AM	0.756	2.6%
PM	0.891	0.8%





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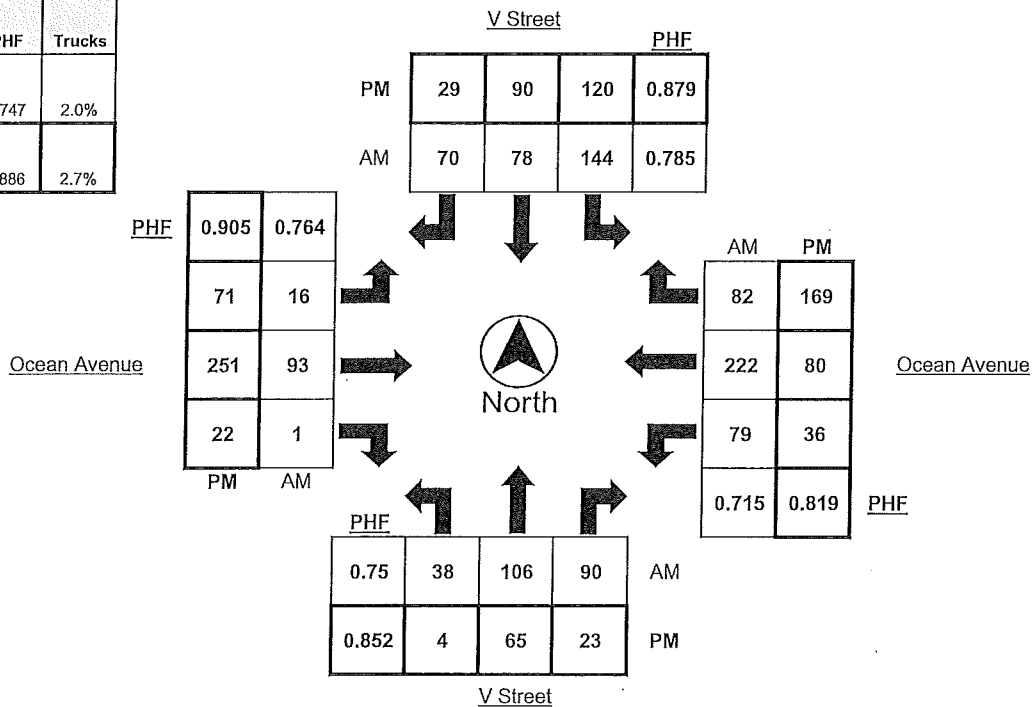
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7:00 AM - 7:15 AM	9	19	6	0	24	23	14	5	1	9	2	1	8	78	14	2
7:15 AM - 7:30 AM	15	21	9	0	23	15	12	1	3	22	0	0	12	54	12	4
7:30 AM - 7:45 AM	8	29	20	0	23	29	23	0	4	19	0	0	24	59	13	3
7:45 AM - 8:00 AM	10	28	40	1	51	17	25	0	5	31	0	2	34	75	25	4
8:00 AM - 8:15 AM	5	28	21	1	47	17	10	1	4	21	1	1	9	34	32	2
8:15 AM - 8:30 AM	2	13	7	2	29	12	5	3	3	22	2	2	8	24	17	2
8:30 AM - 8:45 AM	1	17	5	2	18	10	7	2	8	27	1	4	9	32	23	3
8:45 AM - 9:00 AM	2	17	6	0	33	11	6	1	6	18	2	3	5	18	15	1
TOTAL	52	172	114	6	248	134	102	13	34	169	8	13	109	374	151	21

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	3	17	7	1	17	19	6	0	19	55	3	2	8	16	28	0
4:15 PM - 4:30 PM	1	21	5	0	31	21	6	1	11	62	6	2	8	18	32	3
4:30 PM - 4:45 PM	0	16	7	2	30	19	4	1	19	60	6	2	9	21	36	1
4:45 PM - 5:00 PM	1	14	6	0	27	21	12	0	17	63	5	4	8	15	49	3
5:00 PM - 5:15 PM	2	14	5	0	32	29	7	1	24	66	5	4	11	26	50	2
5:15 PM - 5:30 PM	2	18	2	1	29	21	7	1	21	54	6	2	11	9	28	2
5:30 PM - 5:45 PM	1	23	4	0	33	15	3	0	10	46	8	2	13	18	48	1
5:45 PM - 6:00 PM	2	16	3	0	26	15	8	0	7	34	3	3	8	10	38	1
TOTAL	12	139	39	4	225	160	53	4	128	440	42	21	76	133	311	13

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:15 AM - 8:15 AM	38	106	90	2	144	78	70	2	16	93	1	3	79	222	82	13
4:15 PM - 5:15 PM	4	65	23	2	120	90	29	3	71	251	22	12	36	80	169	9

	PHF	Trucks
AM	0.747	2.0%
PM	0.886	2.7%



ITM Peak Hour Summary

Prepared by:

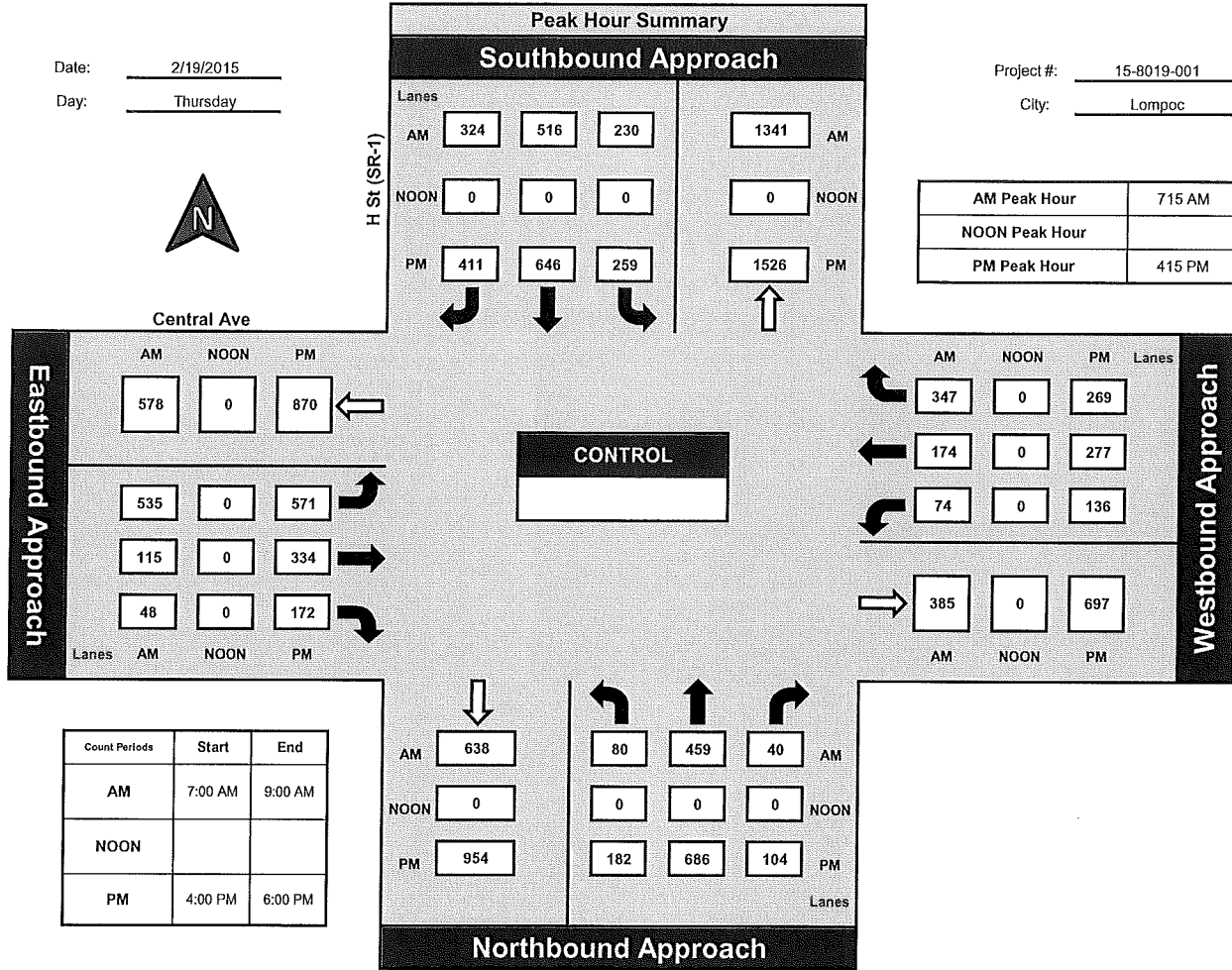


National Data & Surveying Services

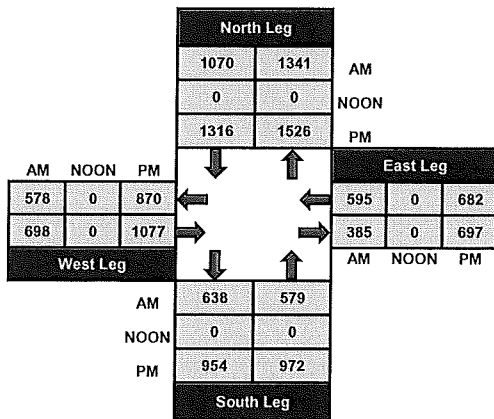
H St (SR-1) and Central Ave, Lompoc

Date: 2/19/2015
Day: Thursday

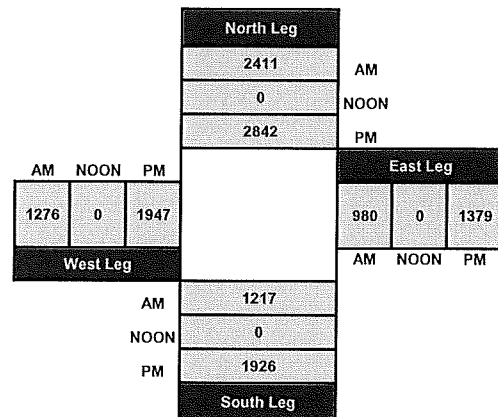
Project #: 15-8019-001
City: Lompoc



Total Ins & Outs



Total Volume Per Leg



Bailey Avenue Corridor Annexation
1: CENTRAL AVENUE & V STREET

Existing A.M. Peak Hour
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	82	30	88	248	6	93	7	186	11	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.86		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3396		1770	1856		1770	1594		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00		0.61	1.00	
Satd. Flow (perm)	1770	3396		1770	1856		1402	1594		1140	1828	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	1	100	37	107	302	7	113	9	227	13	7	1
RTOR Reduction (vph)	0	28	0	0	1	0	0	177	0	0	1	0
Lane Group Flow (vph)	1	109	0	107	308	0	113	59	0	13	7	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Prot		Perm			Perm				
Protected Phases	7	4		3	8			2				6
Permitted Phases							2			6		
Actuated Green, G (s)	0.5	7.3		4.1	10.9		6.6	6.6		6.6	6.6	
Effective Green, g (s)	0.5	7.3		4.1	10.9		6.6	6.6		6.6	6.6	
Actuated g/C Ratio	0.02	0.24		0.14	0.36		0.22	0.22		0.22	0.22	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	30	826		242	674		308	351		251	402	
v/s Ratio Prot	0.00	0.03		c0.06	c0.17			0.04			0.00	
v/s Ratio Perm							c0.08			0.01		
v/c Ratio	0.03	0.13		0.44	0.46		0.37	0.17		0.05	0.02	
Uniform Delay, d1	14.5	8.9		11.9	7.3		9.9	9.5		9.2	9.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		1.3	0.5		0.7	0.2		0.1	0.0	
Delay (s)	15.0	8.9		13.2	7.8		10.7	9.7		9.3	9.2	
Level of Service	B	A		B	A		B	A		A	A	
Approach Delay (s)		9.0			9.2			10.0			9.3	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	30.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Bailey Avenue Corridor Annexation
1: CENTRAL AVENUE & V STREET

Existing P.M. Peak Hour
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↗		↖	↕		↖	↕		↖	↕	
Volume (vph)	2	370	134	186	147	1	49	3	181	6	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3398		1770	1861		1770	1587		1770	1863	
Flt Permitted	0.95	1.00		0.95	1.00		0.76	1.00		0.73	1.00	
Satd. Flow (perm)	1770	3398		1770	1861		1408	1587		1355	1863	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	407	147	204	162	1	54	3	199	7	3	0
RTOR Reduction (vph)	0	51	0	0	0	0	0	172	0	0	0	0
Lane Group Flow (vph)	2	503	0	204	163	0	54	30	0	7	3	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Prot		Perm			Perm				
Protected Phases	7	4		3	8			2				6
Permitted Phases							2			6		
Actuated Green, G (s)	0.6	15.9		7.4	22.7		5.5	5.5		5.5	5.5	
Effective Green, g (s)	0.6	15.9		7.4	22.7		5.5	5.5		5.5	5.5	
Actuated g/C Ratio	0.01	0.39		0.18	0.56		0.13	0.13		0.13	0.13	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	26	1324		321	1035		190	214		183	251	
v/s Ratio Prot	0.00	c0.15		c0.12	0.09			0.02			0.00	
v/s Ratio Perm							c0.04			0.01		
v/c Ratio	0.08	0.38		0.64	0.16		0.28	0.14		0.04	0.01	
Uniform Delay, d1	19.8	8.9		15.5	4.4		15.9	15.6		15.3	15.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.2		4.1	0.1		0.8	0.3		0.1	0.0	
Delay (s)	21.1	9.1		19.5	4.5		16.7	15.9		15.4	15.3	
Level of Service	C	A		B	A		B	B		B	B	
Approach Delay (s)		9.1			12.8			16.0			15.4	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	40.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Bailey Avenue Corridor Annexation
2: CENTRAL AVENUE & O STREET

Existing A.M. Peak Hour
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	295	9	83	260	87	51	52	209	27	30	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3993		1770	3860		1770	1863	1583	1770	3355	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3993		1770	3860		1770	1863	1583	1770	3355	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	43	331	10	93	292	98	57	58	235	30	34	18
RTOR Reduction (vph)	0	3	0	0	51	0	0	0	193	0	15	0
Lane Group Flow (vph)	43	338	0	93	339	0	57	58	42	30	37	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	1.4	11.5		3.2	13.3		1.4	6.8	6.8	0.6	6.0	
Effective Green, g (s)	1.4	11.5		3.2	13.3		1.4	6.8	6.8	0.6	6.0	
Actuated g/C Ratio	0.04	0.30		0.08	0.35		0.04	0.18	0.18	0.02	0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	65	1205		149	1347		65	333	283	28	528	
v/s Ratio Prot	0.02	0.08		c0.05	c0.09		c0.03	c0.03		0.02	0.01	
v/s Ratio Perm									0.03			
v/c Ratio	0.66	0.28		0.62	0.25		0.88	0.17	0.15	1.07	0.07	
Uniform Delay, d1	18.1	10.1		16.9	8.8		18.3	13.3	13.2	18.8	13.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	22.5	0.1		7.9	0.1		69.4	0.3	0.2	192.9	0.1	
Delay (s)	40.6	10.3		24.8	8.9		87.6	13.5	13.4	211.6	13.7	
Level of Service	D	B		C	A		F	B	B	F	B	
Approach Delay (s)		13.7			12.0			25.5			86.1	
Approach LOS		B			B			C			F	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Bailey Avenue Corridor Annexation
2: CENTRAL AVENUE & O STREET

Existing P.M. Peak Hour
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	377	67	220	274	26	18	96	238	103	101	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3845		1736	3883		1736	1827	1553	1736	3272	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3845		1736	3883		1736	1827	1553	1736	3272	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	410	73	239	298	28	20	104	259	112	110	68
RTOR Reduction (vph)	0	25	0	0	11	0	0	0	201	0	49	0
Lane Group Flow (vph)	75	458	0	239	315	0	20	104	58	112	129	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	3.4	13.3		8.1	18.0		0.7	11.9	11.9	4.1	15.3	
Effective Green, g (s)	3.4	13.3		8.1	18.0		0.7	11.9	11.9	4.1	15.3	
Actuated g/C Ratio	0.06	0.25		0.15	0.34		0.01	0.22	0.22	0.08	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	958		263	1309		23	407	346	133	937	
v/s Ratio Prot	0.04	c0.12		c0.14	0.08		0.01	c0.06		c0.06	c0.04	
v/s Ratio Perm									0.04			
v/c Ratio	0.68	0.48		0.91	0.24		0.87	0.26	0.17	0.84	0.14	
Uniform Delay, d1	24.5	17.1		22.3	12.8		26.3	17.1	16.7	24.3	14.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	15.1	0.4		32.1	0.1		127.6	0.3	0.2	35.7	0.1	
Delay (s)	39.5	17.5		54.4	12.9		153.9	17.4	17.0	60.1	14.2	
Level of Service	D	B		D	B		F	B	B	E	B	
Approach Delay (s)		20.4			30.4			24.3			31.9	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	53.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Bailey Avenue Corridor Annexation
3: CENTRAL AVENUE & H STREET

Existing A.M. Peak Hour
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	535	115	48	74	174	347	80	459	40	230	516	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3318		1736	3471	1553	1736	3430		1736	3471	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3318		1736	3471	1553	1736	3430		1736	3471	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	582	125	52	80	189	377	87	499	43	250	561	352
RTOR Reduction (vph)	0	44	0	0	0	328	0	6	0	0	0	212
Lane Group Flow (vph)	582	133	0	80	189	49	87	536	0	250	561	140
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	18.4	13.1		17.1	11.8	11.8	8.0	26.8		17.0	35.8	35.8
Effective Green, g (s)	18.4	13.1		17.1	11.8	11.8	8.0	26.8		17.0	35.8	35.8
Actuated g/C Ratio	0.20	0.15		0.19	0.13	0.13	0.09	0.30		0.19	0.40	0.40
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	688	483		330	455	204	154	1021		328	1381	618
v/s Ratio Prot	c0.17	0.04		0.05	c0.05		0.05	c0.16		c0.14	0.16	
v/s Ratio Perm						0.03						0.09
v/c Ratio	0.85	0.27		0.24	0.42	0.24	0.56	0.52		0.76	0.41	0.23
Uniform Delay, d1	34.4	34.2		31.0	35.9	35.1	39.3	26.3		34.6	19.5	17.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.84	0.81		1.00	1.00	1.00
Incremental Delay, d2	9.4	0.3		0.4	0.6	0.6	4.6	1.9		10.0	0.9	0.9
Delay (s)	43.8	34.5		31.3	36.5	35.7	37.5	23.2		44.6	20.4	18.8
Level of Service	D	C		C	D	D	D	C		D	C	B
Approach Delay (s)		41.7			35.4			25.2			25.1	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Bailey Avenue Corridor Annexation
3: CENTRAL AVENUE & H STREET

Existing P.M. Peak Hour
HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	571	334	172	136	277	269	182	686	104	259	646	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3294		1736	3471	1553	1736	3403		1736	3471	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3294		1736	3471	1553	1736	3403		1736	3471	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	621	363	187	148	301	292	198	746	113	282	702	447
RTOR Reduction (vph)	0	78	0	0	0	249	0	13	0	0	0	304
Lane Group Flow (vph)	621	472	0	148	301	43	198	846	0	282	702	143
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	18.0	17.8		13.4	13.2	13.2	14.0	25.5		17.3	28.8	28.8
Effective Green, g (s)	18.0	17.8		13.4	13.2	13.2	14.0	25.5		17.3	28.8	28.8
Actuated g/C Ratio	0.20	0.20		0.15	0.15	0.15	0.16	0.28		0.19	0.32	0.32
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	673	651		258	509	228	270	964		334	1111	497
v/s Ratio Prot	c0.18	0.14		0.09	c0.09		0.11	c0.25		c0.16	0.20	
v/s Ratio Perm						0.03						0.09
v/c Ratio	0.92	0.73		0.57	0.59	0.19	0.73	0.88		0.84	0.63	0.29
Uniform Delay, d1	35.3	33.8		35.6	35.9	33.7	36.2	30.8		35.1	26.1	22.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.79	0.78		1.00	1.00	1.00
Incremental Delay, d2	18.3	4.0		3.1	1.8	0.4	9.3	10.5		17.4	2.7	1.5
Delay (s)	53.6	37.8		38.7	37.7	34.1	38.0	34.6		52.5	28.8	24.4
Level of Service	D	D		D	D	C	D	C		D	C	C
Approach Delay (s)		46.2			36.5			35.2			32.1	
Approach LOS		D			D			D			C	

Intersection Summary

HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Bailey Avenue Corridor Annexation
4: N STREET & V STREET

Existing A.M. Peak Hour
HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	↗
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	48	45	75	56	39	23	37	230	47	17	131	14
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	63	59	99	74	51	30	49	303	62	22	172	18

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	122	99	155	413	195	18
Volume Left (vph)	63	0	74	49	22	0
Volume Right (vph)	0	99	30	62	0	18
Hadj (s)	0.31	-0.65	0.03	-0.02	0.11	-0.65
Departure Headway (s)	7.1	6.1	6.9	6.1	6.5	5.8
Degree Utilization, x	0.24	0.17	0.30	0.70	0.35	0.03
Capacity (veh/h)	463	531	467	569	512	573
Control Delay (s)	11.1	9.1	12.9	22.2	11.9	7.7
Approach Delay (s)	10.2		12.9	22.2	11.5	
Approach LOS	B		B	C	B	

Intersection Summary

Delay	15.8
HCM Level of Service	C
Intersection Capacity Utilization	48.1%
ICU Level of Service	A
Analysis Period (min)	15

Bailey Avenue Corridor Annexation
4: N STREET & V STREET

Existing P.M. Peak Hour
HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗		↔			↔			↔	↗
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	24	41	58	75	47	21	79	182	56	56	247	26
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	27	46	65	84	53	24	89	204	63	63	278	29

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	73	65	161	356	340	29
Volume Left (vph)	27	0	84	89	63	0
Volume Right (vph)	0	65	24	63	0	29
Hadj (s)	0.20	-0.68	0.03	-0.04	0.11	-0.68
Departure Headway (s)	7.2	6.3	7.0	6.1	6.2	5.4
Degree Utilization, x	0.15	0.11	0.31	0.61	0.59	0.04
Capacity (veh/h)	428	483	463	562	559	633
Control Delay (s)	10.3	8.9	13.1	18.1	16.3	7.4
Approach Delay (s)	9.6		13.1	18.1	15.6	
Approach LOS	A		B	C	C	

Intersection Summary	
Delay	15.3
HCM Level of Service	C
Intersection Capacity Utilization	58.0%
ICU Level of Service	B
Analysis Period (min)	15

Bailey Avenue Corridor Annexation
5: OCEAN AVENUE & V STREET

Existing A.M. Peak Hour
HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Sign Control		Stop			Stop			Stop			Stop	Stop
Volume (vph)	16	93	1	79	222	82	38	106	90	144	78	70
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	21	124	1	105	296	109	51	141	120	192	104	93

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	83	63	253	257	312	296	93
Volume Left (vph)	21	0	105	0	51	192	0
Volume Right (vph)	0	1	0	109	120	0	93
Hadj (s)	0.16	0.02	0.24	-0.26	-0.16	0.36	-0.67
Departure Headway (s)	8.1	7.9	7.4	6.9	7.0	7.6	6.5
Degree Utilization, x	0.19	0.14	0.52	0.49	0.61	0.62	0.17
Capacity (veh/h)	403	409	467	493	491	452	525
Control Delay (s)	11.8	11.0	17.0	15.2	20.3	21.0	9.6
Approach Delay (s)	11.4		16.1		20.3	18.2	
Approach LOS	B		C		C	C	

Intersection Summary

Delay	17.2
HCM Level of Service	C
Intersection Capacity Utilization	50.0%
ICU Level of Service	A
Analysis Period (min)	15

Bailey Avenue Corridor Annexation
5: OCEAN AVENUE & V STREET

Existing P.M. Peak Hour
HCM Unsignalized Intersection Capacity Analysis



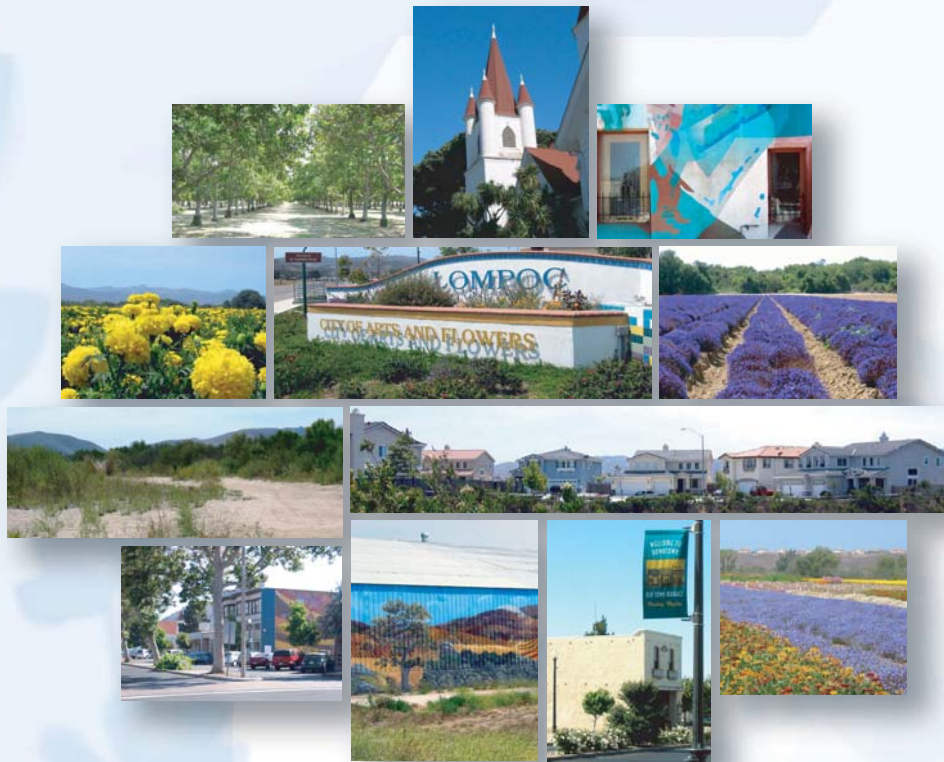
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	↗
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	71	251	22	36	80	169	4	65	23	120	90	29
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	80	282	25	40	90	190	4	73	26	135	101	33

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	221	166	85	235	103	236	33
Volume Left (vph)	80	0	40	0	4	135	0
Volume Right (vph)	0	25	0	190	26	0	33
Hadj (s)	0.23	-0.05	0.29	-0.52	-0.09	0.34	-0.65
Departure Headway (s)	6.5	6.2	6.7	5.8	6.8	6.9	5.9
Degree Utilization, x	0.40	0.28	0.16	0.38	0.19	0.45	0.05
Capacity (veh/h)	529	553	509	583	476	491	563
Control Delay (s)	12.5	10.4	9.7	11.2	11.4	14.3	8.1
Approach Delay (s)	11.6		10.8		11.4	13.5	
Approach LOS	B		B		B	B	

Intersection Summary	
Delay	11.8
HCM Level of Service	B
Intersection Capacity Utilization	46.4%
ICU Level of Service	A
Analysis Period (min)	15

Final
**Lompoc General Plan Update
Environmental Impact Report**

State Clearinghouse No. 2008081032
GP 07-04



Prepared by:
**City of Lompoc
Community Development Department**

Prepared with the assistance of:
Rincon Consultants, Inc.



January 2010

**City of Lompoc
General Plan Update**

Final
Environmental Impact Report

State Clearinghouse No. 2008081032

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January 2010

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**City of Lompoc
General Plan Update**

Environmental Impact Report

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Appendix A.1:	Housing Element Appendices
Appendix B	Notice of Preparation and Responses
Appendix C	Air Quality Data
Appendix D	Taxonomic Index
Appendix E	Fisheries Study
Appendix F	Summary of Cultural Resources Studies
Appendix G	Noise Data and Worksheets
Appendix H	Traffic Technical Appendix
Appendix I	Water Resources Study



SUMMARY

This section summarizes the characteristics of the draft 2030 General Plan, project alternatives, and the project's environmental impacts.

PROJECT SYNOPSIS

Project Proponent

City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93438-8001

General Plan Synopsis

The proposed project is Phase 1 of an update to the City of Lompoc General Plan (hereinafter referred to as the "2030 General Plan") and includes an update of the Land Use, Housing, and Circulation Elements. The existing (1997) General Plan consists of several additional elements, which will be updated in Phase 2 and reviewed under a separate CEQA document. Phase 2 element updates will include Conservation/Open Space, Noise, Safety, Parks and Recreation, Public Services, and Urban Design. These remaining elements of the General Plan typically contain policies and guidelines to implement goals of the Land Use, Housing and Circulation Elements.

Preparation of the 2030 General Plan Land Use, Housing, and Circulation Elements involved an approximately 18-month process involving the City Council and Planning Commission, City and consultant staff, and the public at large. Based on the input received from the public involvement process, the 2030 General Plan developed the following vision:

Lompoc is committed to protecting the unique and positive existing aspects of the community for future generations while accepting the challenges associated with seeking improvement in areas of current concern. Lompoc's vision is of an economically prosperous, compact urban place nestled among natural hillsides with undisturbed ridgelines, adjacent to wide expanses of fertile agricultural land, and straddling the biologically-rich Santa Ynez River. The community protects its rural setting by promoting sustainable use of resources. The city is a safe, healthy, attractive, socially-inviting, and affordable place in which to live, work, gather, and play. The city has a vibrant downtown, varied commercial and industrial opportunities, plentiful parks and recreational amenities, and safe and comfortable neighborhoods. The community maintains an integrated transportation network which facilitates safe and efficient auto, bus, bicycle, air, rail, and pedestrian travel. The city's public services are reliable,



convenient, and cost-effective. The city supports and promotes equal opportunity and the maximization of human potential for all racial, ethnic, and economic segments. The city's quality of life is closely guarded by residents mindful of a rich past and enthusiastic about a promising future.

Policies and implementation measures contained in the General Plan Land Use, Circulation, and Housing Elements reflect this vision. The updated General Plan also defines allowable land uses and programs to facilitate the provision of needed housing, and guidance with respect to the development of circulation system improvements needed to enhance citywide mobility. The 2030 General Plan proposed land uses and potential annexation areas are shown on Figures 2-3 and 2-4, respectively, of Section 2.0, *Project Description*.

For the most part, proposed land use designation descriptions within the City are similar to those contained in the 1997 General Plan. The key differences are: (1) the addition of the Rural Density Residential designation; (2) expansion of the Mixed Use designation to include increased densities and maximum floor-to-area ratios (FAR); (3) expansion of the Old Town Commercial designation to allow for additional floor area and increased maximum densities for residential uses; and (4) the addition of the H Street Corridor Infill area within the Overlay Designations. In addition, the 2030 General Plan identifies four expansion areas (shown in Figure 2-4 in Section 2.0, *Project Description*) which would accommodate new development under the 2030 General Plan. Development in these areas represents the most substantial additions to the existing General Plan.

Relationship to the Bailey Avenue Specific Plan

The Lompoc General Plan Update includes four proposed annexation areas located outside of the existing City Limits: the Bailey Avenue Specific Plan area, the Miguelito Canyon area, the River area, and the Wye Residential area (refer to Figure 2-2 in Section 2.0, *Project Description*). Full buildout of all four expansion areas is addressed throughout this EIR at a generalized programmatic level of detail. This includes analysis of anticipated land use changes and associated buildout potential. A Specific Plan for the Bailey Avenue expansion area has been proposed, and is currently being analyzed in a separate Environmental Impact Report. This discrete analysis will be similarly programmatic, but will address additional detail available within the proposed Specific Plan. This includes consideration of specific land use mixes and locations, infrastructure, internal circulation and phasing.

The intent of the current analysis is to address buildout of the Bailey Avenue Specific Plan expansion area generally, and is not intended to serve as the project-level environmental review of the Bailey Avenue Specific Plan. The level of detail herein corresponds to the level of detail available in the Plan being analyzed; because the proposed General Plan Update contains general information for the Bailey Avenue Specific Plan area, the current analysis is broad in nature. However, because the proposed Bailey Avenue Specific Plan contains additional plan details, the analysis in the separate EIR for the Specific Plan will be more detailed.



It should also be noted that because development plans have not been submitted for this area, additional project-level CEQA review may still be required after certification of the Bailey Avenue Specific Plan EIR.

ALTERNATIVES

As required by CEQA, this EIR evaluates a range of alternatives to the proposed project. Alternatives analyzed in Section 6.0 include the following:

- *Alternative 1: No Project (No Further Development)*
- *Alternative 2: No Project (1997 General Plan Buildout)*
- *Alternative 3: High Growth Alternative*
- *Alternative 4: Moderate Growth Alternative*
- *Alternative 5: Low Growth Alternative*

Each of the alternatives discussed in Section 6.0 has certain advantages and disadvantages as compared to the draft 2030 General Plan, as summarized below.

- *The **No Project (No Further Development)** alternative could be considered environmentally superior because it would result in no increase in traffic, air pollution or noise, and no increase in demand for utilities or services. It would result in no physical impacts. On the other hand, this alternative would not meet many of the 2030 General Plan objectives.*
- *The **No Project (1997 General Plan Buildout)** alternative would allow roughly the same amount of development to occur within the existing City Limits as would be allowed under the proposed 2030 General Plan. However, this alternative would eliminate or substantially reduce development within the four identified expansion areas and would include less development along the H Street Corridor. As a result, this alternative would reduce impacts in the identified expansion areas and would reduce overall per capita based impacts. Overall environmental impacts associated with this alternative would be reduced when compared to those of the proposed 2030 General Plan.*
- *The **High Growth** alternative could incrementally reduce per capita based impacts (including population growth, public services, recreation and utilities) and would result in similar site disturbance related impacts (including construction-related air quality and noise, biological resources, cultural resources, geology and hydrology). Impacts to aesthetics, operational air quality and odors, operational noise, hazardous materials, land use compatibility and transportation would be greater under this alternative.*
- *The **Moderate Growth** alternative would eliminate development in the Bailey Avenue Specific Plan expansion area and would therefore reduce direct ground disturbance*



impacts in this area (including construction-related air quality and noise, biological resources, cultural resources, geology and hydrology) as well as reduce all per capita based impacts (including air quality, population growth, public services, recreation, transportation and utilities). Impacts related to aesthetics, hazards, land use and agriculture would also be reduced. Agricultural land use compatibility impacts may be greater under this alternative, however, due to the continued agricultural use of the Bailey Avenue site.

- *The **Low Growth** alternative would eliminate development in the four identified expansion areas and would therefore reduce direct ground disturbance impacts (including construction-related air quality and noise, biological resources, cultural resources, geology and hydrology) as well as reduce all per capita based impacts (including air quality, population growth, public services, recreation, transportation and utilities). Impacts related to aesthetics and hazards, and impacts related to LAFCo policy consistency would be eliminated.*

AREAS OF KNOWN CONTROVERSY

Pursuant to CEQA Guidelines Section 15123, this EIR acknowledges the areas of controversy and issues to be resolved which are known to the City of Lompoc or were raised during the scoping process. A Notice of Preparation (NOP) was prepared and circulated for a 30-day public review period that began on August 11, 2008 and ended September 11, 2008. Six (6) comment letters were received from public agencies in response to the NOP. NOP comment letters are included in Appendix A of this EIR.

The primary areas of concern raised by commenting agencies include:

- Impacts of General Plan 2030 buildout on biological resources, including rare, threatened, and endangered species;
- Impacts associated with the four potential expansion areas;
- Impacts on farmland that would be converted from agricultural use to non-agricultural use;
- Land use compatibility between urban and agricultural uses;
- Rail corridor safety
- Impacts on historical resources
- Traffic impacts on regional roadways; and
- Airport safety and noise.

In addition, during the EIR scoping meeting on August 26, 2008, an area of controversy was identified relative to the need for the Central Avenue Extension, as identified in the existing Circulation Element.



SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1 includes a brief description of the environmental issues relative to the proposed 2030 General Plan, the identified environmental impacts, proposed mitigation measures, and residual impacts. Impacts are listed by issue area and categorized into classes. Class I impacts are defined as significant, unavoidable adverse impacts which require a statement of overriding considerations to be issued per Section 15093 of the State CEQA Guidelines if the General Plan is approved. Class II impacts are significant adverse impacts that can be feasibly mitigated to less than significant levels and which require findings to be made under Section 15091 of the State CEQA Guidelines. Class III impacts are less than significant impacts, and Class IV impacts are beneficial or neutral.

**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
AESTHETICS		
Impact AES-1 The 2030 General Plan would facilitate new development along designated scenic view corridors within Lompoc. However, adherence to General Plan policies and the City’s Architectural Review Guidelines would reduce potential impacts to a Class III, <i>less than significant</i> , level.	None required as existing regulations and draft General Plan policies would address potential impacts.	Less than significant without mitigation.
Impact AES-2 Development that could be facilitated by the 2030 General Plan would introduce new sources of light and glare. However, adherence to policies included in the City’s Zoning Ordinance and Architectural Review Guidelines would reduce potential impacts to a Class III, <i>less than significant</i> , level.	None required.	Less than significant without mitigation.
Impact AES-3 The 2030 General Plan emphasizes both reuse of existing urbanized lands, infill development on vacant parcels, and new development on urban fringe parcels. The development of such areas would result in visual changes to the character of the community. However, the General Plan protects the City’s visual features	None required as draft General Plan policies would address potential impacts.	Less than significant without mitigation.



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
through plan review and policies. Therefore, impacts that would occur from development would be Class III, <i>less than significant</i> .		
AIR QUALITY		
Impact AQ-1 Population growth that could occur under the proposed 2030 General Plan would exceed the 2007 Clean Air Plan (CAP) population forecasts. Although Transportation Control Measures (TCMs) incorporated into the General Plan Update would likely offset emissions associated with this population increase, based on Air Pollution Control District thresholds, impacts related to CAP consistency would be Class I, <i>significant and unavoidable</i> .	Transportation Control Measures (TCMs) contained in the 2007 Clean Air Plan (CAP) and listed in Table 4.2-4 would reduce overall air quality impacts to the extent feasible. However, no feasible mitigation measures are available that would reduce impacts to a less than significant level.	Significant and unavoidable.
Impact AQ-2 Individual development projects facilitated by the proposed 2030 General Plan would generate construction-related emissions. Such emissions may result in temporary adverse impacts to local air quality. However, compliance with SBCAPCD requirements would ensure that impacts remain Class III, <i>less than significant</i> .	Implementation of standard dust and emissions control measures required by the SBCAPCD would ensure that construction-related air quality impacts remain less than significant.	Less than significant without mitigation.
Impact AQ-3 The 2030 General Plan would facilitate development of projects with the potential to cause significant odor impacts, as well as projects which have the potential to be affected by nuisance odor. Impacts associated with objectionable odors would be Class II, <i>significant but mitigable</i> .	AQ-3(a) Odor Abatement Plan. The 2030 Update to the Conservation/Open Space Element shall include the following new policy: <i>Applicants for potential odor generators shall develop and implement an Odor Abatement Plan (OAP), which shall be submitted to the Community Development Department and approved by the City prior to zoning clearance. The OAP shall</i>	Implementation of the referenced mitigation measures would reduce impacts to less than significant level.



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p><i>include the following:</i></p> <ul style="list-style-type: none"> • <i>Name and telephone number of contact person(s) responsible for logging and responding to odor complaints;</i> • <i>Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the responsible party on how to respond to an odor complaint;</i> • <i>Description of potential odor sources (i.e. odors associated with a fast food restaurant may include cooking and grease aromas);</i> • <i>Description of potential methods for reducing odors, including minimizing potential add-on air pollution control equipment; and</i> • <i>Contingency measures to curtail emissions in the event of a continuous public nuisance.</i> <p>AQ-3(b) Prohibited Commercial Uses in Mixed-Use Zones. To ensure that future residents of mixed-use development would not be exposed to nuisance odors, the following revisions to the 2030 Update of the Land Use Element shall be made:</p> <p>1) Table LU-1 shall be revised to include in the description for the Old Town Commercial (OTC), and Mixed-Use (MU) land use designations the following text:</p> <p><i>Prohibited uses include photographic studios, laundry facilities, and other potentially incompatible uses.</i></p>	



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>2) A new implementation measure shall be added as follows:</p> <p><i>Measure 36. The Zoning Code shall be updated to include a list of prohibited uses in mixed-use developments. The list shall include photographic studios, dry-cleaning laundry facilities, and other potentially incompatible uses.</i></p>	
<p>Impact AQ-4 Development facilitated by the proposed 2030 General Plan Land Use, Circulation, and Housing Elements would result in an increase in greenhouse gas (GHG) emissions within the South Central Coast Air Basin and would hinder the implementation of AB 32. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>AQ-4(a) GHG Emissions Reduction Planning. To ensure that future development under the General Plan meets the GHG emissions reduction requirements in AB 32, the following policy shall be added to the General Plan Conversation/Open Space Element:</p> <p><i>The City shall participate in regional planning efforts with SBCAG and the SBCAPCD to reduce basin-wide GHG emissions in compliance with AB 32 and SB 375.</i></p> <p>The City’s participation in regional planning efforts to reduce basin-wide GHG emissions is anticipated to include City assistance in developing a GHG emissions inventory, and identifying reduction measures related to site design, energy conservation, and trip reduction.</p> <p>AQ-4(b) Consideration of Project Greenhouse Gas Emissions Reduction Measures. The following policies shall be added to the 2030 General Plan Conversation/Open Space Element:</p> <ul style="list-style-type: none"> • <i>New development subject to</i> 	<p>The referenced mitigation measures would ensure City compliance with regional efforts to meet GHG emissions targets in AB 32. Impacts would be reduced to a less than significant level.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p><i>environmental review shall comply with California Environmental Quality Act guidelines for the analysis of greenhouse gas emissions developed pursuant to SB 97 and adopted on December 30, 2009.</i></p> <ul style="list-style-type: none"> • <i>Through the CEQA environmental review process for discretionary permit applications, the City shall consider all feasible GHG emissions reduction measures to reduce direct and indirect emissions associated with project vehicle trip generation and energy consumption.</i> 	
BIOLOGICAL RESOURCES		
<p>Impact BIO-1 New development that would be facilitated by the 2030 General Plan may result in impacts to sensitive habitats. However, adherence to General Plan policies would reduce potential impacts to a Class III, <i>less than significant</i>, level.</p>	<p>The policies and measures outlined in the 1997 General Plan aim to protect sensitive habitats through protection of biologically significant habitats, replacement of these habitats where avoidance is not feasible, and encouragement of restoration and management of natural habitats. In addition, the Santa Ynez River and San Miguelito Creek riparian corridors fall within the jurisdictions of the USACE, RWQCB, and CDFG. As a result, individual permit requirements on a project-specific basis may require a greater replacement ratio for impacted habitat. Additional coordination with these regulatory agencies may be required, including obtaining a Streambed Alteration Agreement from the DFG pursuant to Section 1600 <i>et. seq.</i> of the California Fish and Game Code. Adherence to General Plan policies and compliance with applicable</p>	<p>Less than significant with adherence to General Plan policies and compliance with applicable regulatory agency requirements.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	regulatory agency requirements would ensure that impacts remain less than significant. No additional mitigation is required.	
<p>Impact BIO-2 Development that could be facilitated by the 2030 General Plan may result in impacts to special status plant and animal species. These impacts are Class II, <i>significant but mitigable</i>.</p>	<p>BIO-2(a) Special Status Species Policy. The following policy shall be added to the General Plan Conservation/Open Space Element:</p> <p><i>The City shall encourage the protection of significant biological resources, including sensitive plant and animal species.</i></p> <p>BIO-2(b) Native Tree Protection Policy. The following policy shall be added to the General Plan Conservation/Open Space Element:</p> <p><i>The City shall encourage the protection, preservation and restoration of native trees, particularly oak tree species.</i></p>	Compliance with existing General Plan policies, regulatory programs, and required mitigation measures would reduce impacts to a less than significant level.
<p>Impact BIO-3 Development under the 2030 General Plan may result in impacts to wildlife movement. These impacts are Class II, <i>significant but mitigable</i>.</p>	Mitigation measures BIO-2(a) (Special Status Species Policy) and BIO-2(b) (Native Tree Protection Policy) are required to reduce potential impacts to wildlife movement. Refer to <i>Mitigation Measures</i> under Impact BIO-2.	Compliance with existing General Plan policies, regulatory programs, and required mitigation measures, would reduce impacts to less than significant levels.
<p>Impact BIO-4 Development under the 2030 General Plan may result in impacts to fish, including steelhead, in the Santa Ynez River. These impacts are Class III, <i>less than significant</i>.</p>	None required, as significant impacts have not been identified.	Impacts would be less than significant without mitigation.
CULTURAL RESOURCES		
<p>Impact CR-1 Development facilitated by the proposed 2030 General Plan could adversely affect identified and previously unidentified</p>	<p>CR-1(a) Update Archaeological Sensitivity Map and Guidelines. The City shall update the existing Archaeological Sensitivity Map to</p>	Impacts to prehistoric archaeological resources would be less than significant with



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>prehistoric and historical archaeological resources. General Plan policies would ensure that such impacts are addressed on a case-by-case basis. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>encompass all areas covered by the General Plan Update to take into account the currently available data on the nature and distribution of prehistoric and historical archaeological sites (including buried archaeological sites) and the most current methods of sensitivity modeling. The City also shall update the Guidelines for use of the sensitivity map and provide training to planning staff in its application and use. The Sensitivity Map and Guidelines update as well as training shall be performed by professionals certified by the Register of Professional Archaeologists who have expertise in the historical and archaeological resources of the Lompoc Valley.</p>	<p>mitigation.</p>
<p>Impact CR-2 Development facilitated by the proposed 2030 General Plan could adversely affect historical buildings, structures, and districts. Although adherence to General Plan policies would ensure that impacts are addressed on a case-by-case basis, these policies may not avoid them altogether. Impacts would therefore be Class I, <i>significant and unavoidable</i>.</p>	<p>CR-2(a) Adopt a Historic Landmarks Ordinance. The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows:</p> <p><i>The City shall revise its current Landmarks Ordinance to accomplish the following, as recommended in the <u>2005 Historic Resources Survey and Planning Analysis</u>:</i></p> <ul style="list-style-type: none"> • <i>Formally adopt the historic district defined in the 2005 Historic Resources Survey and Planning Analysis</i> • <i>Establish a formal process for landmark designation including application, nomination form, and research and documentation requirements, as well as designate a reviewing entity;</i> 	<p>The mitigation measures above would ensure that historical buildings, structures, and districts are treated according to CEQA requirements and City standards and guidelines. In most cases, implementation of these measures, along with application of existing policies and development standards, would reduce impacts. However, certain actions that permanently disturb resources would remain <i>Class I, significant and unavoidable</i>.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<ul style="list-style-type: none"> • <i>Adopt designation criteria for individual landmarks and historic district contributors, possibly using other municipalities' criteria as a basis;</i> • <i>Establish an adequate and qualified historic preservation review commission or reactivate the Advisory Landmarks Committee as outlined in the City's Landmark Ordinance;</i> • <i>Establish design review guidelines for designated landmarks and contributing structures to historic districts based upon the Secretary of the Interior's standards;</i> • <i>Provide for use of the California State Historical Building Code, as appropriate, to include designated city landmarks and district contributors. Currently the SHBC is only used in the Old Town Lompoc Specific Plan Area.</i> <p>CR-2(b) Adopt a Historic Resource Inventory and Districts Ordinance. The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows.</p> <p><i>The City shall adopt an ordinance that relates specifically to the conduct of historic resource surveys and designation of historic districts. The city shall extend the current survey into adjacent parts of the City, as</i></p>	



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p><i>recommended in the <u>2005 Historic Resources Survey and Planning Analysis</u>, use available data from prior surveys to prepare a formal historic resources inventory, and develop procedures for maintaining the accuracy of the inventory, updating its information, and covering additional areas of the City by conducting surveys on a regular basis.</i></p>	
GEOLOGY		
<p>Impact GEO-1 Future seismic events could produce groundshaking within the Lompoc area that could damage structures and/or create adverse health and safety effects. However, compliance with required building codes and implementation of General Plan policies would ensure Class III, <i>less than significant</i>, impacts.</p>	<p>None required beyond compliance with applicable General Plan policies and provisions of the CBC.</p>	<p>Impacts would be less than significant with implementation of the CBC requirements and polices contained in the Safety Element.</p>
<p>Impact GEO-2 Future seismic events could result in liquefaction of soils near the Santa Ynez River and low lying areas near River Park and Central Avenue west of V Street. Development in these areas could be subject to liquefaction hazards. The compliance of future development projects with the California Building Code (CBC) and General Plan policies would result in Class III, <i>less than significant</i>, impacts.</p>	<p>None required beyond compliance with applicable General Plan policies and provisions of the CBC.</p>	<p>Impacts would be less than significant with implementation of CBC requirements and polices contained in the Safety Element.</p>
<p>Impact GEO-3 Development facilitated by the 2030 General Plan could occur on soils that have the potential to present hazards (expansive soils, erosive soils, seismic and differential settlement) to structures and roadways. However, compliance of future development projects with the CBC and adopted General Plan policies</p>	<p>Compliance with the CBC would reduce soil related hazard impacts to a less than significant level. No additional policy-oriented mitigation would be required to address this impact. As individual development projects are considered for construction, separate environmental review may be required, which could</p>	<p>Impacts would be less than significant with implementation of CBC requirements.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
would ensure that impacts remain Class III, <i>less than significant</i> .	result in the implementation of project-specific mitigation measures.	
Impact GEO-4 Steep slopes south of the existing City Limits present potential landsliding hazards. Landsliding has the potential to damage or destroy structures, roadways and other improvements as well as to deflect and block drainage channels, causing further damage and erosion. The compliance of future development projects with the California Building Code (CBC) and General Plan policies would result in Class III, <i>less than significant</i> , impacts.	None required beyond compliance with applicable General Plan policies and provisions of the CBC.	Impacts would be less than significant with implementation of the CBC requirements and polices contained in the Safety Element and Land Use Element.
Impact GEO-5 Areas with elevated radon gas levels have been identified in the City and expansion areas. Exposure of people to high levels of radon gas could result in adverse health effects. Impacts would be Class II, <i>significant but mitigable</i> .	GEO-5(a) Radon Gas Policies. The following policies shall be added to the 2030 General Plan Safety Element: <ul style="list-style-type: none"> • <i>Promote community education regarding potential hazards associated with radon exposure.</i> • <i>Require radon testing for new development within areas with moderate or high potential for indoor radon levels exceeding U.S. EPA recommended limits.</i> • <i>Where radon levels may exceed U.S. EPA recommended limits, require developers to implement effective measures – such as "sub-slab depressurization" systems – to limit exposure to radon.</i> 	Compliance with the CBC and implementation of the above mitigation would reduce impacts related to radon gas to a less than significant level.
HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1 Potential development that could be facilitated near known hazardous material users, or construction in areas with existing hazardous materials, could expose individuals to health risks due to	HAZ-1 Previously Unidentified Hazardous Materials. The following policies shall be added to the 2030 General Plan Safety Element: <i>Any work on a known remediation site</i>	Implementation of the referenced policies and mitigation measure would reduce potential hazardous materials impacts to less than



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>soil/groundwater contamination or emission of hazardous materials into the air. This is a Class II, <i>significant but mitigable</i>, impact.</p>	<p><i>or discovery of hazardous materials during excavation must be reported to the Santa Barbara County Fire Department Hazardous Materials Unit (HMU). In the event that hazardous waste and/or materials, including chemical odors or stained soils, are encountered during construction of future development sites, the following actions shall be taken by the applicant or authorized agent thereof: (1) all work in the vicinity of the suspected contaminant will be halted; (2) all persons shall be removed from the area; (3) the site shall be secured under the direction of the County Fire Department; and (4) the City of Lompoc Hazardous Waste/Materials Coordinator shall be notified. Work shall not recommence until such time as the find is evaluated and appropriate measures are implemented as necessary to the satisfaction of the California Department of Toxic Substances Control.</i></p>	<p>significant level.</p>
<p>Impact HAZ-2 The transportation of hazardous materials could potentially create a public safety hazard for new development that could be accommodated along major transportation corridors under the General Plan Update. However, compliance with existing regulations and General Plan policies would ensure that impacts remain Class III, <i>less than significant</i>.</p>	<p>Compliance with existing hazardous materials transportation regulations as well as continuing participation and maintenance of the City and Countywide emergency response systems would reduce impacts related to hazardous material upset risk to a less than significant level. No mitigation would be required.</p>	<p>Impacts would be less than significant without mitigation.</p>
<p>Impact HAZ-3 Development consistent with the proposed 2030 General Plan would introduce residential land uses into areas designated as Moderate or High</p>	<p>Compliance with existing policies and regulations would reduce the risk of injury or damage from wildland fires to a less than significant level. No mitigation is required.</p>	<p>Impacts would be less than significant without mitigation.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
Wildland Fire Hazard areas. However, compliance with existing policies and state and local regulations would ensure Class III, <i>less than significant</i> , impacts.		
Impact HAZ-4 Aircraft from the Lompoc or Vandenberg Airports would fly over portions of the City of Lompoc, which may result in a safety hazard for people residing or working in these areas. Impacts would be Class III, <i>less than significant</i> .	Beyond compliance with existing policies, including ALUC review, no mitigation measures are required.	Impacts would be less than significant without mitigation.
HYDROLOGY/WATER QUALITY		
Impact HWQ-1 New residential development within the 100-year flood plain could be subject to flooding. However, with implementation of General Plan policies and adherence to the City's Floodplain Ordinance, impacts related to flooding would be Class III, <i>less than significant</i> .	Implementation of General Plan policies would reduce flooding impacts to a less than significant level. Therefore, mitigation is not required.	Flooding impacts would be less than significant without mitigation.
Impact HWQ-2 The majority of the City of Lompoc is located within an identified dam inundation hazard area associated with the Bradbury Dam. There is potential to expose people and structures to associated dam inundation hazards. However, compliance with an existing Hazard Mitigation Plan would ensure that impacts remain Class III, <i>less than significant</i> .	Compliance with the Multi-Jurisdictional Hazard Mitigation Plan would ensure that impacts related to dam inundation remain less than significant. Therefore, mitigation is not required.	Dam inundation hazards would be less than significant without mitigation.
Impact HWQ-3 Development facilitated by the 2030 General Plan has the potential to increase the amount of impervious surface within the City. This could result in a minor decrease in percolation to the Lompoc Groundwater Basin. Compliance with the City's	Compliance with the City's SWMP requirements would ensure that impacts related to increased runoff and decreased percolation would remain less than significant. Therefore, mitigation is not required.	Impacts would be less than significant without mitigation.



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
Stormwater Management Plan (SWMP), would reduce impacts to a Class III, <i>less than significant</i> , level.		
Impact HWQ-4 Point and non-point sources of contamination could affect water quality in San Miguelito Creek, the Santa Ynez River, and groundwater in the City of Lompoc. However, compliance with existing regulations and implementation of General Plan policies and the City’s Stormwater Management Plan (SWMP) would result in Class III, <i>less than significant</i> , impacts.	Implementation of General Plan policies and compliance with local, state, and federal requirements relating to water quality would ensure that impacts remain less than significant. Therefore, mitigation is not required.	Impacts would be less than significant without mitigation.
<i>LAND USE AND AGRICULTURE</i>		
Impact LU-1 The 2030 General Plan would alter the present land use on sites throughout the City and may result in incompatibilities with adjacent existing and planned land uses, particularly where urban and agricultural uses would directly abut each other. However, the General Plan reduces land use conflicts through plan review and policies. Therefore, impacts that would occur from development would be Class III, <i>less than significant</i> .	Compliance with 2030 General Plan Policies and the existing Zoning Ordinance would ensure that impacts related to land use compatibility remain less than significant. No additional mitigation measures are required.	Less than significant without mitigation.
Impact LU-2 The 2030 General Plan proposes annexation of four unincorporated areas adjacent to the City. The proposed expansion areas could conflict with some provisions of the Santa Barbara County LAFCo’s <i>Standards for Annexation to Cities</i> . However, LAFCo must make the final determination of consistency.	No mitigation measures are appropriate, as a final determination of consistency with LAFCo policies must be made by the Santa Barbara County LAFCo.	If LAFCo finds that the General Plan is inconsistent with LAFCo policies, this information will be used to determine whether any of the proposed expansion areas should be added to the City’s corporate boundaries.
Impact LU-3 Future development in accordance with the 2030 General Plan	No mitigation is required for buildout within the existing City Limits or the	Impacts within the existing City Limits or



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>would occur in areas that contain prime agriculture soils and/or important farmland. Buildout within the City Limits and the Wye Residential expansion area would result in Class III, <i>less than significant</i>, impacts to agricultural conversion. However, the Bailey Avenue Specific Plan expansion area is currently used for agriculture, and both the River and Miguelito Canyon expansion areas contain prime soils which could be feasibly farmed. Buildout of these three Expansion Areas would therefore result in Class I, <i>significant and unavoidable</i> impacts related to agricultural conversion.</p>	<p>proposed Wye Residential Expansion area. The following mitigation measure is required for buildout of the proposed Bailey Avenue Specific Plan, River or Miguelito Canyon expansion areas</p> <p>LU-3 Purchase of Agricultural Conservation Easements (PACE) Program. The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows.</p> <p><i>The City shall implement a program that facilitates the establishment and purchase of on- or off-site Agricultural Conservation Easements for prime farmland and/or important farmland converted within the expansion areas, at a ratio of 1:1 (acreage conserved: acreage impacted). A coordinator at the City shall oversee and monitor the program, which will involve property owners, developers, the City, and potentially a conservation organization such as The Land Trust for Santa Barbara County. Implementation of a PACE program shall be coordinated with similar efforts of Santa Barbara County.</i></p>	<p>the proposed Wye Residential expansion area would remain less than significant. Impacts within the Bailey Avenue Specific Plan, River and Miguelito Canyon expansion areas would be reduced to the extent feasible; however this mitigation measure does not necessarily guarantee a net increase in farmland, and therefore impacts would remain significant and unavoidable.</p>
NOISE		
<p>Impact N-1 Construction of individual projects facilitated by the 2030 General Plan could produce noise levels ranging from 75 to 95 dBA at 50 feet from the source. Such noise could cause temporary disturbance to nearby receptors. Impacts would be Class III, <i>less than significant</i>.</p>	<p>None required as impacts would be less than significant.</p>	<p>Compliance with the City Noise Ordinance would ensure that impacts remain less than significant without mitigation.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>Impact N-2 Development facilitated by the 2030 General Plan would increase traffic and associated noise levels along area roadways in and around Lompoc, exposing existing land uses to increased noise. With maximum development facilitated by the General Plan, local roadways may experience a noise level increase that exceeds Federal Interagency Committee on Noise (FICON) thresholds. However, implementation of General Plan policies would reduce impacts to a Class III, <i>less than significant</i>, level.</p>	<p>None required as existing regulations and General Plan policies would address potential impacts.</p>	<p>Less than significant without mitigation.</p>
<p>Impact N-3 Development facilitated by the 2030 General Plan could place residences and other noise-sensitive land uses in areas exposed to noise levels exceeding City standards. Although implementation of General Plan policies would reduce traffic-related noise impacts to a Class III, <i>less than significant</i>, level, nuisance noise associated with mixed-use developments would be Class II, <i>significant but mitigable</i>.</p>	<p>N-3(a) Truck Delivery Limitations. The following policy shall be added to the 2030 General Plan Noise Element:</p> <p><i>Truck deliveries to commercial uses on mixed-use development sites shall be limited to between the hours of 8:00 AM and 6:00 PM on weekdays and Saturdays. No deliveries shall occur on Sundays.</i></p> <p>N-3(b) Common Wall Insulation. The following policy shall be added to the 2030 General Plan Noise Element:</p> <p><i>Common walls between horizontal (side-by-side) and vertical (stacked) mixed use commercial/residential development shall be noise-insulated to provide attenuation of indoor noise levels.</i></p> <p>N-3(c) Sound Barriers for External Equipment. The following policy shall be added to the 2030 General Plan Noise Element:</p>	<p>Impacts relating to the placement of new noise-sensitive land uses in areas exposed to traffic noise levels exceeding City standards would be less than significant without mitigation. Implementation of the mitigation measures described above would reduce nuisance noise from commercial land uses on sensitive receptors to a Class II, <i>significant but mitigable</i>, level.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<i>External noise-generating equipment associated with commercial uses (e.g., HVAC units, etc.) that are located in mixed use developments and/or adjacent to residential uses shall be shielded or enclosed with solid sound barriers.</i>	
<p>Impact N-4 Future development in accordance with the 2030 General Plan would be exposed to noise generated by aircraft flying overhead. However, compliance with existing Airport Land Use Plan (ALUP) regulations and coordination with the Airport Land Use Commission (ALUC) would reduce impacts to a Class III, <i>less than significant</i>, level.</p>	<p>Beyond compliance with existing policies, including ALUC review, no mitigation measures are required.</p>	<p>Less than significant without mitigation.</p>
<p>Impact N-5 Future development in accordance with the 2030 General Plan could place sensitive receptors in the vicinity of the Union Pacific Railroad (UPRR), thereby exposing future residents to noise levels exceeding City Standards. Although railroad operations could produce periodic noise levels greater than 60 dBA, the 24-hour CNEL noise levels from this noise source would not exceed the City CNEL threshold of 60 dBA. This is a Class III, <i>less than significant</i>, impact.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>
<p>POPULATION AND HOUSING</p>		
<p>Impact PH-1 Implementation of the 2030 General Plan would not result in the displacement of substantial numbers of people or housing. Rather, the 2030 General Plan would facilitate the development of new housing in accordance with state and local housing requirements. Impacts would be Class III, <i>less than significant</i>.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>Impact PH-2 Additional population anticipated under the 2030 General Plan would exceed current SBCAG population forecasts for 2030. Because population forecasts are based on the General Plan, this inconsistency would be addressed in future updated population projections and impacts would remain Class III, <i>less than significant</i>.</p>	<p>Full buildout of the 2030 General Plan would exceed SBCAG population forecasts by approximately 23.5 percent. However, regional planning documents would be updated to ensure consistency with General Plan buildout. In addition, no mitigation is required, as population growth itself does not constitute an environmental impact.</p>	<p>Less than significant without mitigation.</p>
<p>Impact PH-3 Development facilitated by the 2030 General Plan would add both jobs and housing, which would affect the jobs/housing balance. The Land Use Plan and objectives and policies included in the General Plan encourage a mix of commercial and residential uses and districts. Therefore, impacts relating to jobs/housing balance are Class III, <i>less than significant</i>.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>
<p>PUBLIC SERVICES</p>		
<p>Impact PS-1 Development facilitated by the 2030 General Plan would introduce new development into areas outside the Fire Department’s five minute response zone. However, review of subsequent development by the Fire Department pursuant to existing City development review practices, the required provision of emergency access and payment of impact mitigation fees would reduce potential impacts to Class III, <i>less than significant</i>, levels.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>
<p>Impact PS-2 The 2030 General Plan Update would allow some increases in building heights for future development, which may inhibit adequate fire protection to such</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
buildings. However, the installation of sprinkler systems and standpipes, as required by the Lompoc Fire Department, would reduce impacts to Class III, <i>less than significant</i> , levels.		
Impact PS-3 Development facilitated by the 2030 General Plan would increase demand for police protection service, which would further exacerbate existing service ratio deficiencies and therefore require new or expanded police facilities. However, payment of impact mitigation fees would reduce impacts to Class III, <i>less than significant</i> , levels.	None required.	Less than significant without mitigation.
Impact PS-4 Buildout under the 2030 General Plan would increase student enrollment beyond current capacity. However, the payment of State-mandated school impact fees is deemed adequate mitigation by the State of California. Therefore, impacts to schools would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
Impact PS-5 The Lompoc Public Library is currently undersized by 6,064 square feet. The increase in population associated with development facilitated by the 2030 General Plan will substantially increase the deficit of the facility's size. However, payment of required library impact mitigation fees would reduce potential impacts. Therefore, impacts related to City library system would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
Impact PS-6 Development facilitated by the 2030 General Plan would increase demand for hospital services; however, the Lompoc Valley Medical	None required.	Less than significant without mitigation.



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>Center has the capacity to accommodate the increased demand. Therefore, impacts would be Class III, <i>less than significant</i>.</p>		
RECREATION		
<p>Impact REC-1 Development facilitated by the 2030 General Plan would increase City population and proportionate demand on parkland such that the City would not meet its parkland to population ratio upon buildout. However, development of proposed parks and payment of in-lieu fees would reduce potential impacts to a Class III, <i>less than significant</i>, level.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>
TRANSPORTATION AND CIRCULATION		
<p>Impact TC-1 Development facilitated by the 2030 General Plan would result in deficiencies to the local circulation system based on recommended level of service standards. Mitigation options are available to address all projected deficiencies for intersections within the City. However, the traffic increase at the Ocean Avenue/ A Street intersection would exceed City thresholds and feasible mitigation is not available. Therefore, the impact at that location would be Class I, <i>significant and unavoidable</i>.</p>	<p>TC-1(a) V Street/North Avenue. This intersection is forecast to operate at LOS F at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • <i>Install a traffic signal and restripe northbound and southbound approaches to include left-turn lanes.</i> <p>TC-1(b) V Street/College Avenue. This intersection is forecast to operate at LOS F at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an</p>	<p>Implementation of mitigation measures TC-1(a) through TC-1(k) would reduce impacts to a less than significant level for all intersections except the A Street/Ocean Avenue intersection. Although Mitigation Measure TC-1(j) could reduce impacts to a less than significant level for the A Street/Ocean Avenue intersection, it is not considered feasible mitigation measures due to the high costs associated with the improvements. As such, buildout of the draft 2030 General Plan would have an unavoidably significant impact to the</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • <i>Install a traffic signal and restripe northbound and southbound approaches to include left-turn lanes.</i> <p>TC-1(c) V Street/Laurel Avenue. This intersection is forecast to operate at LOS D/E at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • <i>Install a traffic signal.</i> <p>TC-1(d) V Street/Ocean Avenue. This intersection is forecast to operate at LOS E/D at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • <i>Install a traffic signal.</i> <p>TC-1(e) O Street/North Avenue. This intersection is forecast to operate at LOS E during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p>	<p>A Street/Ocean Avenue intersection. It should be noted that the intersections of H Street/Central Avenue and A Street/Ocean Avenue are in the SBCAG CMP and meet the CMP intersection minimum level of service criteria of LOS D.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<ul style="list-style-type: none"> • <i>Add a right-turn lane to the westbound approach by restriping the roadway.</i> <p>TC-1(f) O Street/Pine Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • <i>Add right-turn lanes to all intersection approaches by restriping the roadways.</i> <p>TC-1(g) H Street/Central Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • <i>Add a second left-turn lane to the southbound intersection approach and modify the existing traffic signal. This improvement would require the acquisition of right-of-way (ROW). The intersection is in the SBCAG CMP and would meet the minimum level of service criteria of LOS D under buildout conditions.</i> <p>TC-1(h) D Street/North Avenue. This intersection is forecast to operate at LOS E during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described</p>	



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>below has been identified for this intersection.</p> <ul style="list-style-type: none"> <i>Add right-turn lanes to all intersection approaches by restriping the roadways.</i> <p>TC-1(i) A Street/North Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> <i>Add a right-turn lane to the eastbound intersection approach by restriping the roadway.</i> <p>TC-1(j) A Street/Ocean Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> <i>Add a right-turn lane to the westbound intersection approach. This mitigation measure will require acquisition of ROW and widening of the roadway. Because of existing development on the northeast corner of the intersection this mitigation may not be feasible. The intersection is in the SBCAG CMP and would meet the minimum level of service criteria of LOS D under buildout conditions.</i> 	



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>TC-1(k) 12th Street-S.R. 1/Ocean Avenue-S.R. 246. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.</p> <ul style="list-style-type: none"> • <i>Add a through lane to the northbound intersection approach, convert the existing shared left-turn/through lane to an exclusive left-turn lane and modify the existing traffic signal. This mitigation measure may require acquisition of ROW and will require widening of the roadway.</i> 	
<p>Impact TC-2 The 2030 General Plan would not accommodate design features that would create traffic hazards. While the placement of new residential development along highly traveled thoroughfares may incrementally increase hazards for pedestrians, implementation of proposed policies relating to traffic calming and improving walkability would reduce such impacts to a Class III, <i>less than significant</i>, level.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>
<p>Impact TC-3 Implementation of the 2030 General Plan would be expected to generally enhance the use of alternative transportation modes, including transit, bicycling, and walking. Hence, impacts relating to alternative transportation are considered Class IV, <i>beneficial</i>.</p>	<p>None required.</p>	<p>Beneficial without mitigation.</p>



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<i>UTILITIES AND SERVICE SYSTEMS</i>		
<p>Impact U-1 Maximum development facilitated by the 2030 General Plan would generate a net increase in water demand of approximately 2320 acre feet per year, which currently must be offset by participating in and providing water conservation measures and remedies to the existing City supply and distribution system that decrease existing demand by an amount equal to the demand added under buildout of the General Plan. Existing water conveyance and treatment facilities are adequate and water supplies are available to accommodate the delivery of water. Therefore, water supply impacts would be Class III, <i>less than significant</i>.</p>	None required.	Less than significant without mitigation.
<p>Impact U-2 Development facilitated by the 2030 General Plan would increase wastewater generation in excess of existing treatment facility capacity. Therefore, wastewater impacts would be Class III, <i>less than significant</i>.</p>	None required.	Less than significant without mitigation.
<p>Impact U-3 Depletion of baseflow in the Santa Ynez River due to increased groundwater pumping at City of Lompoc municipal wells could decrease the amount of water available for dilution. This impact is <i>less than significant</i>.</p>	None required.	Less than significant without mitigation.
<p>Impact U-4 Development facilitated by the 2030 General Plan would incrementally increase the amount of impervious surfaces within the City, resulting in increased stormwater runoff and the need for additional stormwater infrastructure. Compliance</p>	None required.	Less than significant without mitigation.



**Table ES-1
 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>with the City’s Stormwater Management Plan (SWMP), and State regulatory requirements, including restricting the amount of impervious surface introduced by future development projects, would reduce impacts to a Class III, <i>less than significant</i>.</p>		
<p>Impact U-5 Buildout of the 2030 General Plan would generate additional solid waste. Existing landfills, including the Lompoc Sanitary Landfill, have adequate capacity to accommodate projected increases in solid waste generation. Therefore, the solid waste generated by the 2030 General Plan would result in Class III, <i>less than significant</i>, impacts.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>



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1.0 INTRODUCTION

This document is a Draft Environmental Impact Report (EIR) that evaluates the potential environmental effects associated with implementation of the City of Lompoc General Plan Update Land Use, Circulation, and Housing Elements. The General Plan Update includes goals, objectives, and policies that will guide the development of Lompoc through 2030.

This section: (1) provides an overview of the background behind the existing General Plan; (2) summarizes the process involved in developing the General Plan Update; (3) describes the purpose of and legal authority of the document; (4) summarizes the scope and content of the EIR; (5) lists lead, responsible, and trustee agencies for the EIR; (6) describes the intended uses of the EIR; and (7) provides a synopsis of the environmental review process required under CEQA.

The contents of other EIR sections are as follows:

- *Section 2.0, Project Description, provides a detailed discussion of the draft General Land Use, Circulation, and Housing Elements.*
- *Section 3.0, Environmental Setting, describes the general environmental setting for Lompoc.*
- *Section 4.0, Environmental Impact Analysis, describes the potential environmental effects associated with the General Plan Update.*
- *Section 5.0, Other CEQA Requirements, discusses issues such as growth inducement and significant irreversible environmental effects.*
- *Section 6.0, Alternatives, discusses alternatives to the draft General Plan Update, including the CEQA-required “no project” alternative.*
- *Section 7.0, References and Preparers, lists informational sources for the EIR and persons involved in the preparation of the document.*

1.1 OVERVIEW OF THE GENERAL PLAN

The City of Lompoc has undertaken a comprehensive update of its General Plan, which is being prepared in two phases. Phase 1 includes three (3) General Plan elements (Land Use, Housing and Circulation). Physical change within the City would generally occur under these elements. Phase 2 is composed of the six (6) remaining General Plan elements (Conservation/Open Space, Noise, Safety, Parks and Recreation, Public Services, and Urban Design). These remaining elements of the General Plan typically contain policies and guidelines to implement goals of the Land Use, Housing and Circulation Elements. The ten General Plan elements encompass all of the elements required by California General Plan law, as well as several optional elements (refer to Section 2.0, *Project Description*).



The General Plan Update guides future development within the existing City Limits as well as within four (4) areas adjacent to the City proposed for future annexation, two (2) of which are located within the existing Urban Limit Line(ULL), and two (2) of which are located outside the ULL. The “study area” evaluated in this EIR consists of areas within current City Limits and these four (4) annexation areas.

State law (Government Code Section 65300) requires that each city and county adopt a comprehensive general plan. The proposed project fulfills this requirement by updating the City’s existing General Plan, which was last comprehensively updated in 1997. The General Plan defines the framework by which the City’s physical and economic resources are to be managed and used in the future. The General Plan’s planning horizon is the year 2030. City decision-makers will use the plan as a blueprint for:

- *Choices about the use of land*
- *Protection of environmental resources*
- *Conservation and development of new housing*
- *Provision of supporting infrastructure and public and human services*
- *Protection of people and property from natural and man-made hazards*
- *Possible future expansion of City boundaries*

The General Plan Update clarifies and articulates the City’s intentions with respect to the rights and expectations of the community, including residents, property owners, and businesses. Through the General Plan, the City informs these groups of its goals, policies, and standards, thereby communicating expectations of the public and private sectors for meeting community objectives.

Since the General Plan is the constitution for all future development, any decision by a city affecting land use and development must be consistent with the General Plan. This includes any development projects proposed in the future. An action, program, or project would be considered consistent with the General Plan if, considering all of its aspects, it will further the objectives and policies of the General Plan or not obstruct their attainment.

Each of the General Plan Elements contains objectives and policies to implement the City’s overarching goals. Objectives are statements that provide direction and state the desired end condition. Policies are specific statements that guide decision-making. They indicate a clear commitment by the City and generally serve as mandatory criteria.

1.2 GENERAL PLAN UPDATE PROCESS

Phase 1 of the 2030 General Plan Update is intended to function as a policy document to guide land use, housing and circulation decisions within the City’s planning area through the year 2030. Preparation of the 2030 General Plan Land Use, Housing and Circulation Elements



involved an approximately 18-month process involving the City Council and Planning Commission, City and consultant staff, and the public at large.

Based on the input received from the public involvement process, the 2030 General Plan developed the following vision:

Lompoc is committed to protecting the unique and positive existing aspects of the community for future generations while accepting the challenges associated with seeking improvement in areas of current concern. Lompoc's vision is of an economically prosperous, compact urban place nestled among natural hillsides with undisturbed ridgelines, adjacent to wide expanses of fertile agricultural land, and straddling the biologically-rich Santa Ynez River. The community protects its rural setting by promoting sustainable use of resources. The City is a safe, healthy, attractive, socially-inviting, and affordable place in which to live, work, gather, and play. The City has a vibrant downtown, varied commercial and industrial opportunities, plentiful parks and recreational amenities, and safe and comfortable neighborhoods. The community maintains an integrated transportation network which facilitates safe and efficient auto, bus, bicycle, air, rail, and pedestrian travel. The City's public services are reliable, convenient, and cost-effective. The City supports and promotes equal opportunity and the maximization of human potential for all racial, ethnic, and economic segments. The City's quality of life is closely guarded by residents mindful of a rich past and enthusiastic about a promising future.

1.3 RELATIONSHIP TO THE BAILEY AVENUE SPECIFIC PLAN

The Lompoc General Plan Update includes four (4) proposed annexation areas located outside of the existing City Limits: the Bailey Avenue Specific Plan area, the Miguelito Canyon area, the River area, and the Wye Residential area (refer to Figure 2-2 in Section 2.0, *Project Description*). The Bailey Avenue Specific Plan area and River area are located within the City's existing ULL, while the Miguelito Canyon area and Wye Residential area are located outside the ULL. Full buildout of all four (4) expansion areas is addressed throughout this EIR at a generalized programmatic level of detail. This includes analysis of anticipated land use changes and associated buildout potential. A Specific Plan for the Bailey Avenue expansion area has been proposed, and is currently being analyzed in a separate Environmental Impact Report. This discrete analysis will be similarly programmatic, but will address additional detail available within the proposed Specific Plan. This includes consideration of specific land use types and locations, infrastructure, internal circulation, design standards, and development phasing.

The intent of the current analysis is to address buildout of the Bailey Avenue Specific Plan expansion area generally, and is not intended to serve as the project-level environmental review of future development in the Bailey Avenue Specific Plan area. The level of detail in this Environmental Impact Report corresponds to the level of detail available in the General Plan



being analyzed. Because the proposed General Plan Update contains general information for the Bailey Avenue Specific Plan area, the current analysis is necessarily broad in nature. However, because the proposed Bailey Avenue Specific Plan contains additional plan details, the analysis in the separate EIR for the Specific Plan will be more detailed.

It should also be noted that because development plans have not been submitted for this area, additional project-level CEQA review may still be required after certification of the Bailey Avenue Specific Plan EIR.

1.4 LEGAL AUTHORITY

This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the City's Rules for the Implementation of CEQA. In accordance with Section 15121 (a) of the State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3), the purpose of an EIR is to:

Inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

This EIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides the City (as Lead Agency) with the opportunity to consider broad policy alternatives and program-wide mitigation measures and provides the City with greater flexibility to address environmental issues and/or cumulative impacts on a comprehensive basis. Agencies generally prepare Program EIRs for programs or a series of related actions that are linked geographically, are logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program, or are individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways. By its nature, a Program EIR considers the "macro" effects associated with implementing a program (such as a General Plan) and does not, and is not intended to, examine the specific environmental effects associated with specific projects that may be implemented under the guise of the General Plan.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine what, if any, additional CEQA documentation needs to be prepared. If the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required (CEQA Guidelines Section 15168(c)). When a Program EIR is relied on for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities



(CEQA Guidelines Section 15168(c)(3)). If a subsequent activity would have effects not within the scope of the Program EIR, the Lead Agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or a project level EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines (Section 15168(h)) encourage the use of Program EIRs, citing five advantages:

1. *Provision of a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR*
2. *Focus on cumulative impacts that might be slighted in a case-by-case analysis*
3. *Avoidance of continual reconsideration of recurring policy issues*
4. *Consideration of broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them*
5. *Reduction of paperwork by encouraging the reuse of data (through tiering)*

It should be noted that as a “macro” level environmental document, the General Plan EIR uses macro level thresholds as compared to the project-level thresholds that might be used for an EIR on a specific development project. It should not be assumed that impacts determined not to be significant at a macro level would not be significant at a project level. In other words, determination that implementation of the General Plan Update as a “program” would not have a significant environmental effect does not necessarily mean that an individual project would not have significant effects based on project-level CEQA thresholds, even if the project is consistent with the General Plan.

1.5 SCOPE AND CONTENT OF THE EIR

In accordance with the CEQA Guidelines, a Notice of Preparation (NOP) of a Draft EIR was circulated to potentially interested parties on August 11, 2008. The NOP, included in Appendix A, indicated that all issues on the City’s environmental checklist would be discussed in the Draft EIR. These include:

- *Aesthetics*
- *Agriculture Resources*
- *Air Quality*
- *Biological Resources*
- *Cultural Resources*
- *Geology/Soils*
- *Hazards & Hazardous Materials*
- *Hydrology/Water Quality*
- *Land Use/Planning*
- *Mineral Resources*
- *Noise*
- *Population/Housing*
- *Public Services*
- *Recreation*
- *Transportation/Traffic*
- *Utilities/Service Systems*
- *Mandatory Findings of Significance*

This EIR evaluates potential impacts in each of these areas.



The focus of this EIR is to:

- *Provide information about the General Plan Update and alternative growth scenarios for consideration by the Planning Commission and the City Council in its selection of an alternative or a combination of various elements from each alternative for approval;*
- *Review and evaluate the potentially significant environmental impacts that could occur as a result of the growth and development envisioned in the General Plan Update and different growth scenarios;*
- *Identify feasible mitigation measures that may be incorporated into the project in order to reduce or eliminate potentially significant effects;*
- *Disclose any potential growth-inducing and/or cumulative impacts associated with the General Plan; and*
- *Examine a reasonable range of alternative growth scenarios that could feasibly attain the basic "project" objectives, while eliminating and/or reducing some or all of the potentially significant adverse environmental effects.*

The City received six (6) written responses to the NOP. The responses, included in Appendix A, are addressed, as appropriate, in the analysis contained in the various subsections of Section 4.0, *Environmental Impact Analysis*. The City also held an EIR scoping meeting on August 26, 2008 at Lompoc City Hall.

Incorporation by Reference

Section 15150 of the CEQA Guidelines states that "An EIR or Negative Declaration may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Where all or part of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR or Negative Declaration."

The previous environmental documents incorporated by reference, in their entirety, into this Program EIR are summarized below:

- **City of Lompoc General Plan Elements: Resource Management, Noise, Safety, Parks and Recreation, Public Services, and Urban Design (1997).** These General Plan elements were updated and reorganized in 1997, and contain several goals, policies, and implementation measures that mitigate the environmental impacts of development proposed in accordance with the existing and proposed General Plan Land Use, Circulation, and Housing Elements.
- **City of Lompoc General Plan Final EIR (October 1997) and Addenda Thereto.** This document evaluated potential impacts related to the adoption and implementation of the 1997 Lompoc General Plan. The 1997 General Plan EIR addressed environmental impacts



associated with anticipated buildout of the City at that time. *State Clearinghouse #94941032*

These documents are available for review at the City of Lompoc Planning Division, 100 Civic Center Plaza, Lompoc, California, 93438

1.6 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The City of Lompoc is the lead Agency under CEQA for this EIR because it has primary discretionary authority to determine whether or how to approve the General Plan Update Land Use, Circulation, and Housing Elements.

“Responsible Agencies” are other agencies that are responsible for carrying out/implementing a specific component of the General Plan or for approving a project (such as an annexation) that implements the goals and policies of the General Plan. Section 15381 of the State CEQA Guidelines defines a “responsible agency” as:

A public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For purposes of CEQA, responsible agencies include all public agencies other than the lead agency that have discretionary approval authority over the project.

The **California Department of Housing and Community Development (HCD)** is the only Responsible Agency for the General Plan Update. HCD is responsible for the review and certification of the Housing Element.

Although not Responsible Agencies under CEQA, several other agencies have review authority over aspects of the General Plan or approval authority over projects that could potentially be implemented in accordance with various General Plan objectives and policies. These agencies and their roles are listed below.

- *The **California Department of Transportation (Caltrans)** has responsibility for approving future improvements to the state highway system, including Highway 1 and State Route 246.*
- *The **Local Agency Formation Commission (LAFCO)** of the County of Santa Barbara has responsibility for approving any annexations to the City that might occur over the life of the General Plan.*
- ***California Department of Fish and Game (CDFG)** has responsibility for issuing take permits and streambed alteration agreements for any projects with the potential to affect plant or animal species listed by the State of California as rare, threatened, or endangered or that would disturb waters of the state.*



Trustee agencies have jurisdiction over certain resources held in trust for the people of California but do not have a legal authority over approving or carrying out the project. CEQA Guidelines Section 15386 designates four agencies as Trustee Agencies: The California Department of Fish and Game with regards to fish and wildlife, native plants designated as rare or endangered, game refuges, and ecological reserves; the State Lands Commission, with regard to state-owned “sovereign” lands, such as the beds of navigable waters and state school lands; the California Department of Parks and Recreation, with regard to units of the state park system; and, the University of California, with regard to sites within the Natural Land and Water Reserves System. The CDFG is the only trustee agency for the General Plan EIR.

1.7 INTENDED USES OF THE EIR

This EIR is as an informational document for use in the City’s review and consideration of the General Plan Update. It is to be used to facilitate creation of a General Plan that incorporates environmental considerations and planning principles into a cohesive policy document. The General Plan will guide subsequent actions taken by the City in its review of new development projects and its establishment of new and/or revised citywide programs.

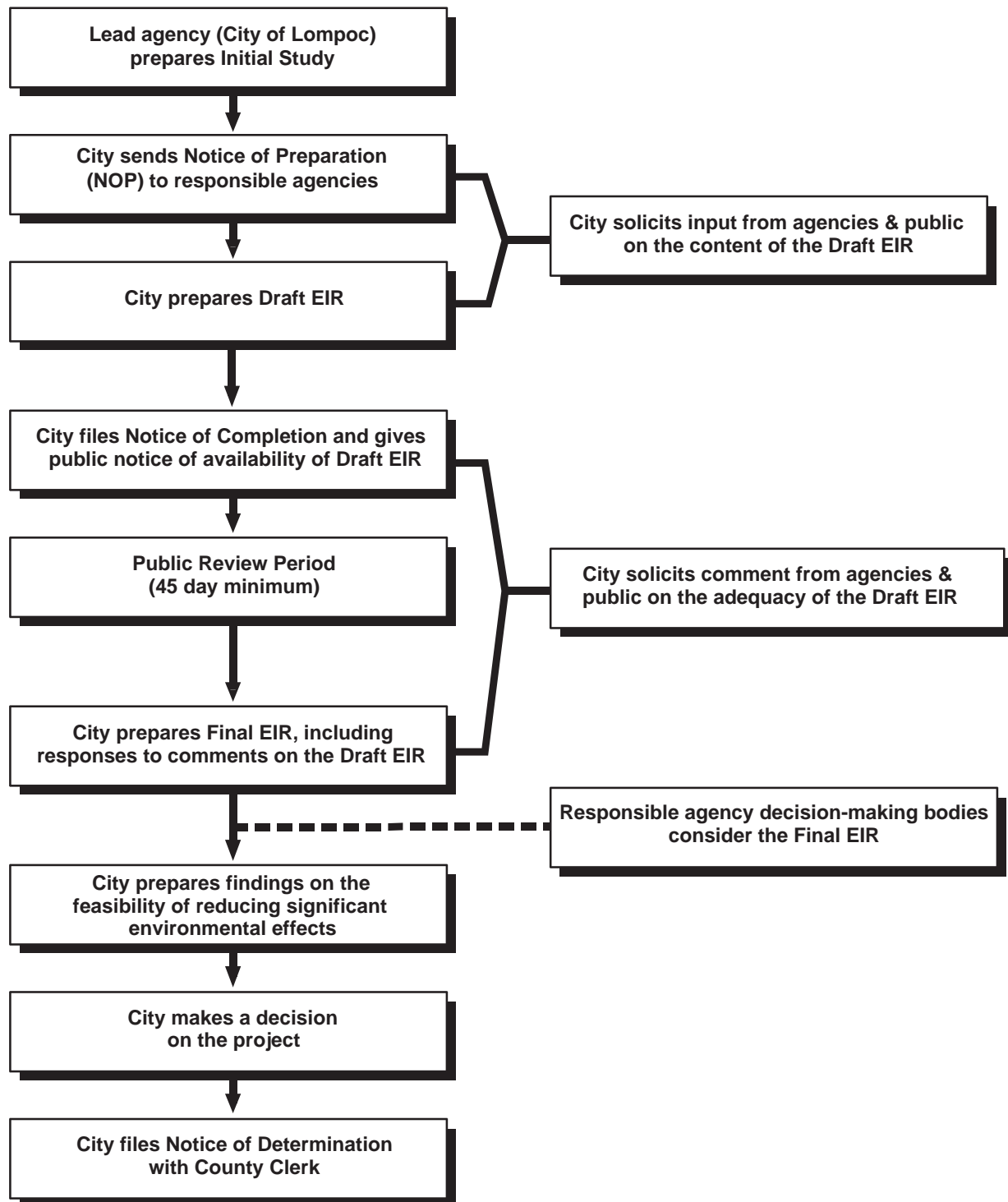
This EIR discloses the possible environmental consequences associated with the General Plan Update Land Use, Circulation, and Housing Elements. The information and analysis in this EIR will be used by the Lompoc Planning Commission and City Council, responsible and trustee agencies, and the general public.

1.8 EIR PROCESS

The environmental review process, as required under CEQA, is summarized below and illustrated generally on Figure 1-1.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (CEQA Guidelines Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. For projects of regional significance, the lead agency holds a scoping meeting during the 30-day NOP review period.
2. **Draft EIR.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion.** Upon completion of a Draft EIR, the lead agency must file a Notice of Completion with the State Clearinghouse and prepare a Public Notice of





Availability of a Draft EIR. The lead agency must place the Notice in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the Notice to anyone requesting it (CEQA Guidelines Section 15087). In addition, public notice of the availability of the Draft EIR must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off of the project site; or c) direct mailing to owners and occupants of contiguous properties and others who have requested such notification. The lead agency must solicit comments from the public and respond in writing to all written comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days (Public Resources Code Section 21091).

4. **Final EIR.** Following the close of the Draft EIR review period, a Final EIR is prepared. The Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) a list of persons and entities commenting; and d) responses to comments.
5. **Final EIR Certification.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving the project (CEQA Guidelines Section 15090).
6. **Lead Agency Project Decision.** Upon certification of an EIR, the lead agency makes a decision on the project analyzed in the EIR. A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (CEQA Guidelines Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (CEQA Guidelines Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision and explaining why the project's benefits outweigh the significant environmental effects.



8. **Mitigation Monitoring/Reporting Program.** When an agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.



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2.0 PROJECT DESCRIPTION

The proposed project is Phase 1 of an update to the City of Lompoc General Plan (hereinafter referred to as the “2030 General Plan”) and includes an update of the Land Use, Housing and Circulation Elements. The existing (1997) General Plan consists of six additional elements, which will be updated in Phase 2 and will be reviewed under a separate CEQA document.

This section of the EIR describes the key characteristics of Phase I of the 2030 General Plan, including the project proponent, the geographic extent of the plan, project objectives, required approvals, and development forecasted for the plan area. This section also summarizes the key policy statements from the General Plan elements that have the potential to result in physical environmental effects.

2.1 PROJECT PROPONENT

City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93438-8001

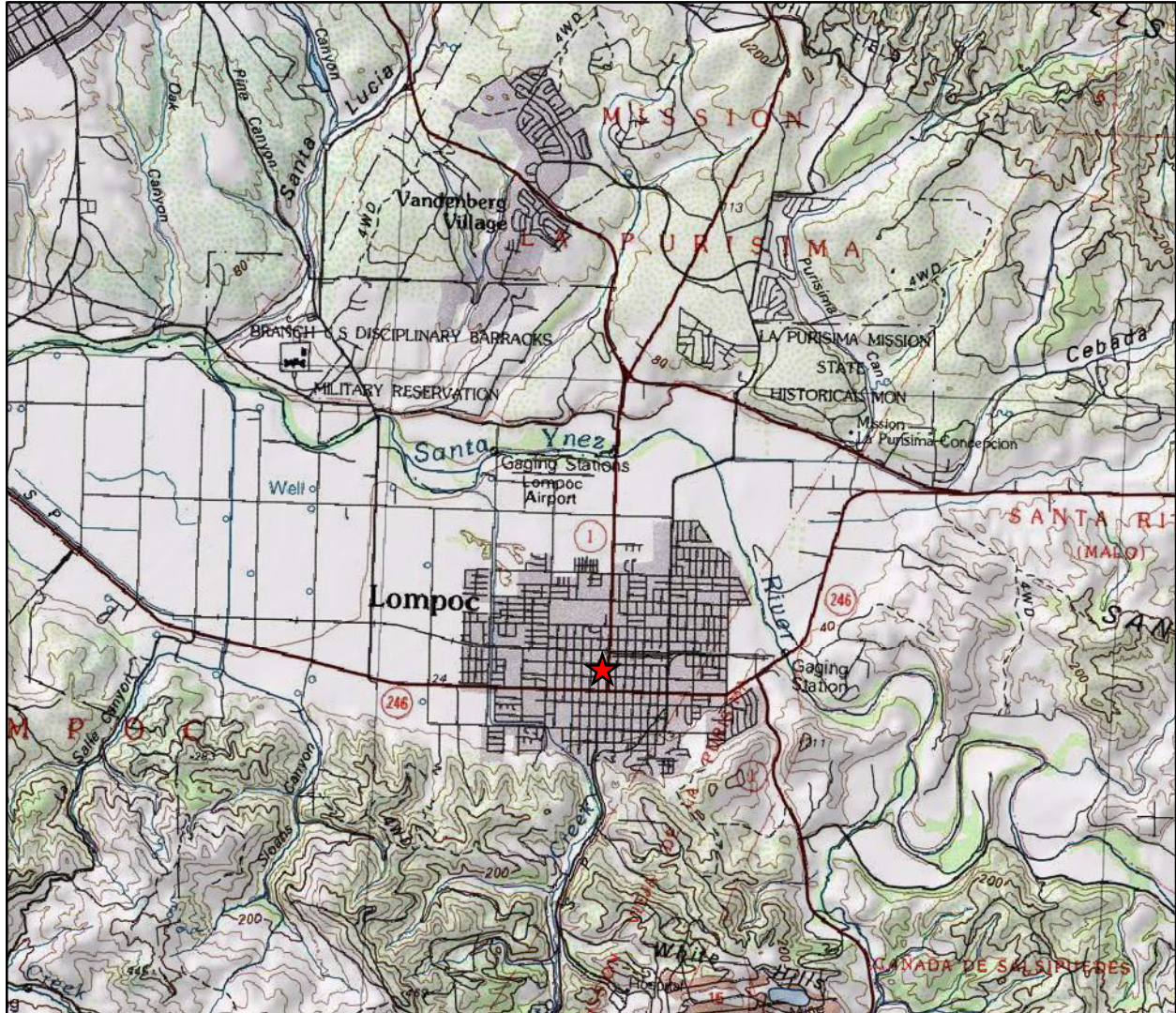
2.2 GEOGRAPHIC EXTENT OF THE PLAN AREA

The City of Lompoc is located in the western portion of Santa Barbara County, in the central coast region of California. Lompoc is located along Highway 1 approximately 15 miles west of Highway 101 and the City of Buellton, and eight miles east of the Pacific Ocean (refer to Figure 2-1). Planning boundaries are illustrated on Figure 2-2 and described below.

a. Incorporated City Limits. As of 2008, Lompoc’s corporate boundaries encompass approximately 11.65 square miles, or 7,456 acres of land. The City is seeking annexation of land outside the current City limits as part of the 2030 General Plan, portions of which are located within the existing Sphere of Influence. These four possible expansion areas would be annexed over the life of the General Plan, and are described in more detail below.

b. Unincorporated Portions of the Plan Area. The plan area for the 2030 General Plan encompasses all areas within and outside the City’s boundaries that bear a relation to the City’s planning as contemplated by State Government Code Section 65300. This includes the City’s Sphere of Influence (SOI) and Urban Limit Line (refer to Figure 2-2). In addition to the areas within the Lompoc corporate boundaries, the General Plan update addresses four (4) unincorporated areas surrounding the City that may be considered for future annexation. These potential annexation areas are shown in Figure 2-5. These unincorporated expansion areas

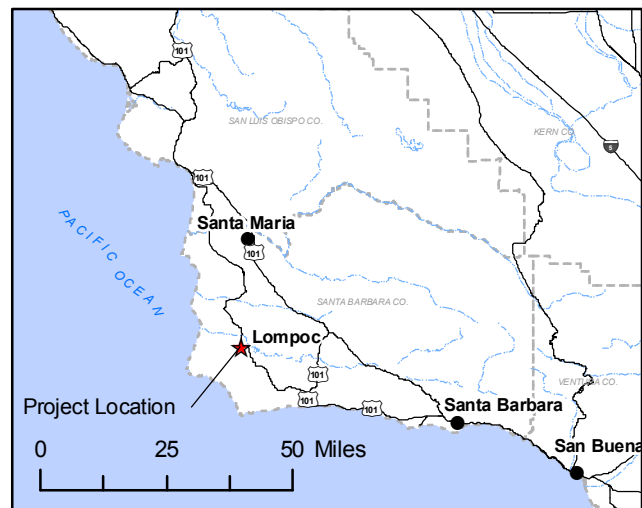




0 0.5 1 1.5 2 Miles



★ Project Location

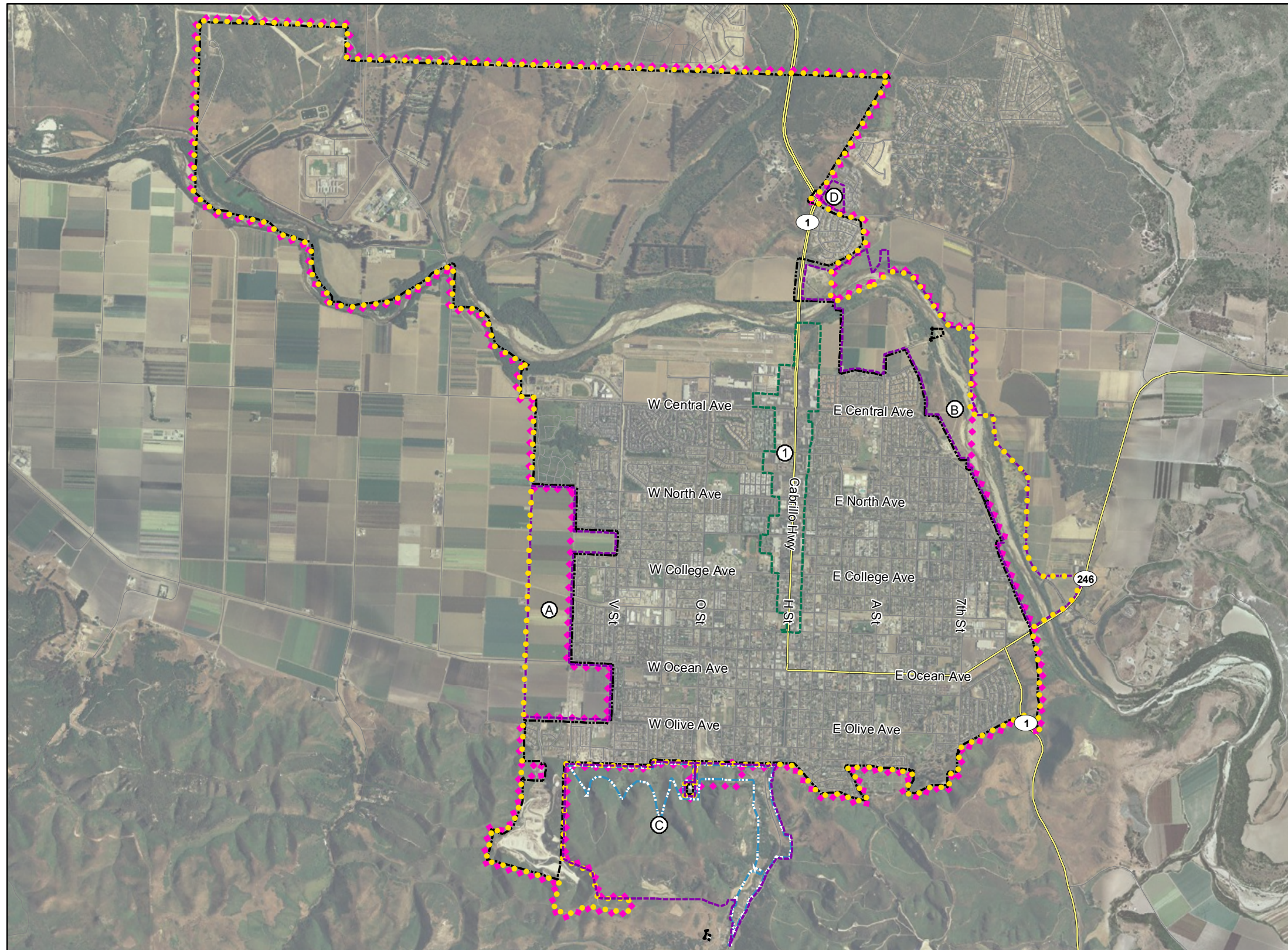


Base map source: U.S. Bureau of the Census Tiger 2000 data, National Geographic TOPOI, 2008, and ESRI, 2004.

Regional Location

Figure 2-1
 City of Lompoc





LEGEND

- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential



Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Plan Boundaries

Figure 2-2
 City of Lompoc

total approximately 1.56 square miles (995 acres) and include open space, parks, and agricultural fields.

Once the General Plan Update is approved by the City, the Local Agency Formation Commission (LAFCO) of the County of Santa Barbara will conduct a formal review of the potential expansion areas. Should LAFCO find these areas to be a logical extension of the corporate boundaries of Lompoc and that the expansion areas can be provided with the necessary City services and facilities, LAFCO will incorporate these areas into the City's SOI.

2.3 1997 GENERAL PLAN

The Lompoc City Council adopted the current General Plan in 1997. The 1997 General Plan (as amended) has since served as a policy document that guides land use decisions in the City.

The 1997 Lompoc General Plan consists of nine elements: Land Use, Circulation, Housing, Noise, Parks and Recreation, Public Services, Resource Management, Safety and Urban Design. The goals of the 1997 Land Use, Housing, and Circulation Elements, which are being updated as part of the proposed project, are described below.

Land Use Element

- Goal 1: Maintain a compact urban form and growth pattern which provides adequate space to meet housing, employment, business, and public service needs.*
- Goal 2: Protect and enhance the quality of life of Lompoc residents through the creation and maintenance of affordable, attractive, and well-served residential neighborhoods.*
- Goal 3: Provide and maintain opportunities for a diversity of commercial and industrial enterprises to meet the goods, services, and employment needs of Lompoc Valley residents, as well as to attain a balance of employment and housing within the Lompoc Valley.*
- Goal 4: Maintain high-quality public facilities and services.*
- Goal 5: Protect the Lompoc Valley's natural resources.*
- Goal 6: Protect the community against natural and man-made hazards.*
- Goal 7: Preserve and protect the highest quality agricultural soils.*



Housing Element

- Goal 1: Provide a choice of housing opportunities for all economic segments of the community.*
- Goal 2: Restore, protect, and improve the condition of existing housing and neighborhoods.*
- Goal 3: Locate and design housing so as to assure an attractive and high quality living environment.*
- Goal 4: Maximize energy efficiency in existing and future residential development.*

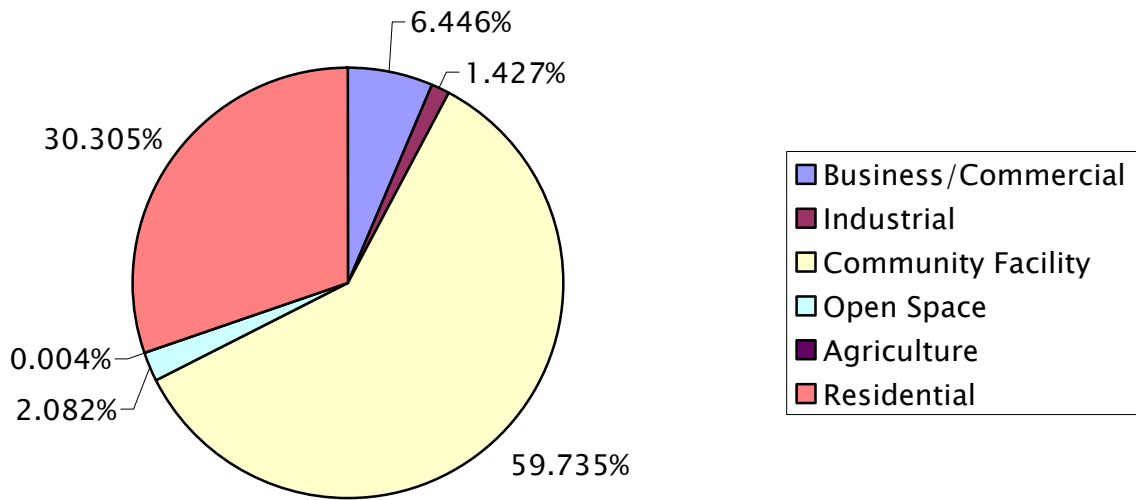
Circulation Element

- Goal 1: Maximize the efficiency, quality, and safety of a multi-modal circulation system which provides for the movement of people, goods, and services to serve the internal circulation needs of the City, while also addressing through travel needs.*
- Goal 2: Minimize the public's exposure to circulation related noise and safety hazards.*
- Goal 3: Maximize the viability and convenience of transportation modes that reduce automobile use.*
- Goal 4: Protect and enhance the visual quality of Lompoc's circulation system.*
- Goal 5: Reduce automobile use and the associated emissions by maintaining a compact and well-designed urban form which encourages alternative transportation modes.*

The 1997 General Plan land use map included 17 individual land use designations. The area within the current City Limits is designated for a mix of business/commercial, industrial, community facility, open space, agriculture and residential designated land. Figure 2-3 shows the current breakdown of land use designations within the City's current limits.



Figure 2–3. Current Distribution of Land Uses in Lompoc



2.4 DRAFT 2030 GENERAL PLAN

The EIR analysis focuses on two primary components of the draft 2030 General Plan: (1) physical development potential; and (2) goals and policies with the potential to result in physical environmental effects. The potential physical development of the City is reviewed and evaluated for each of the areas of environmental impact. As appropriate, the environmental effects of the goals, policies, and actions included in the 2030 General Plan are also reviewed and evaluated for each area of potential impact. Because many of the goals, policies, and actions are specifically intended to mitigate the environmental effects associated with future growth in the City, they are discussed as part of an overall mitigation strategy, where applicable, for a given issue.

2.4.1 General Plan Goals

Phase 1 of the 2030 General Plan update is intended to function as a policy document to guide land use, housing and circulation decisions within the City’s planning area through the year 2030. Preparation of the 2030 General Plan Land Use, Housing and Circulation Elements involved an approximately 18-month process involving the City Council and Planning Commission, City and consultant staff, and the public at large.

Based on the input received from the public involvement process, the 2030 General Plan developed the following vision:



Lompoc is committed to protecting the unique and positive existing aspects of the community for future generations while accepting the challenges associated with seeking improvement in areas of current concern. Lompoc's vision is of an economically prosperous, compact urban place nestled among natural hillsides with undisturbed ridgelines, adjacent to wide expanses of fertile agricultural land, and straddling the biologically-rich Santa Ynez River. The community protects its rural setting by promoting sustainable use of resources. The City is a safe, healthy, attractive, socially-inviting, and affordable place in which to live, work, gather, and play. The City has a vibrant downtown, varied commercial and industrial opportunities, plentiful parks and recreational amenities, and safe and comfortable neighborhoods. The community maintains an integrated transportation network which facilitates safe and efficient auto, bus, bicycle, air, rail, and pedestrian travel. The City's public services are reliable, convenient, and cost-effective. The City supports and promotes equal opportunity and the maximization of human potential for all racial, ethnic, and economic segments. The City's quality of life is closely guarded by residents mindful of a rich past and enthusiastic about a promising future.

2.4.2 General Plan Organization

The Lompoc General Plan is being prepared in two phases. Phase 1 is composed of four sections, which include an Introduction and three General Plan elements (Land Use, Housing and Circulation). Physical change within the City would generally occur under these elements. Phase 2 is composed of the six remaining General Plan elements (Conservation/Open Space, Noise, Safety, Parks and Recreation, Public Services, and Urban Design). These remaining elements of the General Plan typically contain policies and guidelines to implement goals of the Land Use, Housing and Circulation Elements. The nine General Plan elements encompass all of the elements required by California General Plan law, as well as several optional elements. The content of each of the 10 General Plan sections is summarized below.

Phase 1

The *Introduction* provides an introduction to the community of Lompoc, the overall General Plan document, and an overview of Lompoc's vision for the future.

The *Land Use Element* details Lompoc's program to manage its physical environment and meet State requirements for the Land Use Element. Land use objectives, general plan approaches, and policies are presented. In addition, the Land Use Element delineates the land use districts presented on the General Plan Land Use Map. The land use districts define acceptable land uses throughout the General Plan study area, as well as allowable development intensities for each defined use.



The *Housing Element* presents Lompoc's commitment to provide housing opportunities to meet the needs of all economic segments of the community, and to ensure the continued high quality of the City's housing stock. This element contains the following components:

- ***Housing Needs*** – summarizes existing and projected needs for housing for all economic segments of the community, including new construction needs and particularly the needs of such groups as the handicapped, the elderly, large families, female-headed households, and the homeless.
- ***Opportunities for the Creation of New Housing*** – examines the inventory of land that is available to meet identified needs for new housing construction.
- ***Constraints on the Production of Housing*** – explores governmental and non-governmental obstacles that need to be overcome if the City of Lompoc is to meet its housing needs.
- ***Housing Goals, Quantified Objectives, Programs, and Specific Actions*** – outlines the specifics of Lompoc's housing improvement program for the years 2009 to 2014.

The *Circulation Element* outlines the City's program to provide mobility within the General Plan study area. This element addresses motor vehicle, public transit, bicycle, and pedestrian circulation, as well as parking issues. A major thrust of this element is to ensure that roadways and transportation facilities support, rather than lead, the type of community which Lompoc wishes to maintain. Thus, environmental considerations have been incorporated into the Circulation Element and recommendations to increase the traffic carrying capacity of the area's roadway system were designed to recognize and protect significant environmental features.

Phase 2

The *Conservation/Open Space Element* describes Lompoc's program to manage its natural environment. The primary objective of this element is to define environmental features within the plan area and provide each feature with an appropriate level of protection. This element meets State requirements for Conservation Elements. Specifically, the Conservation/Open Space Element covers the following issues:

- *Soils*
- *Creeks and streams*
- *Sensitive biotic habitats*
- *Wildlife*
- *Visual resources*
- *Air quality*
- *Minerals*
- *Water / wastewater*
- *Energy*
- *Cultural resources*
- *Natural features*
- *Open Space*



The *Noise Element* identifies existing and projected future noise sources and levels throughout the City. It also provides policies and standards to limit noise exposure. The Noise Element meets the requirements of State General Plan law.

The *Safety Element* addresses the relationship between natural hazards and existing and future development. The Safety Element meets State requirements and addresses the following specific topics:

- *Seismically Induced Surface Rupture, Ground Shaking, Ground Failure, Liquefaction*
- *Slope Stability/Landslides*
- *Subsidence and Other Known Geologic Hazards*
- *Flooding*
- *Wildland and Urban Fires*
- *Evacuation Routes*
- *Minimum Road Widths and Clearances Around Structures*
- *Secondary Access Requirements*
- *Identified Hazardous Material Sites*

The *Parks and Recreation Element* identifies recreational needs and establishes policies and programs for the maintenance and enhancement of municipal parks, recreational services, and trails. This is an optional element that is not mandated by State General Plan law.

The *Public Services Element* establishes policies and programs relating to municipal and education services, water, sewer, and storm drain facilities, and technological infrastructure and development. This is an optional element that is not mandated by State General Plan law.

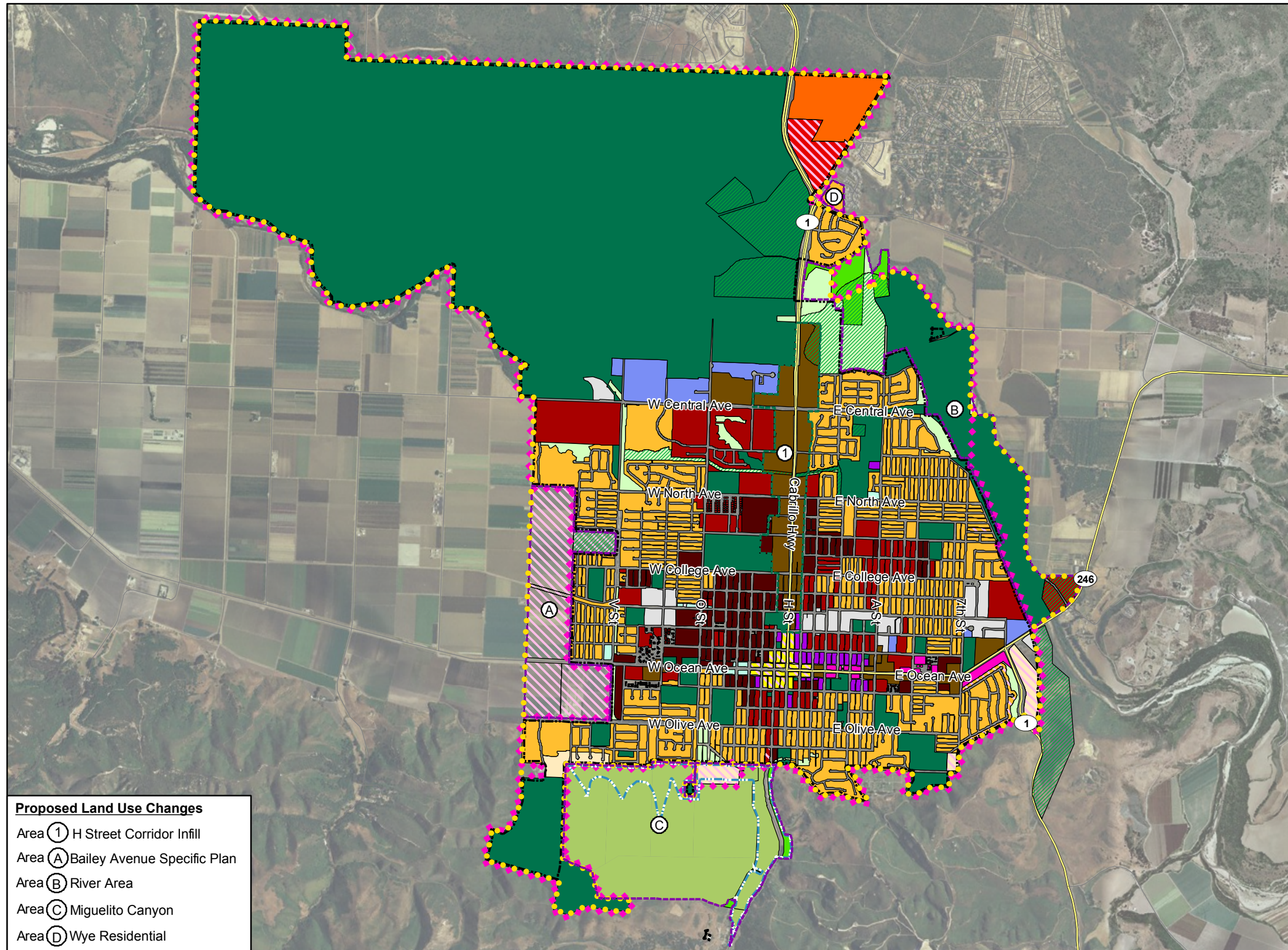
The *Urban Design Element* establishes policies and programs relating to the overall design of the community, including guidelines relating to architectural design, streetscapes/ landscapes, and placement of activity centers. This is an optional element that is not mandated by State General Plan law.

Phase 1 of the 2030 General Plan is available for review at Lompoc City Hall and on the City's website (<http://www.ci.lompoc.ca.us/>). Individual policies and actions with the potential to either create or address physical environmental impacts are discussed as appropriate in the individual impact discussions in Section 4.0, *Environmental Impact Analysis*.

2.4.3 General Plan Land Use Designations

The purpose of the General Plan land use map, shown on Figure 2-4, is to guide the general distribution, location and extent of the various types of land uses in the City. The 2030 General Plan includes 19 land use designations, as shown in Table 2-1. Specific land use regulations for parcel development will continue to be defined in the Zoning Code, which will be updated following adoption of the 2030 General Plan.

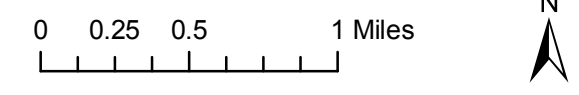




- LEGEND**
- H Street Corridor Infill Area
 - Existing City Urban Limit Line
 - Proposed Area to be Added to City Urban Limit Line
 - Draft Annexation Areas (Subject to LAFCO approval)
 - Existing City Limits
 - Existing City Sphere of Influence
 - Park Overlay

- General Plan Land Use Designation**
- Agriculture
 - Open Space
 - Business Park
 - Community Facility
 - General Commercial
 - Neighborhood Commercial
 - Office Commercial
 - Old Town Commercial
 - Mixed Use
 - Industrial
 - Specific Plan
 - Rural Density Residential
 - Very Low Density Residential
 - Low Density Residential 6.2 Units Per Acre
 - Low Density Residential 2.5 Units Per Acre
 - Low Density Residential 4.6 Units Per Acre
 - Medium Density Residential
 - High Density Residential

- Proposed Land Use Changes**
- Area ① H Street Corridor Infill
 - Area (A) Bailey Avenue Specific Plan
 - Area (B) River Area
 - Area (C) Miguelito Canyon
 - Area (D) Wye Residential



Note: This is one of a series of maps and textual material which, combined, constitute the development policies of the city of Lompoc. Allowable land uses for given parcels of land cannot be determined solely by reference to this map.

Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Land Use Map

Figure 2-4

**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
Residential Land Uses	
<p>RDR* Rural Density Residential</p> <p>* Note: this land use designation only applies to the Miguelito Canyon Expansion Area and will be excluded from this table should the Miguelito Canyon Expansion Area not proceed.</p>	<p>Purpose To provide rural residential areas on the fringe of urban development in the Miguelito Canyon Area at densities which provide the selection of appropriate building sites and protect the area's natural features and resources. To provide residential areas suitable for the development of custom homes in a rural setting.</p> <p>Description Large-lot detached single-family homes on properties with steep hillsides, prominent bluffs, or adjacent to farmland. Appropriate uses include light agricultural activities and single-family detached dwellings.</p> <p><i>Allowable Building Density¹: 0.2 DU/net acre</i> <i>Anticipated Maximum Population Intensity²: 1 persons/net acre</i></p>
<p>VLDR Very Low Density Residential</p>	<p>Purpose To provide semi-rural residential areas on the fringe of urban development at densities which protect the area's natural features and resources. To provide residential areas suitable for the development of custom homes in a setting which maximizes privacy.</p> <p>Description Large-lot detached single-family homes on properties with prominent bluffs, steep hillsides, or adjacent to farmland. Appropriate uses include light agricultural activities and single-family detached dwellings.</p> <p><i>Allowable Building Density: 2.2 DU/net acre</i> <i>Anticipated Maximum Population Intensity: 6 persons/net acre</i></p>
<p>LDR Low Density Residential</p> <p>Includes the following sub-categories:</p> <ul style="list-style-type: none"> • LDR-2.5 • LDR-4.6 • LDR-6.2 	<p>Purpose To provide residential areas which promote and encourage a suitable environment for life on a neighborhood basis.</p> <p>Description Residential areas free of physical or natural resource constraints, containing a mixture of housing designs, architectural styles, physical amenities, and recreational opportunities which stimulate a sense of neighborhood identification accessed by local roads and collector streets. Appropriate uses include single family dwellings and mobile homes. The lower density sub-categories (LDR-2.5 and LDR-4.6) apply to the Burton Mesa Specific Plan Area. Additional guidance on development</p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
<p>The number indicated in these sub-categories corresponds to the allowable building density.</p>	<p>and uses in these sub-categories is provided in the Burton Mesa Specific Plan.</p> <p>LDR-2.5: <i>Allowable Building Density: 2.5 DU/net acre</i> <i>Anticipated Maximum Population Intensity: 7 persons/net acre</i></p> <p>LDR-4.6: <i>Allowable Building Density: 4.6 DU/net acre</i> <i>Anticipated Maximum Population Intensity: 13 persons/net acre</i></p> <p>LDR-6.2: <i>Allowable Building Density: 6.2 DU/net acre</i> <i>Anticipated Maximum Population Intensity: 18 persons/net acre</i></p>
<p>MDR Medium Density Residential</p>	<p>Purpose To provide residential areas which are in close proximity to schools, shopping, and other services; and which are at densities that are responsive to the economic considerations of developing affordable ownership housing and rental housing at various price levels. This category provides a buffer between lower-density detached-housing areas, higher-density multiple-family areas, and commercial areas.</p> <p>Description This designation allows for a mixture of unit types among single-family and multiple-family attached housing options along major roads, generally adjacent to commercial areas. Appropriate uses include mobile homes, townhouses, duplexes, triplexes, four-plexes, and low-rise apartments.</p> <p><i>Allowable Building Density: 6.2-14.5 DU/net acre</i> <i>Anticipated Maximum Population Intensity: 41 persons/net acre</i></p>
<p>HDR High Density Residential</p>	<p>Purpose To provide residential areas which offer convenient pedestrian access to commercial services and give local residents the opportunity to live near employment centers. This designation can also stimulate reinvestment in older-established areas which can accommodate higher densities.</p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
	<p>Description This designation provides the greatest proportion of the community's multiple family housing opportunities and is located near shopping centers and centers of employment. Access is provided by major roadways, arterials, and collectors. Appropriate uses include single-story and multi-story apartment buildings.</p> <p><i>Allowable Building Density: 14.5-22.0 DU/net acre</i> <i>Anticipated Maximum Population Intensity: 62 persons/net acre</i></p>
Commercial and Mixed-Use Land Uses	
<p>NC Neighborhood Commercial</p>	<p>Purpose To provide commercial areas which promote a sense of neighborhood identification by satisfying the need for convenient shopping and retail service opportunities on a neighborhood basis. To provide commercial areas adjacent to residential areas which encourage pedestrian travel to meet basic commercial needs.</p> <p>Description Commercial areas which offer shopping and services to satisfy the day-to-day needs of local neighborhoods and work places accessed by local roads and collector streets. Appropriate uses include "mom and pop" food stores, convenience stores, barber or beauty shops, laundromats, cleaners, and shoe repair shops.</p> <p><i>Allowable Building Density: 0.50 FAR</i> <i>Anticipated Maximum Population Intensity: not applicable</i></p>
<p>OC Office Commercial</p>	<p>Purpose To provide commercial areas for business, medical, and professional offices outside of the Old Town area which are easily integrated into adjacent residential areas. This category provides a buffer between residential areas and major roadways.</p> <p>Description Commercial areas which offer professional and business services to the City and region accessed by major roadways and arterials. Appropriate uses include professional offices, medical clinics and laboratories, and other commercial facilities which provide services rather than goods.</p> <p><i>Allowable Building Density: 0.75 FAR</i> <i>Anticipated Maximum Population Intensity: not applicable</i></p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
<p>OTC Old Town Commercial</p>	<p>Purpose To provide pedestrian-oriented commercial areas made up of street-front stores and offices that have a sufficient variety and depth of goods and services to meet the retail, business, and cultural needs of residents of the City and region. To provide limited residential opportunities which are in close proximity to the area's goods, services, and amenities.</p> <p>Description Commercial areas which provide retail and professional business services to City and regional residents accessed by major roadways and arterials in conjunction with Old Town single-level and multi-level parking areas. Development in these areas will be integrated with public and private open spaces designed to enhance the pedestrian experience. Appropriate uses include general retail, non-retail services, and offices. Commercial uses are allowed on all floors of buildings within this land use designation. Residential uses are also allowed as a secondary use in conjunction with on-site commercial uses. Buildings with H Street or Ocean Avenue frontage shall be commercial on the first floor. Residential units are permitted on upper floors of buildings fronting H Street or Ocean Avenue and on all floors of buildings not fronting H Street or Ocean Avenue. Residential access could be on the first floor but in the rear of the building. This category differs from the General Commercial category by emphasizing pedestrian-oriented businesses.</p> <p><i>Allowable Building Density: 2.0 FAR with up to 50% of floor area available for residential use at 20.0-44.0 DU/net acre</i> <i>Anticipated Maximum Population Intensity: 124 persons/net acre</i></p>
<p>GC General Commercial</p>	<p>Purpose To provide commercial areas for a wide variety of retail, office, and service-oriented enterprises which meet the needs of residents and visitors. To accommodate commercial uses which operate more effectively outside the other commercial areas of the community.</p> <p>Description Commercial areas characterized by a variety of retail, office, and visitor-oriented businesses that rely upon automobile access rather than pedestrian access. This category provides a wide range of goods and services accessed by high volume roadways. Appropriate uses include destination retail, community and regional shopping centers, visitor-oriented businesses, and automobile oriented business.</p> <p><i>Allowable Building Density: 0.50 FAR</i> <i>Anticipated Maximum Population Intensity: not applicable</i></p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
<p>MU Mixed Use</p>	<p>Purpose To provide areas for a mixture of pedestrian-oriented uses (e.g. commercial, residential, civic, cultural, and recreational) where each activity adds to the whole to produce a town center that is economically vibrant and socially inviting.</p> <p>Description Areas which provide a harmonious intermingling of pedestrian-oriented uses to meet the shopping, business, housing, and entertainment needs of City and regional residents accessed by streets, bicycles, and pedestrian ways in conjunction with shared single-level and multi-level parking areas. Appropriate uses include retail shops; business services; residential units; medical offices; and public and quasi-public uses of a recreational, educational, or religious type. Buildings with H Street or Ocean Avenue frontage shall be commercial on the first floor. Residential units are permitted on upper floors of buildings fronting H Street or Ocean Avenue and on all floors of buildings not fronting H Street or Ocean Avenue. Residential access could be on the first floor but in the rear of the building.</p> <p><i>Allowable Building Density:</i> <i>All Commercial: 0.75 FAR</i> <i>All Residential: 14.5-44.0 DU/net acre</i> <i>Mixed Use: 1.00 FAR with 25% to 50% of the floor area for residential</i></p> <p><i>Anticipated Maximum Population Intensity:</i> <i>All Commercial: not applicable</i> <i>All Residential: 124 persons/net acre</i> <i>Mixed Use: varies</i></p>
Industrial Land Uses	
<p>BP Business Park</p>	<p>Purpose To provide areas for clean and attractive planned industrial centers on large, integrated parcels of land upon which all activities are conducted indoors.</p> <p>Description Attractive industrial areas for light manufacturing, research and development activities, storage and distribution facilities, administrative offices, and accessory uses. These areas are accessed by arterials and major roadways. Appropriate uses include aerospace-related activities and services, assembly and repair, industrial services, wholesaling, warehousing (with</p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
	<p>inside storage only), and administrative facilities. This category differs from the Light Industrial category by including commercial service uses which complement industrial services and operations.</p> <p><i>Allowable Building Density: 0.75 FAR</i> <i>Anticipated Maximum Population Intensity: Negligible</i></p>
I Industrial	<p>Purpose To provide areas for a wide range of industrial uses that may involve outdoor uses.</p> <p>Description Industrial areas which include all uses identified for the Industrial categories as well as manufacturing and distribution activities which require separation from residential areas. This category permits a wide range of industrial activities including manufacturing, assembling, mechanical repair, product storage, wholesale trade, heavy commercial (e.g. lumber yards), and accessory office and services.</p> <p><i>Allowable Building Density: 0.50 FAR</i> <i>Anticipated Maximum Population Intensity: Negligible</i></p>
GI General Industrial	<p>Purpose To provide areas for a wide range of industrial uses that involve outdoor activities.</p> <p>Description Industrial area which include all uses identified for the Business Park and Light Industrial categories as well as manufacturing and distribution activities which require separation from residential areas. This category permits a wide range of industrial activities including manufacturing, assembling, mechanical repair, product storage, wholesale trade, heavy commercial (e.g. lumber yards), and complementary office and services.</p> <p><i>Allowable Building Density: 0.50 FAR</i> <i>Anticipated Maximum Population Intensity: Negligible</i></p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
<i>Community Facility, Open Space, and Agriculture Land Uses</i>	
<p>CF Community Facility</p>	<p>Purpose To provide areas to meet the public service, educational, recreational, social, and cultural needs of Valley residents.</p> <p>Description Public and quasi-public service facilities that serve the community. Appropriate uses include governmental administrative offices, educational facilities, public safety facilities, hospitals, parks, libraries, museums, transit facilities, airport facilities, utilities, governmental maintenance yards, correctional facilities, and cemeteries. This designation may be provided on individual parcels. Proposed facilities are designated with a dashed border. The location of proposed facilities is intended to indicate the general area within which the respective Community Facility will be located. The specific size, location, and configuration of the Community Facility site will only be finalized through acquisition of a particular parcel.</p> <p><i>Allowable Building Density: 1.00 FAR</i> <i>Anticipated Maximum Population Intensity: Negligible</i></p>
<p>OS Open Space</p>	<p>Purpose To provide areas which preserve scenic beauty; conserve natural resources; protect significant biological and cultural resources; provide opportunities for outdoor recreation and the enjoyment of nature; permit the managed production of natural resources; and protect public health and safety.</p> <p>Description Areas in which sensitive natural resource features, community concerns, or site constraints limit development. These areas provide the community with scenic views; provide groundwater recharge; contain biologically-significant habitats and cultural resource sites; provide outdoor recreation opportunities; are suitable for mineral resource extraction; and are subject to flood, wildland fire, noise, topographic, soil, or safety hazards. Appropriate uses include recreation, trails, utility corridors, flood control facilities, agriculture, and resource extraction activities. This designation may be used on individual parcels to protect onsite resources or public health. Open Space setbacks are provided in the following locations, with minimum widths from the channel margins as noted:</p> <ul style="list-style-type: none"> • 100 Feet: Santa Ynez River • 50 Feet: Salsipuedes, San Miguelito, Sloans Canyon, and Davis Creeks <p><i>Allowable Building Density: Not Applicable</i> <i>Anticipated Maximum Population Intensity: Negligible</i></p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
<p>AG Agriculture</p>	<p>Purpose To provide areas outside the Urban Limit Line for the protection and preservation of agricultural land as well as the long term production of food, fiber, and local specialty crops.</p> <p>Description Cropland and range land which is intended to remain in agricultural use. Land in this category must total at least twenty acres in size (either individual parcels or contiguous parcels). This category includes a wide range of agricultural activities including grazing, cultivation, processing, packing, greenhouses, farm equipment storage, and incidental residential uses.</p> <p><i>Allowable Building Density: 1 DU/20 acres</i> <i>Anticipated Maximum Population Intensity: Negligible</i></p>
Overlay Designations	
<p>HSC H Street Corridor Infill Area</p>	<p>Purpose To encourage development of vacant or underutilized properties along the H Street Corridor to improve the aesthetics of the area and create an economically vibrant and socially inviting environment. The intent is to provide a combination of economic incentives and policy support for the revitalization of this area and for a more efficient, attractive, and pedestrian-friendly built environment. Another intent is the direction additional commercial and residential mixed uses into this corridor in keeping with economic development and urban infill goals and policies while providing enhanced opportunities for development that incorporates smart growth principals.</p> <p>A common feature in the evolution of communities of all sizes, infill refers to the incremental addition of new, renovated or adapted buildings within existing developed areas. Also older shopping centers and strip commercial areas that have failed provide an opportunity for land recycling. The benefits of infill housing include more efficient use of land, infrastructure and services; increased diversity of housing types especially smaller, more affordable units; and reduced pressure to develop previously unsettled areas that offer important ecological and/or recreational values.</p> <p>Description The H Street corridor provides the greatest opportunity for key infill projects in Lompoc. Large vacant and underutilized parcels have the potential to generate retail, office, and housing in mixed-use style developments along the corridor.</p> <p>Areas which provide a harmonious intermingling of pedestrian-oriented uses to meet the shopping, business, housing, and</p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
	entertainment needs of City and regional residents with accommodations for access by automobiles, bicycles, and pedestrians alike. Vehicular parking is typically provided on-site with single-level and multi-level parking areas while still adhering to aesthetic considerations and design principles that invite pedestrians and bicyclists. Appropriate uses include retail shops; restaurants, hotels, business services; residential units; medical offices; and public and quasi-public uses of a recreational, educational, or religious type.
P Proposed Park	<p>Purpose To identify proposed sites for the creation of public parks which address existing or anticipated community needs for active and passive recreation opportunities.</p> <p>Description Areas intended for the establishment of public park and recreational facilities to serve neighborhood, community, and regional needs of existing and future Lompoc Valley residents and visitors. Areas with this designation must have the potential to fulfill needs identified in the Parks and Recreation Element. Proposed sites are designated with dashed lines. The location of a proposed site is intended to indicate the general area where the proposed park will be located. The specific size, location, and configuration of the park site will only be finalized upon acquisition of one or more parcels.</p>
S Proposed School	<p>Purpose To provide proposed sites for the creation of public schools which address anticipated educational needs of the community.</p> <p>Description Areas intended for the establishment of public educational facilities to serve Lompoc Valley residents. The location of a proposed site is intended to indicate the general area where the proposed educational facility will be located. The specific size, location, and configuration of the educational facility site will only be finalized upon acquisition of one or more parcels.</p>
Boundary Lines	
ULL Urban Limit Line	<p>Purpose The Urban Limit Line defines the ultimate edge of urban development within the City of Lompoc in order to: protect the natural features, scenic hillsides, and agricultural economy of the community; protect the health, safety, and welfare of community residents by directing development away from areas with hazards; and ensure that delivery of public services is provided in an efficient and cost-effective manner.</p>



**Table 2-1
 Draft 2030 General Plan Land Use Designations**

Land Use Definitions	
	<p>Description Areas inside the Urban Limit Line are suitable for the development of residential, commercial, industrial, mixed-use, and community facility land uses. Open space and recreational activities are suitable uses inside and outside of the Urban Limit Line. Agricultural activities are permitted inside the Urban Limit Line as an interim use, pending urbanization. Long-term agricultural activities shall be outside of the Urban Limit Line. Urban development inside and adjacent to the Urban Limit Line shall be designed to incorporate buffer areas with trails or design features which serve to demarcate the urban edge of the community. Buffer areas should be at least 200 feet wide.</p>
<p>SOI Sphere of Influence</p>	<p>Description The probable ultimate physical boundaries and service area of the City, as determined by the Santa Barbara County Local Agency Formation Commission (in accordance with GC Section 56076). The existing Sphere of Influence is shown on the Land Use Element Map for informational purposes only.</p>

Notes:

¹ DU = Dwelling Unit. The DU/net acre describes the number of DU's permitted on an acre of land less the area required for streets and public right-of-way. The densities identified for the VLDR and LDR categories represent the maximum allowable densities in the respective areas. No minimum density is intended to apply to these categories. Densities which are less than those designated may be appropriate in some areas due to hazards, resources, or the need to achieve land use compatibility. In the MDR and HDR categories, the range sets forth both a minimum and a maximum allowable density in order to ensure a sufficient land supply. FAR = Floor Area Ratio. The FAR indicates the maximum intensity of development of a parcel. The FAR is expressed as the ratio of building space to land area. For the purposes of this document, building space is defined as enclosed gross leasable space.

² Average population density indicates the expected number of persons per net acre living within residential areas. It is calculated by multiplying the maximum allowable dwelling units per net acre by the average citywide household size (2.88 according to 2000 census).



For the most part, proposed land use designation descriptions are similar to those contained in the 1997 General Plan. The key differences are: (1) the addition of the Rural Density Residential designation; (2) expansion of the Mixed Use designation to include increased densities and maximum floor-to-area ratios (FAR); (3) expansion of the Old Town Commercial designation to allow for additional floor area and increased maximum densities for residential uses; and (4) the addition of the H Street Corridor Infill area within the Overlay Designations.

Within the existing City Limits, most development under the 2030 General Plan will occur in vacant and/or underutilized parcels throughout the City. These parcels are shown in Figure 2-7 and their estimated buildout potential is listed in Table 2-2. It should be noted that multi-family residential units in the H Street Corridor Infill Area, which includes some vacant and underutilized parcels, are listed separately in Table 2-3.

**Table 2-2
 Estimated Buildout Potential of Vacant and Underutilized Parcels**

Parcel	Residential (Units)		Commercial (Square Feet)	Industrial (Square Feet)
	Single-Family	Multi-Family		
Vacant, entitled ¹	943	207	15,900	105,960
Vacant, non-entitled	436	99	415,345	965,529
Underutilized	63	757		
Sub Total	1,442	1,063	431,245	1,071,489
Total	2,505		431,245	1,071,489

¹ Includes projects which are entitled but not yet constructed.

In addition to development of vacant and underutilized parcels, the H Street Corridor Infill area and the four identified expansion areas (as shown in Figure 2-5) would accommodate new development under the 2030 General Plan. Development in these areas represents the most substantial additions to the existing General Plan. Each area is discussed below.

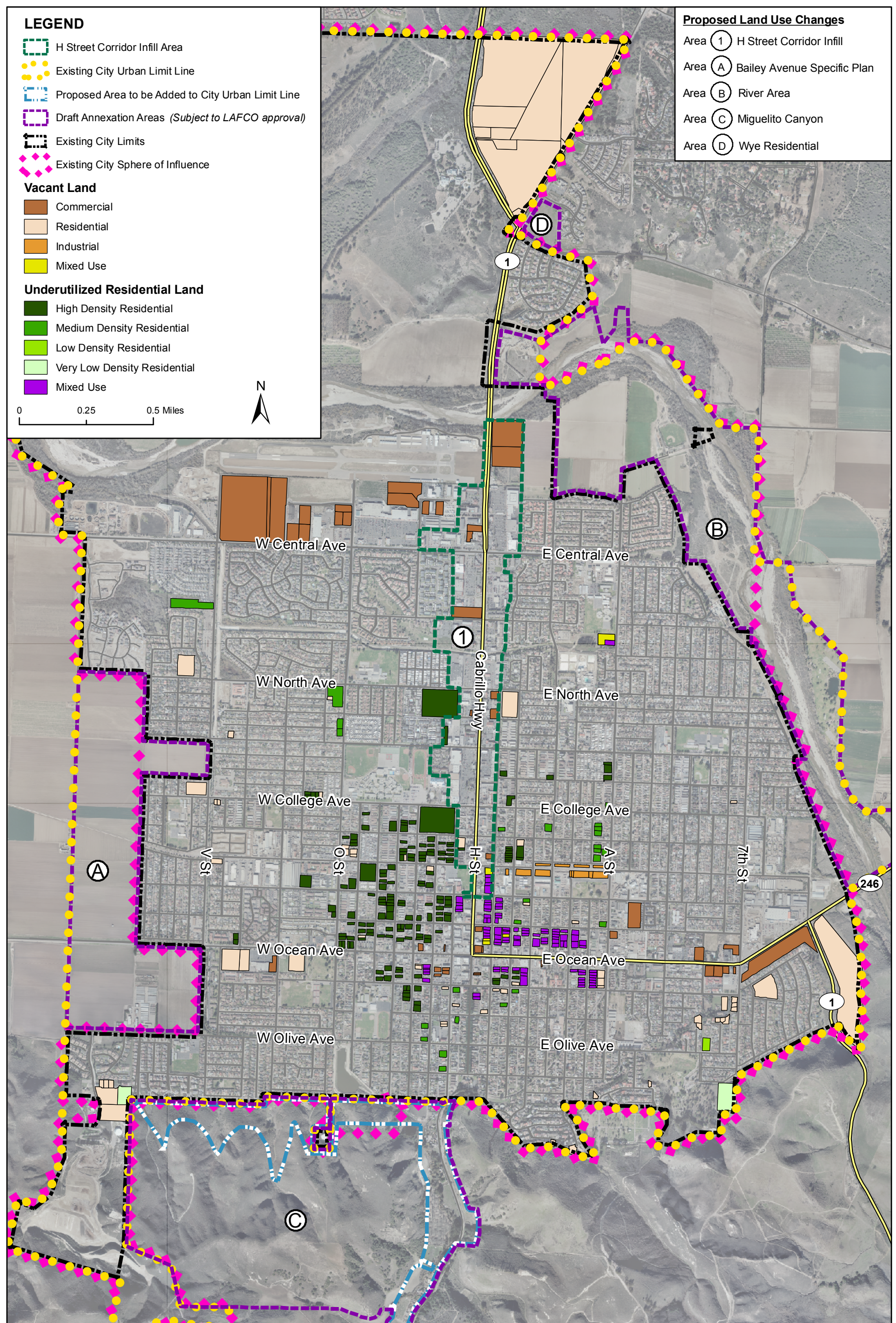
- **H Street Corridor Infill Area.** The H Street Corridor Infill area runs along the H Street corridor near the center of the City, from approximately Ocean Avenue to Central Avenue. Development accommodated within the H Street Corridor Infill area would be infill redevelopment surrounded by existing development, which is primarily composed of commercial land uses developed in strip shopping centers. Development along H Street would generally occur on vacant or underutilized lots.
- **Expansion Area A: Bailey Avenue Specific Plan Area.** The Bailey Avenue Specific Plan expansion area is an approximately 270 acre undeveloped site located on the western boundary of the City along Bailey Avenue. The site is currently composed of agricultural fields. Development that could occur in the Bailey Avenue Specific Plan expansion area under the 2030 General Plan would include residential and commercial uses, as well as public recreational facilities.



- **Expansion Area B: River Area.** The River expansion area is approximately 484 acres located east of the eastern boundary of the City, bisected by the Santa Ynez River. Existing uses in this area include open space and the 45-acre River Park, which is a linear park developed along the Santa Ynez River which includes a recreational vehicle (RV) campground with 35 campsites. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites.
- **Expansion Area C: Miguelito Canyon Area.** The Miguelito Canyon expansion area is approximately 587 acres located along the southern boundary of the City, of which approximately 165 acres would be included in the proposed Urban Limit Line. Existing development in this area is limited to some scattered rural residences. Additional development that could occur in the Miguelito Canyon expansion area under the 2030 General Plan would include Rural Density Residential (RDR) land uses within the proposed Urban Limit Line only. The RDR designation would be a new residential land use designation under the General Plan Update, and would only apply to the Miguelito Canyon expansion area.
- **Expansion Area D: Wye Residential Area:** The Wye Residential expansion area is approximately 10 acres (within the urban limit line) located along the northern boundary of the City, at the intersection of Lompoc-Casmalia Road/Highway 1, H Street/Highway 1 and Purisima Road. The area is currently undeveloped and is bordered by single-family residences to the south and east and a church to the north. Additional development that could occur in the Wye Residential expansion area under the 2030 General Plan would include for Low Density Residential (LDR) land uses.

In general, the distribution of land uses throughout the plan area would closely resemble existing land uses, as can be shown by comparing Figure 2-8 below to Figure 2-3 above. Figure 2-8 below shows the land use distribution of the proposed 2030 General Plan, with all four annexation areas.

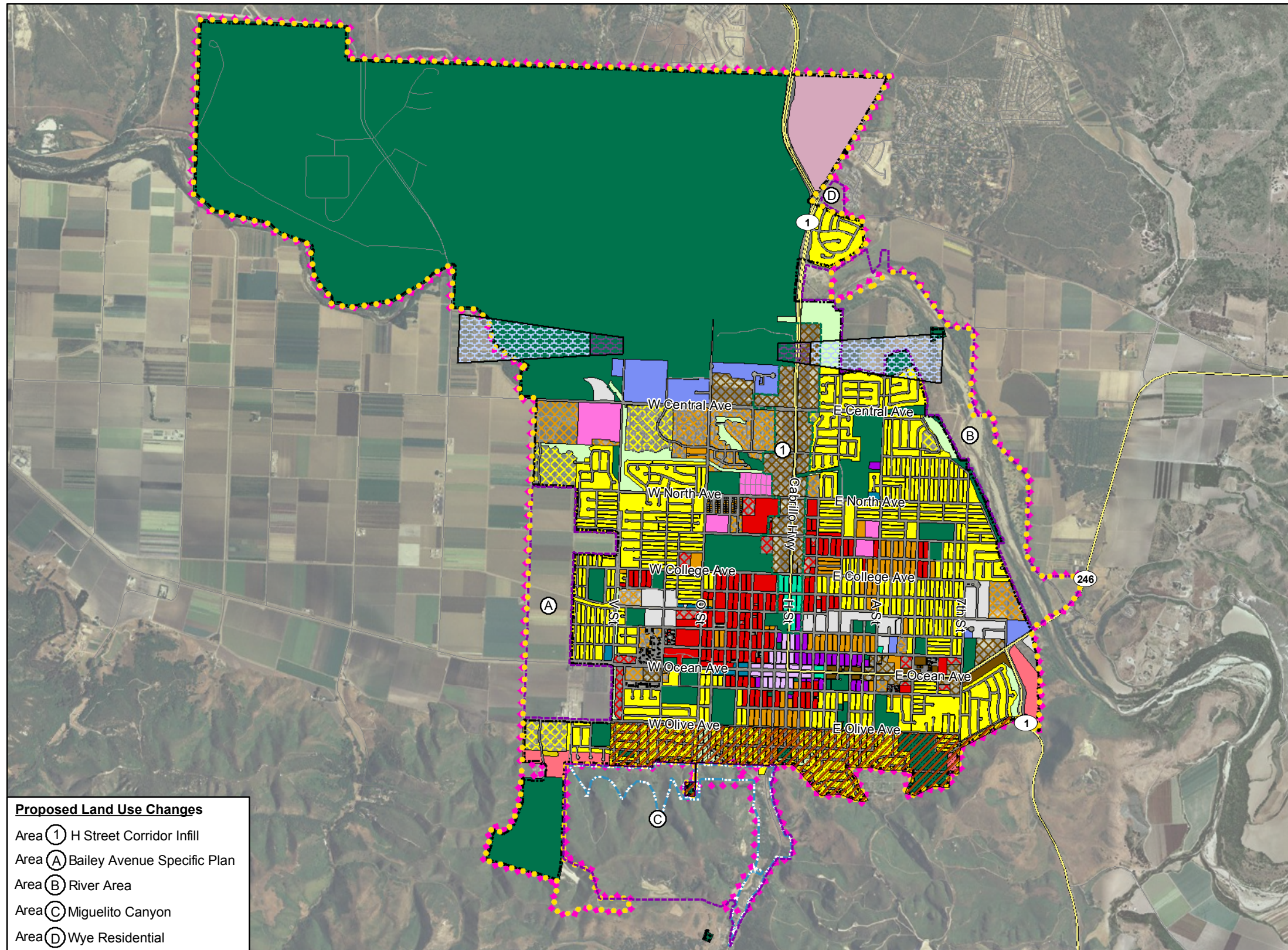




Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by permission.

Vacant and Underdeveloped Parcels Map

Figure 2-7
 City of Lompoc



LEGEND

- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Zoning Designation

- Single Family Residential 10,000 SF
- Single Family Residential 7,000 SF
- Single Family Residential Planned Development 7,000 SF
- Medium Density Residential 3,000 SF
- Medium Density Residential Planned Development 3,000 SF
- High Density Residential 2,000 SF
- High Density Residential Planned Development 2,000 SF
- Residential Agriculture 20,000 SF
- Mobile Home Park
- Business Park
- Central Business
- Convenience Center
- Old Town Commercial
- Commercial Office
- Planned Commercial Development
- Industrial
- Mixed Use
- Open Space
- Public Facilities & Institutional District
- Specific Plan

Additional Overlays

- Approach Zone
- Clear Zone
- Cultural Resource Zone

Proposed Land Use Changes

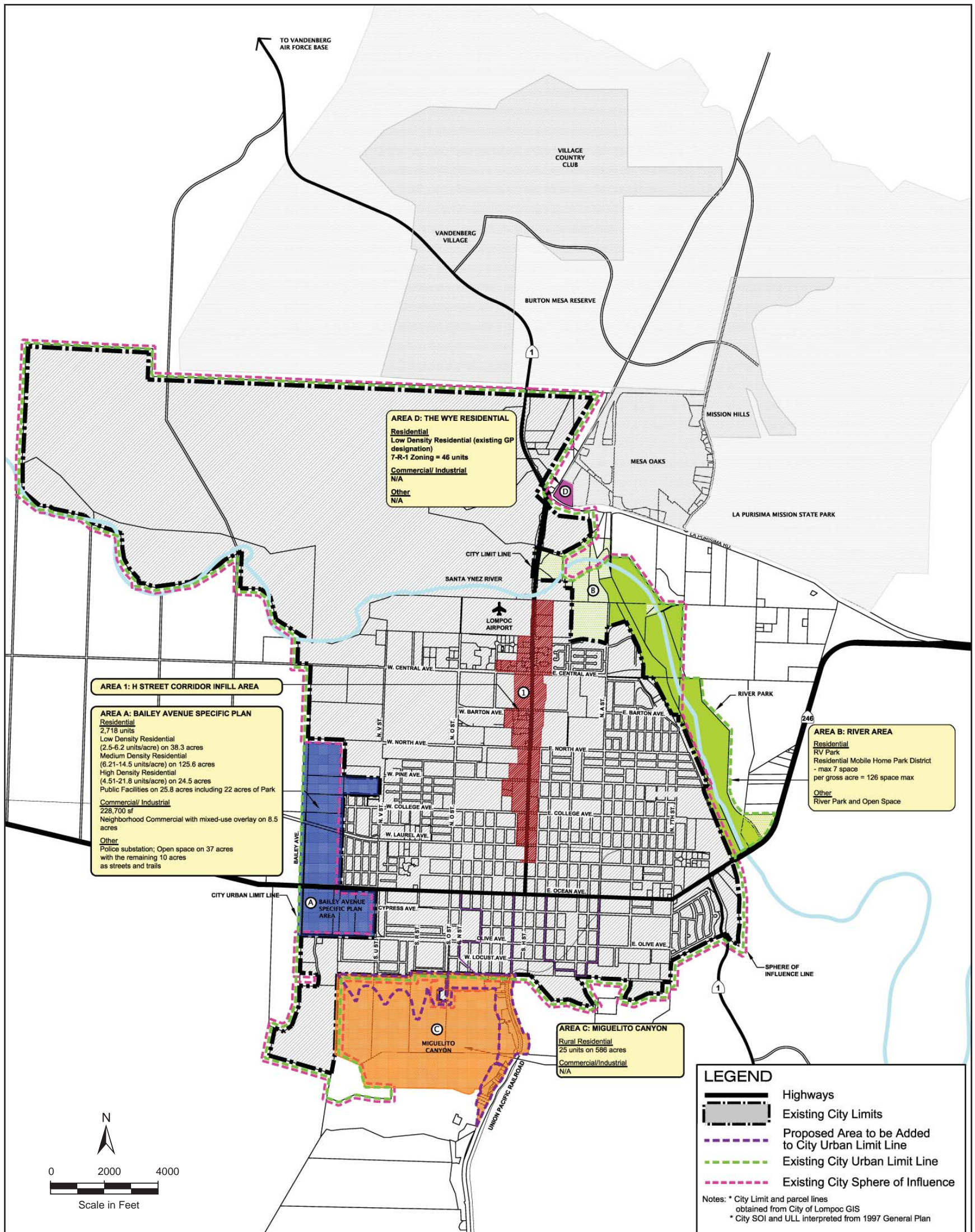
- Area ① H Street Corridor Infill
- Area ① Bailey Avenue Specific Plan
- Area ① River Area
- Area ① Miguelito Canyon
- Area ① Wye Residential

Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by permission.



General Plan Zoning Map

Figure 2-6

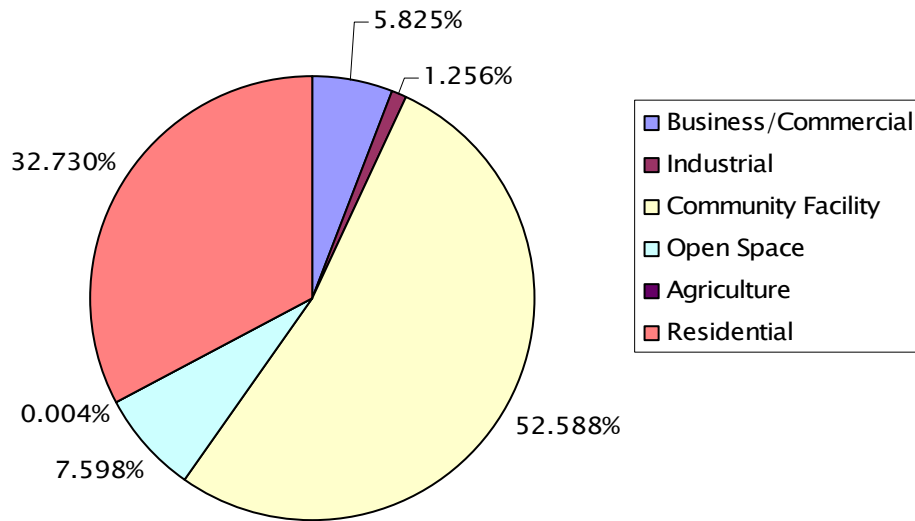


Base map source: RRM Design Group, 2008.

Proposed Land Use Changes

Figure 2-5
 City of Lompoc

Figure 2-8. 2030 General Plan Distribution of Land Uses



The estimated buildout potential of the H Street Corridor Infill area and the four identified expansion areas is shown in Table 2-3 below. Buildout potential is based on the land use designations that would be applied to these areas combined with the available space (acreage). Note that commercial land uses in the H Street Corridor Infill area were captured in the vacant and underutilized lands estimate shown in Table 2-2, and are therefore not included in the table below. Buildout potential in the Bailey Avenue Specific Plan area is based on designations set forth in a proposed Specific Plan for this area.

**Table 2-3
 Estimated Buildout Potential of H Street Corridor and Expansion Areas**

Area	Residential (Units)		Commercial (Square Feet)
	Single-Family	Multi-Family	
H Street Corridor Infill	n/a *	333	n/a *
Bailey Avenue Specific Plan	2,184	534	228,700
River Area	n/a	126 RV Spaces	n/a
Miguelito Canyon	25	n/a	n/a
Wye Residential	46	n/a	n/a
Sub Total	2,255	993	228,700
Total	3,248		228,700

Notes:

* Captured in vacant lands estimate.

** Based on a residential mobile home park district with a maximum of seven spaces per gross acre.



Table 2-4 below portrays the total buildout potential under the 2030 General Plan, including existing development and potential future development on vacant and underutilized lots (including both entitled and non-entitled projects), in the H Street Corridor infill area, and in all four annexation areas.

**Table 2-4
 Maximum Potential Growth Through 2030**

Buildout Potential	Residential (Units)		Commercial (Square Feet)	Industrial (Square Feet)
	Single-Family	Multi-Family		
Existing in 2008	9,508	4,296	2,864,782	1,875,244
Vacant/Underutilized Parcels	1,442	1,063	431,245	1,071,489
H Street and Expansion Areas	2,255	993	228,700	N/A
Sub Total	13,205	6,352	3,524,727	2,946,733
Total Buildout through 2030	19,557		3,524,727	2,946,733

It should be emphasized that Tables 2-2 through 2-4 show the estimated maximum development potential if all vacant/underutilized parcels and expansion areas are built out to the extent allowed under the 2030 General Plan. In reality, this level of development may not occur by 2030, but it does represent a reasonable worst case scenario for the purposes of environmental review.

2.4.4 Circulation Element

The overall intent of the Circulation Element is to achieve and maintain a balanced, safe, and problem-free transportation system that:

- ❖ Provides easy and convenient access to all areas of the community
- ❖ Improves present traffic flows while maintaining Lompoc's rural, small town sense of place
- ❖ Protects major environmental features
- ❖ Reduces dependence on single occupant automobile travel by providing a high level of pedestrian, bicycle, and public transit travel opportunities
- ❖ Considers the movement of people and vehicles in the design and operation of transportation systems
- ❖ Recognizes the special mobility needs of seniors, youth, and persons with disabilities
- ❖ Preserves a sense of comfort and well-being throughout the community by minimizing the intrusiveness of commercial/business park and regional traffic on neighborhood streets and quality of life

The Circulation Element contains a variety of goals, policies, and implementation measures to meet this intent. The primary changes from the 1997 General Plan Circulation Element are an increased focus on alternative transportation modes, including pedestrian and bicycle uses,



public transit, ridesharing, and telecommunication, and the removal of the previously envisioned Central Avenue Extension from the Circulation Element Map.

2.4.5 Housing Element

The Housing Element describes a variety of policies and programs intended to conserve the existing supply of housing in Lompoc, including affordable housing, as well as to provide capacity for the development of new housing in accordance with the City's Regional Housing Needs Assessment (RHNA) allocation. Lompoc's RHNA allocation for the 2007 to 2014 period, per the Southern California Association of Governments, is 516 new units. This total includes 209 units in the "very low" and "low" income categories and 308 units in the "moderate" and "above moderate" income categories. According to Department of Housing and Community Development (HCD) policy, capacity for very low and low income units can be met by allowing for densities of 20 units per acre.

Based on vacant parcels throughout the City, the current land use map provides a sufficient amount of multi-family residential land use designations to meet the RHNA allocation for the 2007 to 2014 period. The City needs to provide the capacity for 516 new units to meet the RHNA allocation; the number of currently vacant parcels would accommodate up to 1,247 multi-family units (refer to Table 2-2). As such, the City would not need to designate additional land uses to meet the allocation. It should be noted that the H Street Corridor Infill area and proposed annexation areas would provide an additional 923 multi-family residential units.

2.5 PROJECT OBJECTIVES

State law (Government Code Section 65300) requires that the City adopt a comprehensive general plan and update it as needed. The proposed 2030 General Plan Update fulfills this requirement. The objectives of the General Plan Update are to:

- *Respond to changes that have occurred since initial Plan adoption and subsequent amendment of some, but not all, of the Plan elements;*
- *Refine/update the provisions of the General Plan on a comprehensive basis in recognition of the changes that have occurred and the new opportunities that are now available as a result of these changes;*
- *Integrate the General Plan elements at a policy level into a cohesive document;*
- *Identify potential annexation areas where incorporation into the City at some time during the period to 2030 may be appropriate;*



- *Address geographic areas within the City and within annexation areas that have distinct planning issues, constraints, and opportunities; and*
- *Comply with the state housing mandates and the requirement for an updated Housing Element to be submitted to the Department of Housing and Community Development.*

The General Plan clarifies and articulates the City's intentions with respect to the rights and expectations of the community, including residents, property owners, and businesses. Through the Plan, the City informs these groups of its goals, policies, and standards, thereby communicating expectations of the public and private sectors for meeting community objectives.

2.6 REQUIRED DISCRETIONARY ACTIONS

With recommendations from the Planning Commission, the Lompoc City Council will need to take the following discretionary actions in conjunction with the draft 2030 General Plan:

- *Certification of the Final EIR on the 2030 General Plan*
- *Approval of the proposed 2030 General Plan*

The draft Housing Element has been submitted to the California Department of Housing and Community Development (HCD) for review and comment. The City will seek certification of the Housing Element from the HCD.

Once the General Plan Update is approved by the City, the Local Agency Formation Commission (LAFCO) of the County of Santa Barbara will conduct a formal review of the four potential expansion areas. Should LAFCO find these areas to be a logical extension of the corporate boundaries of Lompoc and that the expansion areas can be provided with the necessary City services and facilities, LAFCO will incorporate these areas into the City's SOI.



3.0 ENVIRONMENTAL SETTING

This section describes the current environmental conditions in and around the City of Lompoc. More detailed setting information is included within the impact analysis for each issue area.

3.1 REGIONAL OVERVIEW

The City of Lompoc is located in western Santa Barbara County, in the central coast region of California. Santa Barbara County covers approximately 2,774 square miles, one third of which is located in the Los Padres National Forest. The County has 110 miles of coastline and is bordered on the west and south by the Pacific Ocean. The Mediterranean climate and coastal influence of the region produce moderate temperatures year round, with rainfall concentrated in the winter months. The region is subject to various natural hazards, including earthquakes, landslides and wildfires. The County contains approximately 428,655 residents, of which 42,957 live in the City of Lompoc (California Department of Finance, 2008).

3.2 PHYSICAL SETTING

a. General Physical Character. The City is located along Highway 1, approximately 15 miles west of Highway 101 and the City of Buellton and eight miles east of the Pacific Ocean. The City lies in a flat valley at approximately 80 to 100 feet above mean sea level, surrounded by rolling hills to the north, east, and south. The Santa Ynez River, which is a large perennial stream, traverses the City in an east to west direction.

Lompoc has historically been and continues to be a largely residential community. As indicated on Figure 2-3 in Section 2.0, *Project Description*, approximately 30% of the City is designated for residential uses of varying densities. By contrast, only about 6% of the City's land area is designated for business and commercial uses. A combined total of 62% of the City's land area is designated as community facility and open space.

b. Topography. The topography in the Lompoc area is varied. Flat or level topography constitutes the majority of the area within the existing City Limits, while the southern hillsides, the Santa Rita Hills, and the Purisima Hills provide distinctive, steeper topography surrounding the City. Lompoc is located at the downstream end of the Santa Ynez River watershed. This watershed covers nearly 900 square miles in southern Santa Barbara County. Lompoc is also located on the downstream end of San Miguelito Creek, which flows from Santa Barbara County's jurisdiction into southern Lompoc, travels through Lompoc in a concrete channel and joins the Santa Ynez River just west of Lompoc. The area to the north of the City and north of the Santa Ynez River is a part of the Burton Mesa, which rises above the Lompoc Valley by 200



to 400 feet and contains gentle to moderate topography except along the flanks of locally incised canyons.

c. Climate. Lompoc enjoys a Mediterranean climate characterized by warm, dry summers and cool winters with occasional rainy periods. Unlike any other coastal mountain range of the west coast of North America, the Santa Ynez Mountains run east to west. This transverse range creates valleys open to the Pacific Ocean, allowing the inland flow of fog and ocean breezes to keep the climate temperate. Daytime summer temperatures in the area average from the low to upper 70s. Nighttime low temperatures during the summer are typically in the low 50s, while the winter high temperature tends to be in the 60s. Winter low temperatures are generally in the low 40s. Annual average rainfall in Lompoc is approximately 14 inches, which is concentrated between October and April.

d. Agricultural Lands. The Lompoc Valley contains over 45,000 acres of agricultural land. The physical conditions within the Lompoc Valley make it one of the most versatile crop-growing regions in the state. Inland fog and ocean breezes keep the climate temperate. The central portion of the Lompoc Valley is predominantly flat agricultural land approximately 100 feet above mean sea level. Additionally, soils within much of the valley possess features which provide high fertility. The Lompoc Valley contains over 45,000 acres of agricultural land. The region is world renowned for its flower seed industry.

As indicated on Figure 2-3 in Section 2.0, *Project Description*, less than 1% of the City is designated for agricultural uses.

e. City Corporate Boundaries and Plan Area. Lompoc is one of seven incorporated cities within Santa Barbara County. Lompoc's City Limits encompass approximately 11.65 square miles, or 7,456 acres of land. The City's present Sphere of Influence (SOI) and Urban Limit Line (ULL) correspond closely to the City Limits, but differ in areas around the Bailey Avenue Specific Plan area, the City's eastern border along the Santa Ynez River, and Miguelito Canyon (refer to Figure 2-2 in Section 2.0, *Project Description*).

The plan area for the 2030 General Plan encompasses all areas within and outside the City's boundaries that bear a relation to the City's planning as contemplated by State Government Code Section 65300. This includes the City's Sphere of Influence (SOI) and Urban Limit Line. In addition to the areas within the Lompoc corporate boundaries, the General Plan update addresses four unincorporated areas surrounding the City that may be considered for future annexation. These potential annexation areas are shown in Figure 2-4, in Section 2.0, *Project Description*.



4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified through the Initial Study process as having the potential to experience significant impacts.

“Significant effect” is defined by State CEQA Guidelines §15382 as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.”

The assessment of each issue area begins with a setting and is followed by an impact analysis. Within the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds”, which are those criteria adopted by the City, other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the 2030 General Plan, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded impact listing also contains a statement of the significance determination for the environmental impact as follows:

Class I – Significant and Unavoidable: *An impact that cannot be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.*

Class II – Significant but Mitigable: *An impact that can be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.*

Class III – Not Significant: *An impact that may be adverse, but does not exceed the significance threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.*

Class IV – No Impact or Beneficial: *No impact would occur or the project would have a beneficial effect.*



Following each environmental effect discussion is a listing of recommended mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area.

Please refer to the Executive Summary for this EIR, which clearly summarizes all impacts and mitigation measures that apply to the project.

Because the proposed project is a General Plan update, cumulative impacts are treated somewhat differently than would be the case for a project-specific development. Section 15130 of the State CEQA Guidelines provides the following direction relative to cumulative impact analysis:

Impacts should be based on a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact...

By its nature, a General Plan considers cumulative impacts insofar as it considers cumulative development that could occur within a city's plan area. Therefore, the analysis of project impacts also constitutes the cumulative analysis. In addition to cumulative development within the Lompoc plan area, the analysis of traffic and related impacts (such as noise) considers the effects of regional traffic growth.



4.1 AESTHETICS

This section analyzes the City of Lompoc 2030 General Plan’s potential impacts with respect to aesthetics and community design. Specifically, changes in visual character, impacts to viewsheds, and light and glare are discussed.

4.1.1 Setting

a. General Visual Character. The visual character of the Lompoc area is characterized by a mix of natural and built environments. The natural environment predominantly consists of rural County areas surrounding the City, and is primarily intact visually as natural or agricultural countryside. The built environment in Lompoc has been continually shaped by the settlement patterns of its residents, businesses and institutions, and consists of a variety of architectural styles. Specific attributes of the natural and built environments are discussed in greater detail below.

Natural Environment. Lompoc is endowed with a variety of open space features which contribute to the character of the area and distinguish the City from the surrounding region. The southern hillsides, the Santa Rita Hills, and the Purisima Hills contain distinctive topography and ridgelines which serve as backdrops to the urban areas and contrast to the level valley floor (refer to Figure 4.1-1). Scenic vistas throughout the Lompoc Valley contribute positively to the visual character of the community. Scenic vistas south of the City include views of the Santa Ynez River, flower fields and agricultural areas, Miguelito Canyon, the southern hillsides, and the Italian Stone Pines on South H Street. Scenic vistas north of the City include views of the Purisima Hills, the Burton Mesa Ecological Preserve, the western Lompoc Valley and the surroundings of La Purisima Mission State Historic Park.

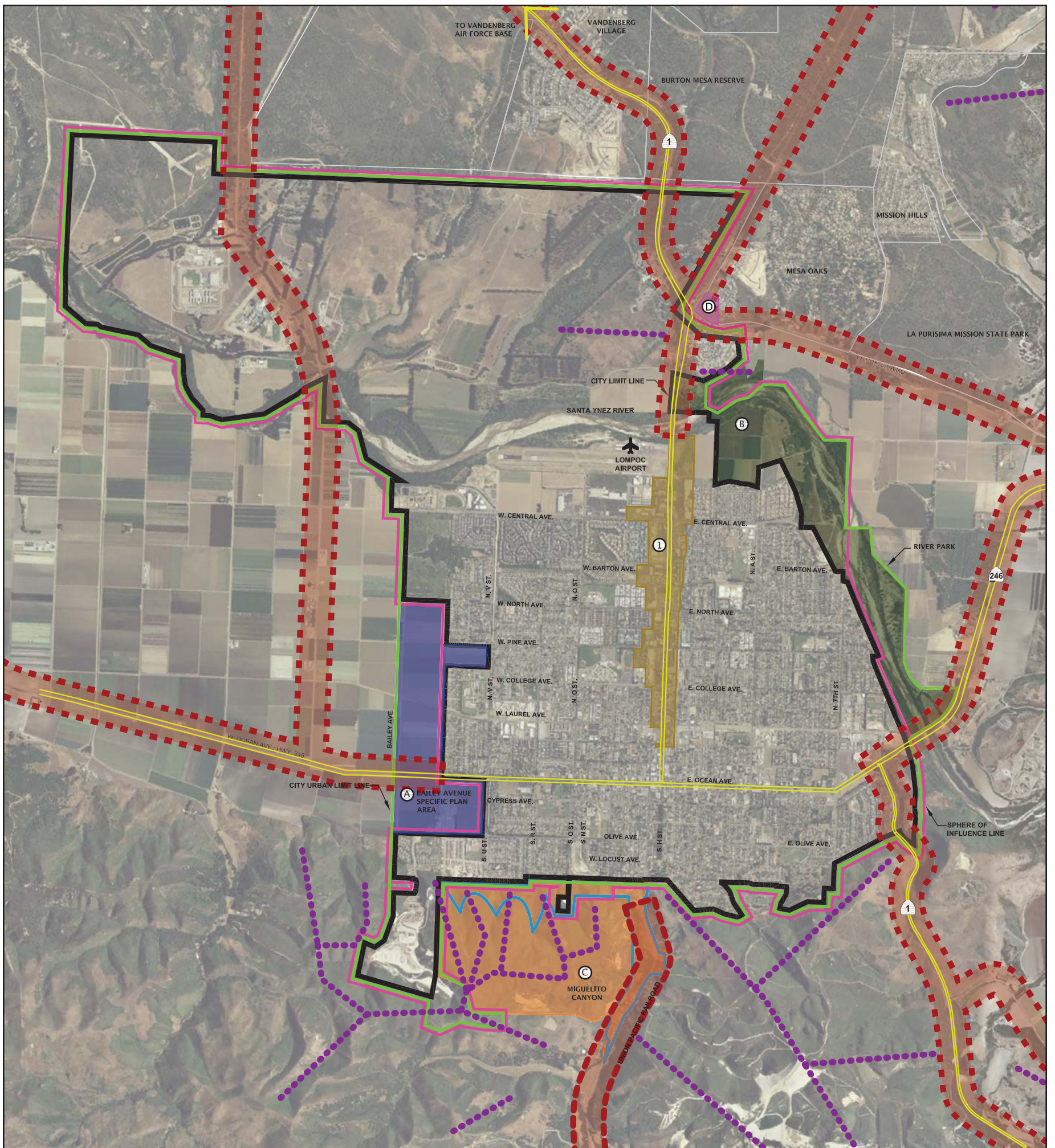
The interface of Lompoc’s urban areas and surrounding open space features generally occurs along linear boundaries. Prominent urban-rural interface boundaries occur along Riverside Drive in the northeastern portion of the City, where development abuts the Santa Ynez River; along Canfield Avenue/Lane at the northernmost edge of the City, where development abuts agricultural fields; and along Z Street at the western edge of the City, which also abuts agricultural areas. Figure 4.1-2 identifies the open space areas in the Lompoc Valley, as well as the visual edges.

Built Environment. The urban character of the City is defined by its architecture, which contains elements of Western, Ranch, Spanish, Monterey, and Victorian schools of architecture, and includes the use of structural design elements such as corridors, heavy beams, posts, arches, and columns; strong textured looks; the use of overhead treatments such as roof overhangs and balconies; earthen colors with warm and natural tones; wall relief; and strong window statements. These features are particularly visible in the historic Old Town area of










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Base map source: RRM Design Group, 2008 and City of Lompoc 1997
 General Plan Urban Design Element, Figure 42.

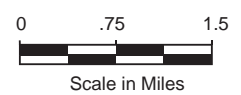
LEGEND

-  Scenic Road Corridor
-  Scenic Ridgeline
-  Highways
-  Existing City Limits
-  Proposed Area to be Added to City Urban Limit Line
-  Existing City Urban Limit Line
-  Existing City Sphere of Influence

Notes: * City Limit and parcel lines
 obtained from City of Lompoc GIS
 * City SOI and ULL interpreted from 1997 General Plan

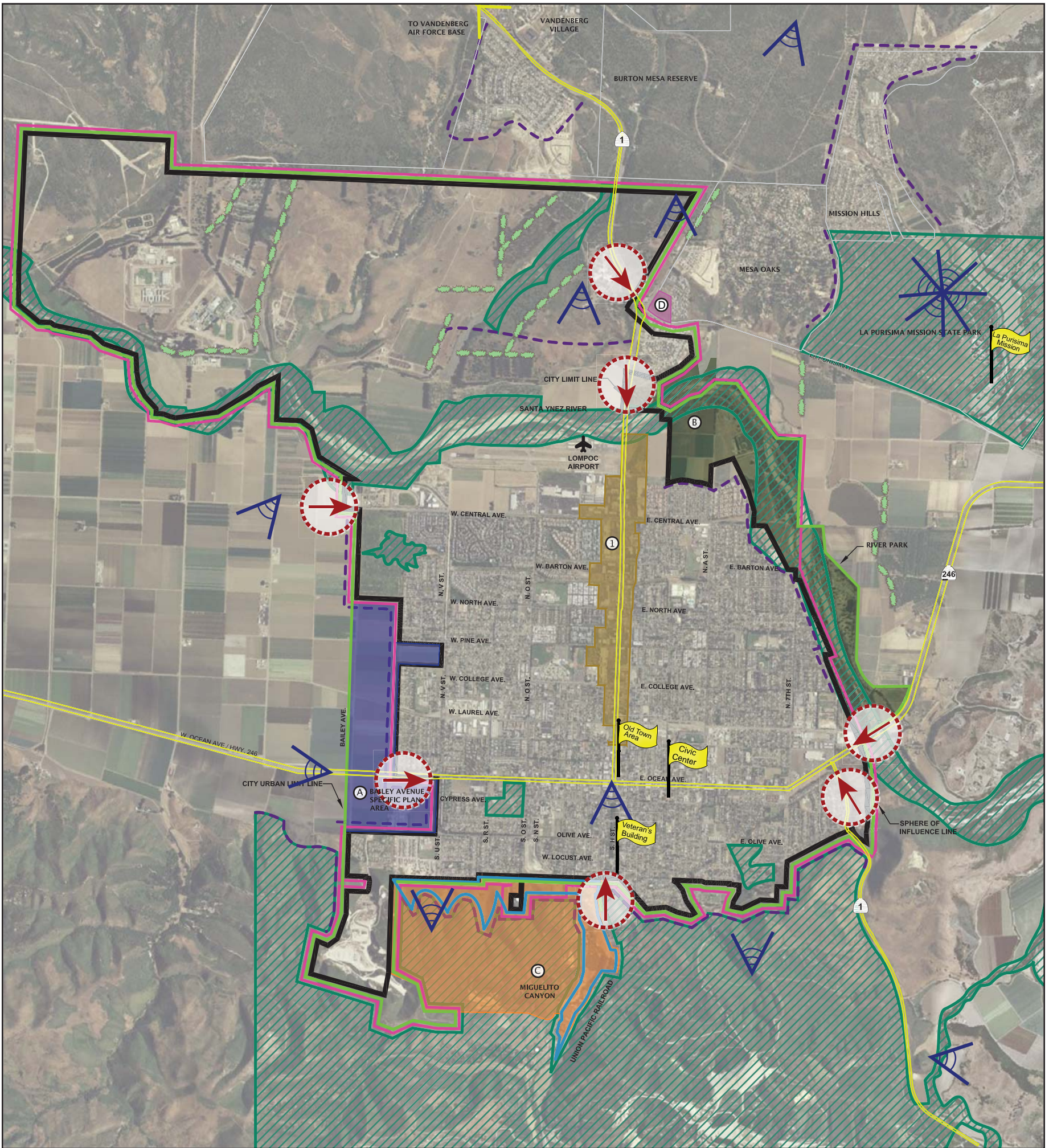
Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area A Bailey Avenue Specific Plan
- Area B River Area
- Area C Miguelito Canyon
- Area D Wye Residential



Scenic Ridgelines and Roads

Figure 4.1-1
 City of Lompoc



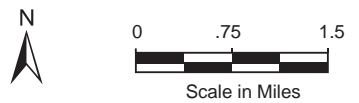
Base map source: RRM Design Group, 2008 and City of Lompoc 1997 General Plan Urban Design Element, Figure 41.

LEGEND

- - - - - Visual Edge
- - - - - Windrow
- — — — — Highways
- — — — — Existing City Limits
- — — — — Proposed Area to be Added to City Urban Limit Line
- — — — — Existing City Urban Limit Line
- — — — — Existing City Sphere of Influence
- Landmark
- City Entry
- Vista (Direction)
- Open Space

Notes: * City Limit and parcel lines obtained from City of Lompoc GIS
 * City SOI and ULL interpreted from 1997 General Plan

Proposed Land Use Changes	
Area ①	H Street Corridor Infill
Area A	Bailey Avenue Specific Plan Area
Area B	River Area
Area C	Miguelito Canyon
Area D	Wye Residential



Urban Design Features

Figure 4.1-2
 City of Lompoc

Lompoc, centered at the intersection of H Street and Ocean Avenue. The Old Town area is characterized by storefronts, which are constructed at the front property line with on-street or rear parking and is in sharp contrast to shopping plazas which provide parking between the street and the storefront. In the Old Town, storefronts are individual, yet similar in scale, with a variety of treatments and architectural styles.

Existing landscaping in the City consists of plantings provided by individual landowners, street trees planted by the City, plantings at community parks, and plantings installed as part of landscaping plans required for individual commercial, industrial, and major residential projects. Some existing landscaping occurs at entryways to the City, which enhances the City's visual identity and provides visitors with first impressions.

b. Primary View Corridors. Principal travel corridors are important to an analysis of aesthetic features because they define the vantage point for the largest number of viewers. The 1997 General Plan Urban Design Element designates seven scenic roadways in and around the City. This includes: Highway 1, State Route 246, Harris Grade Road, Santa Lucia Canyon Road, Floradale Avenue, Ocean Avenue, and San Miguelito Road (refer to Figure 4.1-1). Views from these roadways are described below.

Highway 1. Highway 1 connects the City of Lompoc to the City of Santa Maria to the north and Highway 101 to the south. North of the City Limits, Highway 1 is also known as Lompoc-Casmalia Road. Within the City Limits, Highway 1 becomes H Street from Purisima Road to Ocean Avenue, and is the main north/south roadway in the City. At Ocean Avenue, Highway 1 continues east before continuing south at San Julian Road. As shown on Figure 4.1-1, portions of this highway north of the Santa Ynez River and south of Ocean Avenue are designated as scenic.

Most of Lompoc's visitors enter the City on Highway 1 from either the north or the south. Travelers entering the City from the north experience views of urban development in the foreground with background views of the southern hillsides. A horizontal entry sign and minor landscaping also serve to welcome visitors arriving at this entry point. From the south, travelers experience views of existing urban development in the foreground with background views of the Purisima hills, located northwest of the City (refer to Figure 4.1-1). A xeriscaped "Lompoc Valley" hillside sign, a horizontal entry sign, and small landscaped areas also provide a sense of arrival to the community from this location. Looking south from this entry point, more extensive vistas of agricultural open space and hillsides south of the City are available.

State Route 246. State Route 246 connects the City of Lompoc and the City of Buellton to the east and the Pacific Ocean to the west, and traverses the City as Ocean Avenue within the City Limits. As shown in Figure 4.1-1, portions of this roadway east of the City Limits and west of Z Street are designated as scenic.



Travelers entering the City from the east along this route have views of rolling hillsides and the Santa Ynez River as they approach the City. A Lompoc entry sign with landscaping was recently installed at the City's eastern entrance. From the west, there are scenic views of agricultural fields and urban development, with some views of surrounding hillsides in the background. Looking west from this entry point, more expansive vistas are available of agricultural fields and rolling hillsides to the south.

Harris Grade Road. Harris Grade Road extends northwest from the intersection of Lompoc-Casmalia Road/Highway 1, H Street/Highway 1, and Purisima Road (refer to Figure 4.1-1). This road is designated as scenic and provides expansive views of the Burton Mesa Reserve and La Purisima Mission State Park in the foreground, with hillsides in the background.

Santa Lucia Canyon Road. Santa Lucia Canyon Road is located northwest of the City of Lompoc as a northerly extension of Floradale Avenue, connecting with Lompoc-Casmalia Road in the north. Views from this scenic corridor primarily consist of native vegetation in the foreground and hillsides in the background. The Federal Correctional Institution of Lompoc (FCI) and some industrial uses are also visible from this roadway.

Floradale Avenue. Floradale Avenue runs in a north-south direction, approximately ½ mile west of the Lompoc City Limits. At the northern extent of this roadway, scenic views of the Santa Ynez River are available, while views from the remainder of this roadway looking west consist of expansive agricultural fields. Existing views from Floradale Avenue looking east toward the Bailey Avenue corridor consist of agricultural fields in the foreground and existing urban residential development in the middle ground. Views of hillsides west of the City are somewhat visible in the background.

Ocean Avenue. Ocean Avenue (State Route 246) traverses the City in an east-west direction and is designated as scenic west of Z Street (refer to Figure 4.1-1). Existing development along the Ocean Avenue/State Route 246 corridor within the City Limits consists primarily of commercial development east of H Street and low to high density residential development with some community facility and neighborhood commercial development west of H Street. Agricultural fields are located west of V Street south of this roadway and west of Z Street north of this roadway. Refer to *State Route 246* above for a discussion of views from this roadway outside of the City Limits.

San Miguelito Road. San Miguelito Road is an extension of I Street south from West Willow Avenue into the hills south of the City. As shown in Figure 4.1-1, this roadway is designated as scenic immediately south of the City Limits. This roadway extends into the 552-acre Miguelito Canyon potential expansion area which may be considered for annexation and future development under the General Plan Update (refer to Figure 2-4 in Section 2.0, *Project Description*).



c. Light and Glare. The majority of urban areas in the City include outdoor lighting. Light pollution is present in and around the City, particularly in the vicinity of development; however, it is fairly localized. Nighttime illumination is currently generated by streetlights and vehicular lights associated with roadways, as well as housing and commercial developments. Additional glare is created by exterior building materials, surface paving materials, and vehicles traveling or parked on roads and driveways.

d. Regulatory Setting. The City's existing 1997 General Plan, Zoning Ordinance, and Architectural Review Guidelines provide the framework for evaluating potential aesthetic impacts and preserving the City's visual resources.

City of Lompoc General Plan. The City has implemented guidelines through the 1997 General Plan that address aesthetic resources. Applicable Goals under the existing Urban Design Element (UDE) and the proposed 2030 Land Use Element (LUE) include the following:

***1997 UDE Goal 1** Protect and enhance the natural features and landmarks of the Lompoc Valley.*

***1997 UDE Goal 2** Protect and enhance the "small town" character of the Old Town.*

***1997 UDE Goal 3** Protect and enhance the positive identity of Lompoc's residential neighborhoods.*

***1997 UDE Goal 4** Protect and enhance the visual qualities of Lompoc's urban streetscapes and public places.*

***1997 UDE Goal 5** Ensure high-quality design and development.*

***2030 LUE Goal 1** Maintain a compact urban form and growth pattern which provides adequate space to meet housing, employment, business, and public service needs.*

Specific policies within the 1997 Urban Design Element and proposed 2030 Land Use Element, which would apply after adoption of the Phase 1 General Plan Update, are discussed in greater detail throughout Section 4.1.2(b) (Project and Cumulative Impacts).

Zoning Ordinance. The Zoning Ordinance implements the General Plan by establishing setback, parking and sign standards, building height limits, hillside development restrictions, and building densities. Title 17, Division 3, Chapter 17.104 of the Lompoc Zoning Ordinance includes the separate City's Architectural Review Guidelines, which are discussed in greater detail below.

Architectural Review Guidelines. The City of Lompoc Architectural Review Guidelines, adopted September 19, 2005, establish criteria and development standards related to architectural character/building design and site design against which to measure proposed



development within the City. All new development or redevelopment within the City, in accordance with the General Plan, is required to comply with the Architectural Review Guidelines. Architectural character/building design standards include considerations relative to neighborhood compatibility, residential infill development, views and obstructions, exterior colors, materials, lighting, and accessory equipment. Site design standards include considerations relative to landscaping and open space, parking, fences and walls, signs and guidelines for commercial and industrial zones.

Pursuant to Lompoc City Zoning Ordinance Sections 17.104.010 et seq., architectural review is conducted by the staff of the Planning Division. However, the Planning Commission renders a decision concerning the architectural review function on all major projects which are located on a parcel or lot which has frontage on Ocean Avenue, Central Avenue, or H Street north of Cypress Avenue.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds. The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers react to viewsheds and aesthetic conditions differently. This evaluation measures the existing visual environment against the proposed action, analyzing the nature of the anticipated change.

An impact is considered significant if physical changes that could be facilitated by buildout of the 2030 General Plan would result in one or more of the following conditions, which are based upon the environmental checklist in Appendix G of the CEQA Guidelines:

- *A substantial adverse effect on a scenic vista*
- *Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings*
- *Substantial degradation of the existing visual character or quality of the community*
- *New sources of light or glare that would adversely affect day or nighttime views*

b. Project and Cumulative Impacts.

Impact AES-1 The 2030 General Plan would facilitate new development along designated scenic view corridors within Lompoc. However, adherence to General Plan policies and the City's Architectural Review Guidelines would reduce potential impacts to a Class III, *less than significant*, level.

2030 General Plan Buildout within City Limits

Development facilitated by the 2030 General Plan could result in increased urbanization along the view corridors described in Section 4.1.1, *Setting*, and shown in Figure 4.1-1. During



construction, development and re-development that could be facilitated by the 2030 General Plan would be visible to travelers moving through the City along view corridors. Construction in these areas could create short-term visual impacts to these important visual corridors. These impacts would include:

- Blockage of views by construction equipment and staging areas;
- Disruption of views by temporary signage; and
- Exposure of slopes and removal of vegetation.

With regard to long-term aesthetic impacts, new buildings, signage, parking, and accessory facilities have the potential to cause significant impacts. The degree of these impacts is heavily dependent on the siting and design of these features relative to important scenic views. The proposed Land Use Element encourages infill development in areas already within the City Limits. Infill development typically reduces the pressure to develop on the edges of the City which could have impacts on surrounding scenic resources. In summary, future development under the General Plan Update would result in increased urbanization along the viewing corridors identified above. However, adherence to General Plan policies and Architectural Review Guidelines would ensure that impacts to these corridors remain less than significant.

H Street Corridor Infill Area. The H Street Corridor Infill Area abuts H Street/Highway 1 through much of the central portion of the City. However, Highway 1 is not designated as scenic in this area (refer to Figure 4.1-1). Refer to Impact AES-3 for a discussion of impacts to community character that could result from development in this area.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

It is anticipated that development in the Bailey Avenue Specific Plan area could include 2,184 single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. Development of this area would have the potential to visually impact adjacent viewsheds. Portions of this development would include multi-story buildings, which would have a higher likelihood of blocking views from nearby roadways.

Development of this expansion area would be visible from Ocean Avenue/State Route 246, which runs through the southern portion of the site, and Floradale Avenue, which is located approximately ½ mile from the site's western boundary (refer to Figure 4.1-1). Both of these roadways are designated as scenic in the 1997 General Plan Urban Design Element. Existing development along the State Route 246 corridor within the City Limits consists primarily of commercial development east of H Street and low to high density residential development with



some community facility and neighborhood commercial development west of H Street. Development in the Bailey Avenue Specific Plan expansion area may therefore be viewed as a continuation of existing urban development. On the other hand, this specific plan would extend relatively dense urban development into existing agricultural fields, which may be considered a detrimental aesthetic impact to this viewing corridor. This is particularly true given that this area serves as a City entry, as identified in the 1997 Urban Design Element (refer to Figure 4.1-2).

Existing views from Floradale Avenue looking east toward the Bailey Avenue Specific Plan expansion area consist of agricultural fields in the foreground and existing urban residential development in the middle ground. Views of hillsides west of the City are somewhat visible in the background. Although development in this area would create a new western edge to the City, thereby expanding urban uses closer to this roadway, the development would not be expected to substantially alter existing views of urban development. In addition, given the relatively flat topography in this portion of the City and the distance between this roadway and anticipated development (½ mile), views of background hillsides would not be expected to be blocked. Impacts to views from Floradale Avenue would therefore be less than significant.

Expansion Area B: River Area

The River expansion area is located east of the eastern boundary of the City, bisected by the Santa Ynez River. This area is currently visible from the following designated scenic roadways in and around the City: Highway 1 north of the Santa Ynez River, State Route 246 west of the City Limits, and Purisima Road (refer to Figure 4.1-1). Existing uses in this area include open space and the 45-acre River Park, which is a linear park developed along the Santa Ynez River that includes five group barbeque areas, horseshoe pits, sand volleyball courts, and a walking/jogging trail. This park also includes a recreational vehicle (RV) campground with 35 campsites and a small, human-made fishing pond.

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. Due to the presence of an existing RV campground and other park facilities, the River expansion area may be viewed as a continuation of existing development. On the other hand, this expansion area would extend additional development into existing open space, which may be considered a detrimental aesthetic impact to nearby viewing corridors. This is particularly true given that the site is visible from two City entry points, as identified in the 1997 Urban Design Element (refer to Figure 4.1-2).

Expansion Area C: Miguelito Canyon Area

Development of the Miguelito Canyon expansion area could be adjacent to San Miguelito Road, which is identified as scenic in the 1997 General Plan Urban Design Element (refer to Figure 4.1-1). This scenic corridor offers views of valleys and hillsides south of the City. Development



that could be facilitated along the San Miguelito Road corridor would be Rural Density Residential (RDR) in nature. The RDR designation would be a new residential land use designation under the General Plan Update and would only apply to the Miguelito Canyon expansion area. The purpose of this designation is to provide rural residential areas on the fringe of urban development, which will require selection of appropriate building sites and protection of the area's natural features and resources (refer to Table 2-1 in Section 2.0, *Project Description*). In addition, the Urban Limit Line would extend into the canyon areas only, thereby prohibiting future development on the adjacent hillsides, outside of this limit. Development would consist of large-lot detached single-family homes. As a result, even with development occurring in these areas, lands would remain primarily undeveloped and development would be compatible with the rural visual character of the area. In addition, development in this area would be subject to General Plan policies related to the protection of ridgelines and hillsides, as well as the prohibition of development on steep slopes (listed below). By adhering to these policies, impacts of development to scenic views in this area would be less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is located at the intersection of Lompoc-Casmalia Road/Highway 1, H Street/Highway 1 and Purisima Road. All of these roadways are designated as scenic in the 1997 General Plan Urban Design Element (refer to Figure 4.1-1). It is anticipated that development in this area would be Low Density Residential (LDR) in nature, with an estimated 46 single-family units accommodated (refer to Table 2-2 in Section 2.0, *Project Description*). The area is currently undeveloped and is bordered by single-family residences to the south and east and a church to the north. Open space borders the site to the west, across Harris Grade Road.

Existing views of the site from Highway 1 /Harris Grade Road consist of undeveloped open space in the foreground (the Wye Residential expansion area), existing urban residential development in the middle ground, and hillsides in the distant background. Views from Lompoc-Casmalia Road/ Purisima Road are similar, but contain less urban development in the middle ground. Due to the proximity of existing residential development, the Wye Residential expansion area may be viewed as a continuation of existing urban development. On the other hand, this expansion area would extend urban development onto existing undeveloped land, which may be considered a detrimental aesthetic impact to this viewing corridor. This is particularly true given that this area serves as a City entry, as identified in the 1997 Urban Design Element (refer to Figure 4.1-2).

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries, as well as buildout of the identified expansion areas. Impacts to scenic views from these components of the General Plan have been addressed individually in the paragraphs



above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes potential impacts to scenic corridors in the vicinity of the Bailey Avenue Specific Plan and the Wye Residential expansion areas. Existing policies in the 1997 Urban Design Element and proposed policies in the 2030 Land Use Element (identified below) would reduce impacts to scenic corridors from buildout within the City Limits, as well as buildout of the River and Miguelito Canyon expansion areas.

As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future projects' contribution to cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Urban Design Element (UDE) includes the following goal and policies intended to protect view corridors within the community:

- UDE Goal 1** Protect and enhance the natural features and landmarks of the Lompoc Valley.*

- UDE Policy 1.2** The City shall protect ridgelines and hillsides which lie in view corridors, including those ridgelines identified on the Scenic Ridgelines and Roads map.*

- UDE Policy 1.3** The City shall protect and enhance the views along the scenic roads noted on the Scenic Ridgelines and Roads map.*

The following proposed 2030 General Plan Land Use Element (LUE) Goals and Policies would also reduce impacts to aesthetic resources:

- LUE Policy 1.3** The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.*

- LUE Goal 2** Protect and enhance the quality of life of Lompoc residents through the creation and maintenance of affordable, attractive, and well-served residential and mixed-use neighborhoods.*

- LUE Policy 2.4** The City shall encourage creative and efficient site designs in residential developments which address natural constraints, promote energy efficiency and overall sustainability, protect aesthetic qualities, and maintain neighborhood character.*



- LUE Policy 3.5** *The City shall encourage development and redevelopment of the H Street Corridor Infill Area and Old Town Specific Plan Area to revitalize these areas and provide a diverse and vibrant focal point for business. New commercial and mixed use development should be encouraged, and such new development should incorporate site design and layout that provides an inviting pedestrian-oriented environment in keeping with the Urban Design Element, Old Town Specific Plan, and the H Street Corridor Infill Overlay standards, as applicable, to encourage similar development in these areas. Strategies to revitalize these areas may include the use of redevelopment funds for infrastructure improvements and upgrades to encourage infill development of vacant or underutilized lots.*
- LUE Policy 3.6** *The unique character of Old Town should be retained, and the City, in its review of expansion and redevelopment of properties within and near Old Town, should encourage projects that further efforts in making Old Town a destination, one that provides services for residents and visitors alike and that supports unique, independent businesses.*
- LUE Policy 5.1** *The City shall maintain Open Space designations for areas used for the preservation of scenic beauty, natural resources, or outdoor recreation; or the managed production of resources, including groundwater recharge; or the protection of public health & safety. Groundwater recharge areas shall be protected from incompatible uses that would substantially inhibit aquifer recharge or degrade groundwater quality.*
- LUE Policy 5.4** *Development proposals in the vicinity of natural objects that have unique aesthetic significance shall not be permitted to block, alter, or degrade existing visual quality without the provision of suitable visual enhancement. This may include open space, eucalyptus groves, or vegetation that serves as a view corridor or has important visual attributes. Development proposals shall be sited to ensure that these features are retained or replaced to the extent feasible, resulting in minimal view impairment.*
- LUE Policy 5.5** *Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, shall be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors or protect public health, safety, and welfare. If specific trees are removed, such as eucalyptus trees, replacement trees at the appropriate density (native species*



when possible) shall be substituted to provide suitable screening while retaining important view corridors.

LUE Policy 5.6 *The City shall limit development on slopes of 20% or greater by designating parcels with a substantial portion of the site containing steep slopes as Open Space, Community Facility (particularly parks), Rural Residential or Very Low Density Residential designations.*

LUE Policy 5.7 *Development on slopes exceeding 20% shall be avoided if other less steep areas are available for building sites on a given property. Any development on slopes exceeding 20% shall minimize grading and avoid interruption of ridgelines. Development on slopes exceeding 20% shall also be subject to Architectural Review by the City to minimize potential aesthetic impacts.*

In addition, the City's Architectural Review Guidelines, which are codified in Section 17.104.050 of the Lompoc Zoning Ordinance, include the following guidelines which would mitigate view corridor impacts:

Views and Obstructions

- 1. Obstruction of views should be minimized through reduction in the height of the structure, location of the higher portion of the structure so as to minimize the adverse impact, and the avoidance of tall landscaping.*
- 3. Surrounding ridge-tops should be preserved. The tops of structures in hillside development should be below the skyline as perceived from the nearest arterial or collector street.*
- 4. Consideration of sensitivity to potential neighbors' views in the placement and architectural appearance of the house is encouraged.*
- 5. Views from major living areas should be protected.*
- 6. Adverse impacts on views may be approved if alternative design treatments meeting the standard are not feasible.*

Mitigation Measures. No mitigation measures are necessary beyond adherence to existing policies in the 1997 General Plan Urban Design Element, proposed policies in the 2030 General Plan Land Use Element, and the City's Architectural Review Guidelines.

Significance After Mitigation. Impacts would be less than significant without mitigation.



Impact AES-2 Development that could be facilitated by the 2030 General Plan would introduce new sources of light and glare. However, adherence to policies included in the City's Zoning Ordinance and Architectural Review Guidelines would reduce potential impacts to a Class III, *less than significant*, level.

2030 General Plan Buildout within City Limits

Development that could be facilitated by the 2030 General Plan would increase the ambient nighttime lighting throughout the City. Increased lighting could come from streetlights, parking lot lights, and signage on business establishments. Lighting could adversely affect adjacent properties, as well as the overall nighttime lighting levels of the City. Increased glare could potentially occur as a result of building materials, roofing materials, and windows reflecting sunlight. Areas that would experience the greatest potential for increased lighting are those areas likely to experience the greatest development potential. However, the City's Architectural Review Guidelines contain specific lighting requirements for residential and commercial land uses (discussed below). Adherence to these requirements would reduce any such impacts to a less than significant level.

H Street Corridor Infill Area. Development accommodated within the H Street Corridor Infill area would be infill redevelopment surrounded by existing development. However, there are areas where development would either be new (located on vacant properties), or the intensity would increase beyond existing conditions along this roadway. Development and redevelopment in this area could therefore increase ambient nighttime lighting and glare when compared to existing conditions. As noted under Impact AES-1, proposed Land Use Element Policy 1.7 requires the City to prescribe specific design and zoning standards for this area. In addition, the City's Architectural Review Guidelines contain specific lighting requirements for residential and commercial land uses (discussed below). Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

At present, there is no nighttime lighting of the Bailey Avenue Specific Plan area. The addition of residential and commercial uses would increase ambient nighttime lighting and glare along the western edge of the City. However, the City's Architectural Review Guidelines contain specific lighting requirements for residential and commercial land uses (discussed below). Adherence to these requirements would reduce any such impacts to a less than significant level.



Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. At present, nighttime lighting in this area is limited to security lighting associated with the existing park facilities and 35 RV campsites. Lighting from the campsites includes exterior RV lights, as well as light from campfires. RVs may also add glare to the area. The addition of 126 RV sites would therefore incrementally increase ambient nighttime lighting and daytime glare in this area. However, given the relatively low level of development, this impact would not be significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 rural density residences. At present, nighttime lighting in this area is limited to residential lighting associated with existing scattered residences. The development of up to 25 additional residences would incrementally increase ambient nighttime lighting and glare in this area south of the City Limits. However, the City's Architectural Review Guidelines contain specific lighting requirements for residential land uses (discussed below). Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area would accommodate 46 low density single-family units. The expansion area is currently undeveloped and contains no lighting. However, the site is surrounded by existing residential development to the east and south, which contain some lighting. The addition of 46 residences in this area would add to ambient nighttime lighting and glare in this area north of the City Limits. However, the City's Architectural Review Guidelines contain specific lighting requirements for residential land uses (discussed below). Adherence to these requirements would reduce any impacts to a less than significant level.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries, as well as buildout of the identified expansion areas. Impacts related to light and glare from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, these include light and glare impacts from buildout within the City Limits, as well as buildout of the Bailey Avenue Specific Plan, Miguelito Canyon, and Wye Residential expansion areas. Cumulatively, buildout of the 2030 General Plan could permanently alter the night sky. However, the City's Architectural Review Guidelines contain specific lighting requirements for residential and commercial land uses (discussed



below). Adherence to these requirements would reduce any impacts to a less than significant level. Buildout of the River expansion area would be less than significant.

As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future projects' contribution to cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Urban Design Element and the proposed General Plan Land Use Element do not contain Goals or Policies which specifically address light and glare. However, Section 17.112.070 of the Lompoc Zoning Ordinance requires the utilization of trees or other forms of vegetation to screen and visually soften parking areas, which reduces the amount of glare generated from painted and chrome automobile surfaces, and also requires the use of hooded lights on focused-beam lamps for nighttime illumination of parking areas. In addition, Section 17.064.050 requires that development within the Industrial and Business Park zoning be operated such that any glare incidental to the operations shall not be visible beyond the boundaries of the property.

In addition, the City's Architectural Review Guidelines, which are codified in Section 17.104.050 of the Lompoc Zoning Ordinance, include the following guidelines which would mitigate lighting impacts:

***Lighting.** Exterior lights should be architecturally compatible with the proposed project. New lights should not stand out in relationship to surrounding lights when viewed from a distance. The goal is to maintain the City's existing uniformity of lights as viewed from a distant vista or entrance into the City. These lighting guidelines are not intended to limit or otherwise restrict security or safe lighting practice.*

1. Exterior Lighting-Residential

- a. Lighting should be subdued and utilized to provide enough illumination for safe access to the residence.*
- b. All site, landscape or building exterior lighting should be of a configuration, style and finish color that compliments the theme and materials established by the building architecture.*
- c. All exterior lighting should be adequately controlled and/or shielded to prevent glare and undesirable illumination of adjacent properties and streets.*
- d. Bare bulb light fixtures such as flood and spotlights are not permitted in any area subject to the public view.*
- e. Clear glass lanterns, carriage lamps, globes and other similar decorative lamps will be permitted at the front and rear of a residence in the required yard setback areas provided that the light source is 75 watts or less.*



f. All side wall lighting and site lighting located in required yard setback areas shall be screened from direct view of the light source. Frosted glass, textured glass, and pebbled glass are acceptable screening materials.

2. Exterior Lighting–Commercial Industrial. *In addition to all applicable aspects covered under Exterior Lighting – Residential, lighting on sites used for commercial or industrial purposes shall comply with the following.*

- a. High intensity lighting fixtures for the purpose of security shall not be substituted for site or landscape lighting or general building exterior illumination. High intensity lighting shall be limited to loading and storage locations or other similar service areas. There shall be no overspill or glare across property lines or onto the street.*
- b. Pole mounted fixtures rather than wall mounted light fixtures generally should be used to light perimeter parking lots. These may be located within or at the outside edges of the lot. Perimeter lights should generally be down-lights with cut-off shields or otherwise be directed toward the interior of the lot.*
- c. The height of parking lot pole light fixtures should be compatible with the building height.*
- d. Moving, flashing, rotating, twinkling and exposed neon accent lighting and wall mounted lighting that is intended to “wash” the building in a soft glow generally is discouraged, but may be used to accent architectural features.*
- e. Lighting fixtures in parking garages and parking structures that are visible from the street and surrounding property shall be screened so that the light source is not visible.*
- f. External signage lighting should be directed to the illumination of the sign without spillage.*
- g. Lighting fixtures located at ground level should not create hazards to pedestrians along public access.*
- h. The use of energy-conserving fixtures or lighting systems shall be given primary consideration in the design of the lighting program.*

Mitigation Measures. No mitigation measures are necessary beyond adherence to the existing Zoning Ordinance and compliance with the City’s Architectural Review Guidelines.

Significance After Mitigation. Impacts would be less than significant without mitigation.



Impact AES-3 The 2030 General Plan emphasizes both reuse of existing urbanized lands, infill development on vacant parcels, and new development on urban fringe parcels. The development of such areas would result in visual changes to the character of the community. However, the General Plan protects the City's visual features through plan review and policies. Therefore, impacts that would occur from development would be Class III, *less than significant*.

2030 General Plan Buildout within City Limits

The 2030 General Plan would facilitate the development and redevelopment of lands within the Lompoc plan area. These areas include reuse of existing urbanized lands, infill development on vacant parcels, and new development on the urban fringe. The intensification of land use anticipated to occur in certain areas of the City may be considered an adverse effect to some viewers due to the presence of larger buildings and the corresponding reduction in vacant land within the City's framework. However, the reuse and intensification of already developed areas would be expected to reduce the pressure for development at the City's periphery, thus minimizing the potential for the loss of open lands throughout the City, protected for their visual value.

Much of the intensification and reuse that would be facilitated under the 2030 General Plan would also generally be expected to enhance the visual character of the community. In particular, it is anticipated that future redevelopment in the H Street Corridor Infill area (discussed below) would enhance visual quality by adding attractive infill development and the formation of redeveloped community centers.

H Street Corridor Infill Area. Development accommodated within the H Street Corridor Infill area would be infill redevelopment surrounded by existing development. However, there are areas where development would either be new (located on vacant properties), or the intensity would increase beyond existing conditions in this area. This could include increased height, as well as larger overall scale and massing.

The purpose of the H Street Corridor infill area is to encourage development of vacant or underutilized properties along the H Street Corridor "to improve the aesthetics of the area" (refer to Table 2-1 in Section 2.0, *Project Description*). It is anticipated that the gradual redevelopment of the H Street Corridor Infill Area with development that is more pedestrian-scaled and that complies with future design standards would ultimately improve the visual conditions in these areas. This is particularly true directly adjacent to H Street, where development is characterized by shopping plazas with parking at the street frontage, which results in views of parking lots and parked vehicles rather than attractively designed structures and landscaping. Impacts related to visual changes within the City Limits would therefore be less than significant.



Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area would accommodate development at the periphery of the City of Lompoc, thereby creating new and greater visual impacts than infill redevelopment within the City's core. In addition, the site is currently composed of agricultural fields. Development of the site with relatively dense urban uses would therefore permanently alter the existing agricultural character of the site. However, this expansion area is within the existing City Urban Limit Line and may be considered a logical extension of the urban community, as it would create a straight western boundary to the City. In addition, the existing General Plan Urban Design Element, proposed 2030 General Plan Land Use Element, and Architectural Review Guidelines (discussed below) protect the City's visual features through policies and plan review. Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area B: River Area

This River expansion area is located along the western edge of the City and would serve as an extension of the City. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. Due to the presence of an existing RV campground and other park facilities, the River expansion area may be viewed as a continuation of existing development. On the other hand, this expansion area would extend additional development into existing open space, which would somewhat alter the existing open space condition of the site.

The existing General Plan Urban Design Element, proposed 2030 General Plan Land Use Element, and Architectural Review Guidelines (discussed below) protect the City's visual features through policies and plan review. Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate rural density residential hillside development. This land use is subject to very low density development standards aimed at protecting the aesthetic resources that surround them. It is not anticipated that the low density development allowed with the RDR designation would substantially alter the visual character of the community or surrounding neighborhoods. In addition, the existing General Plan Urban Design Element, proposed 2030 General Plan Land Use Element, and Architectural Review



Guidelines (discussed below) protect the City’s visual features through policies and plan review. Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area would accommodate 46 low density single-family units. Although the site itself is currently undeveloped, residential development abuts the site to the east and south. Development of additional residential uses in this area could therefore be considered a logical extension of existing development. In addition, the existing General Plan Urban Design Element, proposed 2030 General Plan Land Use Element, and Architectural Review Guidelines (discussed below) protect the City’s visual features through policies and plan review. Adherence to these requirements would reduce any impacts to a less than significant level.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries, as well as buildout of the identified expansion areas. Overall, development under the General Plan through the year 2030 would increase development intensity within the City Limits, as well as convert adjacent undeveloped areas to a more built environment, thereby altering the fundamental character of these areas. Impacts related to visual changes from specific components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, the existing General Plan Urban Design Element, proposed 2030 General Plan Land Use Element, and Architectural Review Guidelines (discussed below) protect the City’s visual features through policies and plan review. Adherence to these requirements would reduce any impacts from buildout within the City Limits, as well as buildout of all four expansion areas to a less than significant level.

General Plan Policies which Reduce Impacts

The 1997 General Plan Urban Design Element (UDE) includes the following goals and policies intended to enhance the appearance of the community:

UDE Policy 1.4 The City shall create a visual edge to maintain awareness of the community's setting in the Lompoc Valley by establishing and maintaining open space buffers along the western and eastern portions of the Urban Limit Line.

UDE Policy 2.2 The City shall ensure that all development in the Old Town area is designed in a manner that maintains, encourages, and enhances pedestrian activity between various uses and activities. This includes the design of buildings, street corridors, plazas, and pedestrian spaces.



- UDE Policy 3.1*** The City shall protect and enhance the positive identity of residential neighborhoods.
- UDE Policy 3.2*** The City shall require infill development to respect the scale and character of existing neighborhoods.
- UDE Policy 3.3*** The City shall encourage the protection of structures and neighborhoods which possess locally significant architectural styles or historic values. Infill development in such areas shall be architecturally compatible with surrounding structures.
- UDE Policy 3.4*** The City shall encourage and support the efforts of homeowner and neighborhood associations to improve the visual appearance of residential neighborhoods.
- UDE Goal 4*** Protect and enhance the visual qualities of Lompoc's urban streetscapes and public places.
- UDE Policy 4.1*** The City shall support efforts to improve the appearance of expressways and arterials.
- UDE Policy 4.2*** The City shall promote cleanliness and regular maintenance of all neighborhoods and public places.
- UDE Policy 4.3*** The City shall encourage signage which enhances the visual qualities of the urban streetscape.
- UDE Policy 4.4*** The City shall continue to encourage provision of art in public places.
- UDE Policy 4.5*** The City shall encourage the owners and/or operators of land uses and activities which are unsightly to clean up the affected area or to use landscaping and other design measures to soften or screen the area.
- UDE Policy 4.6*** The City shall encourage the development of the urban forest along streetscapes and in public places.
- UDE Policy 4.7*** The City shall encourage the provision of open space in all public places.
- UDE Goal 5*** Ensure high-quality design and development.



- UDE Policy 5.1** The City shall ensure that all public and private improvements or development projects are consistent with the architectural, landscaping, and site design requirements.
- UDE Policy 5.2** The City shall periodically review and update its architectural, landscaping, and site plan review process, as well as any associated guidelines.

The following proposed General Plan Land Use Element (LUE) Goals and Policies would also reduce impacts to aesthetic resources:

- LUE Policy 1.3** *The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.*
- LUE Goal 2** *Protect and enhance the quality of life of Lompoc residents through the creation and maintenance of affordable, attractive, and well-served residential and mixed-use neighborhoods.*
- LUE Policy 2.4** *The City shall encourage creative and efficient site designs in residential developments which address natural constraints, promote energy efficiency and overall sustainability, protect aesthetic qualities, and maintain neighborhood character.*
- LUE Policy 3.5** *The City shall encourage development and redevelopment of the H Street Corridor Infill Area and Old Town Specific Plan Area to revitalize these areas and provide a diverse and vibrant focal point for business. New commercial and mixed use development should be encouraged, and such new development should incorporate site design and layout that provides an inviting pedestrian-oriented environment in keeping with the Urban Design Element, Old Town Specific Plan, and the H Street Corridor Infill Overlay standards, as applicable, to encourage similar development in these areas. Strategies to revitalize these areas may include the use of redevelopment funds for infrastructure improvements and upgrades to encourage infill development of vacant or underutilized lots.*
- LUE Policy 3.6** *The unique character of Old Town should be retained, and the City, in its review of expansion and redevelopment of properties within and near Old Town, should encourage projects that further efforts in making Old Town a destination, one that provides services for residents and visitors alike and that supports unique, independent businesses.*



- LUE Policy 5.1** *The City shall maintain Open Space designations for areas used for the preservation of scenic beauty, natural resources, or outdoor recreation; or the managed production of resources, including groundwater recharge; or the protection of public health & safety. Groundwater recharge areas shall be protected from incompatible uses that would substantially inhibit aquifer recharge or degrade groundwater quality.*
- LUE Policy 5.4** *Development proposals in the vicinity of natural objects that have unique aesthetic significance shall not be permitted to block, alter, or degrade existing visual quality without the provision of suitable visual enhancement. This may include open space, eucalyptus groves, or vegetation that serves as a view corridor or has important visual attributes. Development proposals shall be sited to ensure that these features are retained or replaced to the extent feasible, resulting in minimal view impairment.*
- LUE Policy 5.5** *Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, shall be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors or protect public health, safety, and welfare. If specific trees are removed, such as eucalyptus trees, replacement trees at the appropriate density (native species when possible) shall be substituted to provide suitable screening while retaining important view corridors.*
- LUE Policy 5.6** *The City shall limit development on slopes of 20% or greater by designating parcels with a substantial portion of the site containing steep slopes as Open Space, Community Facility (particularly parks), Rural Residential or Very Low Density Residential designations.*
- LUE Policy 5.7** *Development on slopes exceeding 20% shall be avoided if other less steep areas are available for building sites on a given property. Any development on slopes exceeding 20% shall minimize grading and avoid interruption of ridgelines. Development on slopes exceeding 20% shall also be subject to Architectural Review by the City to minimize potential aesthetic impacts.*

Development facilitated under the 2030 General Plan would result in visual changes to the community. These changes would be subject to the policies and regulations included in the existing General Plan Urban Design Element and the draft General Plan Land Use Element that target aesthetic resource protection and good community design. Development and redevelopment that may occur during the lifetime of the General Plan would be governed by



Section 4.1 Aesthetics

these policies in addition to the Zoning Code and associated Architectural Review Guidelines, as well as applicable Master Plans and Zoning Overlays. All of these plans and documents work together to protect Lompoc's aesthetic resources and are a means to retain the community character, while providing enhancements in certain areas of the City. Impacts would be less than significant with implementation of applicable policies and regulations.

Mitigation Measures. No mitigation measures are necessary beyond adherence to existing and draft General Plan policies.

Significance After Mitigation. Impacts would be less than significant without mitigation.



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4.2 AIR QUALITY

This section analyzes impacts to local and regional air quality. Greenhouse gas emissions and climate change are also addressed. Recent local air quality data was obtained from the Santa Barbara County Air Pollution Control District (SBCAPCD). Climate change data was accumulated from sources including the Intergovernmental Panel on Climate Change's *Fourth Assessment Report* and the California Environmental Protection Agency's Climate Action Team Report to Governor Schwarzenegger and the Legislature.

4.2.1 Setting

a. **Local Climate and Meteorology.** The Lompoc General Plan area is part of the South Central Coast Air Basin (SCCAB) which includes all of San Luis Obispo, Santa Barbara, and Ventura counties. The climate of the Santa Barbara foothills and all of the SCCAB is strongly influenced by its proximity to the Pacific Ocean and the location of the semi-permanent high pressure cell in the northeastern Pacific. With a Mediterranean-type climate, Lompoc is characterized by warm, dry summers and cool winters with occasional rainy periods. Local climate conditions are shown in Table 4.2-1.

**Table 4.2-1
Local Climate Conditions**

Average annual rainfall	15-18 inches
Average maximum temperature	69.5 °F
Average minimum temperature	48.7 °F
Warmest Month	September
Coolest Month	December
Annual mean temperature	58.9 °F
Average wind speed	5-10 mph - spring/summer 5 mph - fall 3 mph - winter

Cool, humid marine air causes frequent fog and low clouds along the coast, generally during the night and morning hours in the late spring and early summer months. The General Plan area is subject to a diurnal cycle in which daily onshore winds from the west and northwest are replaced by mild offshore breezes flowing from warm inland valleys during night and early morning hours. This alternating cycle can create a situation where suspended pollutants are swept offshore at night, and then carried back onshore the following day. Dispersion of pollutants is further degraded when the wind velocity for both day and nighttime breezes is low.



The region is also subject to seasonal Santa Ana winds. Santa Ana winds are strong northerly to northeasterly winds that originate from high-pressure areas centered over the desert of the Great Basin. These winds are usually warm, very dry, and often full of dust. They are particularly strong in the mountain passes and at the mouths of canyons.

Two types of temperature inversions (warmer air on top of cooler air) are created in the area: subsidence and radiational. The subsidence inversion is a regional effect created by the Pacific high in which air is heated as it is compressed when it flows from the high-pressure area to the low-pressure areas inland. This type of inversion generally forms at about 1,000 to 2,000 feet and can occur throughout the year, but it is most evident during the summer months. Surface inversions are formed by the more rapid cooling of air near the ground at night, especially during winter. This type of inversion is typically lower (0 to 500 feet at Vandenberg AFB, for example) and is generally accompanied by stable air. Both types of inversions limit the dispersal of air pollutants within the regional airshed, with the more stable the air (low wind speeds, uniform temperatures), the lower the amount of pollutant dispersion.

Climate Change & Greenhouse Gases. Global climate change (GCC) is currently one of the most important and widely discussed scientific, economic and political issues in the United States and throughout the world. GCC is expressed as changes in the average weather of the earth that is measured by temperature, wind patterns, precipitation, and storms over a long period of time [United Nations Intergovernmental Panel on Climate Change (IPCC), 2007]. GCC is a documented effect, and though the degree to which the change is caused by anthropogenic (human-made) sources is still under study, it is likely that humans have had a discernable influence at the global scale on climate change (IPCC, 2007). An increase in global temperatures has coincided with the global Industrial Revolution, which has seen the widespread reduction of forests to accommodate urban centers and agriculture and the use of fossil fuels, primarily burning of coal, oil, and natural gas for energy. The current state of knowledge is substantially in support of the concept that there is a link between increased GHG emissions and observed global warming (IPCC, 2007).

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). Common GHGs include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O_x), fluorinated gases, and ozone. Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere. Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "CO₂ equivalent," and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH₄) has a GWP of 21, meaning its global warming effect is 21 times greater than carbon dioxide on a molecule per molecule basis.

GHGs are emitted by both natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with



agricultural practices and landfills. Human-made GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆), which are byproducts of certain industrial processes (CalEPA, 2006).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, the earth's surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following paragraphs discuss the primary GHGs in more detail.

Carbon Dioxide. CO₂ was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th Century. As noted above, CO₂ has a GWP of one. Per the IPCC (2007), the global atmospheric concentration of carbon dioxide has increased from a pre-industrial value of about 280 parts per million (ppm) to 379 ppm in 2005. The atmospheric concentration of CO₂ in 2005 exceeds by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores. The annual carbon dioxide concentration growth rate was larger during the last 10 years (1995–2005 average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960 to 2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates.

Methane. Methane (CH₄) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10 to 12 years) compared to some other GHGs. It has a GWP approximately 21 times that of CO₂. Over the last 250 years, the concentration of CH₄ in the atmosphere increased by 148% (IPCC 2007). Anthropogenic sources of CH₄ include landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (USEPA, April 2008).

Nitrous Oxide. Concentrations of nitrous oxide (N₂O) also began to rise at the beginning of the industrial revolution. N₂O is produced by microbial processes in soil and water, including those reactions which occur in fertilizers that contain nitrogen. Use of these fertilizers has increased over the last century. The GWP of Nitrous Oxide is 310 times that of CO₂.

Fluorinated Gases (HFCS, PFCS and SF₆). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfurhexafluoride (SF₆), are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons, which have been regulated since the mid-1980s because of their ozone destroying potential and are phased out under the *Montreal Protocol* and Clean Air Act Amendments of 1990. Fluorinated



gases are typically emitted in smaller quantities than CO₂, CH₄ and N₂O, but each molecule can have a much greater global warming effect.

Carbon dioxide equivalency describes the amount of CO₂ (usually in metric tons) that would have the same GWP as a given mixture and amount of GHGs when measured over a specified timescale (generally 100 years). Worldwide anthropogenic emissions of GHGs were approximately 49,000 million metric tons (MMT) of carbon dioxide equivalent (CO₂E). Total U.S. GHG emissions in 2006 were estimated to be 7,054 MMT CO₂E (USEPA, April 2008), or about 14% of global GHG emissions. California is a substantial contributor of global GHGs as it is the second largest contributor in the United States and the 16th largest in the world (Association of Environmental Professionals, 2007). Based upon the 2004 GHG inventory data (the latest year available) compiled by the California Energy Commission (CEC, December 2006), California produced 492 MMT CO₂E, or 7% of U.S. total.

The primary source of GHGs in California is transportation, contributing 41% of the state's total GHG emissions. Electricity generation is the second largest source, contributing 22% of the state's GHG emissions (CEC, December 2006). 81% of California's 2004 GHG emissions (in terms of CO₂E) were carbon dioxide produced from fossil fuel combustion, with 2.8% from other sources of CO₂, 5.7% from methane, and 6.8% from nitrous oxide (CEC, December 2006). California emissions are high due in part to its large size and large population. By contrast, in 2001 California had the 4th lowest CO₂ emissions per-capita from fossil fuel combustion in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise (CEC, December 2006).

Effects of Global Climate Change. GCC has the potential to impact environmental resources through changes to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected (IPCC, 2007). According to the Air Resources Board (ARB), some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (ARB, 2007). Below is a summary of some of the potential effects reported by an array of studies that could be experienced in California as a result of global climate change.

Air Quality. Higher temperatures facilitate air pollution formation, and could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution



associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses and asthma attacks throughout the state (CCCC, February 2006).

Water Supply. The California Department of Water Resources (DWR, 2006) report on climate change and its effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento–San Joaquin Delta, concludes that, “[c]limate change will likely have a significant effect on California’s future water resources... [and] future water demand.” It also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain” (DWR, 2006). This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood (DWR, 2006). DWR adds that, “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (Kiparsky 2003;Cayan 2006, Cayan, D., *et al*, 2006).

Hydrology. As discussed above, climate changes could potentially affect the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of sea water as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops such as wine grapes bloom or ripen, and thus affect their quality (CCCC, 2006).

Ecosystems and Wildlife. Increases in global temperatures and the potential resultant changes in weather patterns could alter global and local scale ecosystems. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have major impacts on plants and animals, including: 1) timing of ecological events; 2)



geographic range; 3) species' composition within communities; and 4) ecosystem processes such as carbon cycling and storage (Parmesan, 2004; Parmesan, C. and H. Galbraith 2004).

While the above mentioned potential impacts identify the possible effects of climate change at a global and potentially statewide level, in general scientific modeling tools are currently unable to predict what impacts would occur locally.

b. Local Regulatory Framework. The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while ARB is the state equivalent under the California Environmental Protection Agency (CalEPA). Local control in air quality management is provided by the ARB through multi-county and county-level Air Pollution Control Districts (APCDs). The ARB establishes statewide air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide. Lompoc is located in the SCCAB, which is under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD), a multi-county APCD.

Federal and state standards have been established for six criteria pollutants, including ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulates less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}), and lead (Pb) (refer to Table 4.2-2). California air quality standards are identical to or stricter than federal standards for all criteria pollutants. Table 4.2-2 illustrates the current Federal and State Ambient Air Quality Standards.

**Table 4.2-2
 Current Federal and State Ambient Air Quality Standards**

Pollutant	Federal Standard	California Standard
Ozone	0.075 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.07 ppm (8-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.03 ppm (annual avg)
Sulfur Dioxide	0.03 ppm (annual avg) 0.14 ppm (24-hr avg) 0.5 ppm (3-hr avg)	0.04 ppm (24-hr avg) 0.25 ppm (1-hr avg)
Lead	1.5 µg/m ³ (calendar quarter) 0.15 µg/m ³ (rolling 3-mo avg)	1.5 µg/m ³ (30-day avg)



**Table 4.2-2
 Current Federal and State Ambient Air Quality Standards**

Pollutant	Federal Standard	California Standard
Particulate Matter (PM ₁₀)	150 µg/m ³ (24-hr avg)	20 µg/m ³ (annual avg) 50 µg/m ³ (24-hr avg)
Particulate Matter (PM _{2.5})	15 µg/m ³ (annual avg) 35 µg/m ³ (24-hr avg)	12 µg/m ³ (annual avg)
Visibility Reducing Particles	n/a	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more due to particles when relative humidity is less than 70 percent (8-hr avg)
Sulfates	n/a	25 µg/m ³ (24-hr avg)
Hydrogen Sulfide	n/a	42 µg/m ³ (1-hr avg)
Vinyl Chloride	n/a	26 µg/m ³ (24-hr avg)

ppm = parts per million

µg/m³ = micrograms per cubic meter

Source: California Air Resources Board, <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, November 2008.

Climate Change Regulation. The following regulations address both global climate change (GCC) and GHG emissions.

International and Federal Regulations. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was signed on March 21, 1994. The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States has not bound itself to the Protocol’s commitments (UNFCCC, 2007).

The United States is currently using a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol’s mandatory framework. To date, the USEPA has not regulated GHGs under the Clean Air Act. However, the U.S. Supreme Court in *Massachusetts v. EPA* (April 2, 2007) held that the USEPA can, and should, consider regulating motor-vehicle GHG emissions. The USEPA has not yet promulgated federal regulations limiting GHG emissions. On June 30, 2009, the USEPA granted California’s request for a waiver to directly limit GHG tailpipe emissions for new motor vehicles beginning with the current model year.

California Regulations. Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state was signed into law in September 2002 by Governor Gray Davis. Governor Schwarzenegger issued Executive Order S-3-05 in 2005 that established statewide GHG emissions reduction targets. S-3-05 provides that by 2010, emissions shall be



reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80% of 1990 levels (CalEPA, 2006).

In response to S-3-05, CalEPA created the Climate Action Team (CAT), which, in March 2006, published the 2006 Climate Action Team Report. The 2006 CAT Report identifies a recommended list of strategies that the state could pursue to reduce GHG emissions. These strategies may be implemented by various state agencies, within their existing authority, to ensure that the Governor's targets are met. The strategies include: the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, and increased recycling and landfill methane capture.

In 2006, Governor Schwarzenegger signed AB 32, the "California Global Warming Solutions Act of 2006," into law. AB 32 requires the State's global warming emissions to be reduced to 1990 levels by 2020 (essentially a 25% reduction below 2005 emission levels - the same requirement as under S-3-05), and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. After completing a comprehensive review and update process, the ARB has approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO₂E (ARB, October 2007).

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. In December 2009, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and GCC impacts.

Governor Schwarzenegger enacted executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. In addition, a Low Carbon Fuel Standard (LCFS) for transportation fuels is to be established for California.

Senate Bill (SB) 375, signed in August 2008, requires the inclusion of sustainable communities' strategies (SCS) in regional transportation plans (RTPs) for the purpose of reducing GHG emissions. The bill requires ARB to set regional targets for the purpose of reducing greenhouse gas emissions from passenger vehicles, for 2020 and 2035. On January 23, 2009 ARB appointed a Regional Targets Advisory Committee (RTAC) to provide recommendations on factors to be considered and methodologies to be used in the ARB target setting process, as required under SB 375. The RTAC final report, issued on September 30, 2009, recommended "ambitious but achievable" targets, with a substantial emphasis on improving home affordability (rents and mortgages) near job centers as a means to reduce driving. The California Air Resources Board will set the final targets by September 30, 2010.



Local Regulations and CEQA Requirements. GHG emissions contributing to global climate change have only recently been addressed in CEQA documents, such that CEQA and case law do not provide guidance relative to their assessment. The State of California, or any particular air pollution control district, including the SBCAPCD, has not adopted quantitative significance thresholds for this topic. Pursuant to the requirements of Senate Bill 97, the Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and GCC impacts. In addition, in an effort to guide professional planners, land use officials and CEQA practitioners, OPR prepared *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA)*. This document offers informal guidance regarding the steps lead agencies should take to address climate change in CEQA documents. This guidance was developed in cooperation with the Resources Agency, Cal EPA, and the ARB. In combination, the SBCAPCD suggests the use of the methodologies contained in the California Air Pollution Control Officers Association [CAPCOA] (January 2008) *CEQA and Climate Change* white paper to assess GHG emissions.

c. Current Ambient Air Quality. The SBCAPCD monitors air pollutant levels to assure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the air basin is classified as being in “attainment” or as “non-attainment.” The SCCAB, in which the General Plan area is located, is in non-attainment for the state eight-hour ozone standard, the state standard for PM₁₀, and the federal standard for PM₁₀. On October 5th, 2009, the USEPA issued area designations for the 2006 24-hour national air quality standard for PM_{2.5}. Santa Barbara County is in attainment for the national standard for PM_{2.5}. The county is in attainment for all other standards.

Non-attainment status within the SCCAB is a result of several factors, primarily the natural meteorological conditions that limit the dispersion and diffusion of pollutants (surface and subsidence inversions), the limited capacity of the local airshed to eliminate pollutants from the air, and the number, type, and density of emission sources within the SCCAB. The potential health effects of pollutants for which the SCCAB is in nonattainment are described below.

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_x) and reactive organic gases (ROG). Nitrogen oxides are formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in serious concentrations between the months of May and October. Ozone is a pungent, colorless toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.



Suspended Particulates. PM₁₀ is small particulate matter measuring no more than 10 microns in diameter, while PM_{2.5} is fine particulate matter measuring no more than 2.5 microns in diameter. Both PM₁₀ and PM_{2.5} are comprised mostly of dust particles, nitrates and sulfates. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates (PM_{2.5}) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. PM₁₀ is a by-product of fuel combustion and wind erosion of soil and unpaved roads, and is directly emitted into the atmosphere through these processes. PM₁₀ is also created in the atmosphere through chemical reactions. Fine particulate matter poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the fine particulate matter that is inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

An important fraction of the particulate matter emission inventory is that formed by diesel engine fuel combustion. Particulates in diesel emissions are very small and readily respirable. The particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens or carcinogens. Compared to other air toxics the ARB had identified and controlled, diesel PM emissions are estimated to be responsible for about 70% of the total ambient air toxics risk. In addition to these general risks, diesel PM can also be responsible for elevated localized or near-source exposures ("hot spots"). Depending on the activity and nearness to receptors, these potential risks can range from small to 1,500 per million or more (ARB, October 2000). Risk characterization scenarios have been conducted by the ARB staff to determine the potential excess cancer risks involved due to the location of individuals near to various sources of diesel engine emissions, ranging from school buses to high volume freeways.

Table 4.2-3 summarizes the annual air quality data for the City of Lompoc's local airshed, collected at the Lompoc-S H Street station, located at South H Street and Ocean Avenue. The ARB maintains over 60 air quality monitoring stations throughout California, including the Lompoc-S H Street station. The data collected at this station is considered to be representative of the baseline air quality experienced in the General Plan area.

The primary pollutants of concern in Lompoc are ozone (O₃) and particulate matter (PM₁₀). PM₁₀ sampling at Lompoc occurs once every 6 days; the "estimated days over the State 24-Hour PM₁₀ standard" provides the estimated number of days in the year that the standard would have been exceeded had sampling occurred every day of the year. The major local sources for PM₁₀ are grading, demolition, vehicle dust, diatomaceous earth mining, agricultural operations, and dust produced by high winds.



**Table 4.2-3
 Ambient Air Quality Data**

Pollutant	2006	2007	2008
Ozone, ppm - Worst Hour	0.056	0.078	0.082
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of Federal exceedances (>0.075 ppm)	0	0	0
Carbon Monoxide, ppm - Worst 8 Hours	1.1	1.2	1.1
Number of days of State/Federal exceedances (>9.0 ppm)	0	0	0
Nitrogen Dioxide, ppm - Worst Hour	0.04	0.04	0.04
Number of days of State exceedances (>0.25 ppm)	0	0	0
Particulate Matter <10 microns, $\mu\text{g}/\text{m}^3$ Worst 24 Hours	48.6	39.6	49.3
Number of samples of State exceedances (>50 $\mu\text{g}/\text{m}^3$)	0	0	*
Number of samples of Federal exceedances (>150 $\mu\text{g}/\text{m}^3$)	0	0	*
Particulate Matter <2.5 microns, $\mu\text{g}/\text{m}^3$ Worst 24 Hours	*	*	*
Number of days Federal exceedances	*	*	*

* There was insufficient (or no) data available to determine the value.

** PM_{10} sampling at Lompoc occurs once every 6 days; the number of days over the State 24-Hour PM_{10} standard provides the estimated number of days in the year that the standard would have been exceeded had sampling occurred every day of the year.

Lompoc - H Street Station

Source: CARB, 2006, 2007, & 2008 Annual Air Quality Data Summaries available at <http://www.arb.ca.gov>.

d. Air Quality Management. Under state law, the SBCAPCD is required to prepare an overall plan for air quality improvement for the SCCAB, known as the Clean Air Plan (CAP). The CAP was updated in 2007 from its previous update in 2004. The 2007 CAP incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2004 CAP. The 2007 CAP was adopted by the SBCAPCD in August 16th, 2007.

The 2007 CAP was prepared to address both federal and state requirements. The federal requirements pertain to provisions of the Federal Clean Air Act that apply to the City's current designation as an attainment area for the federal 8-hour ozone standard. Areas that are designated as attainment for the federal 8-hour ozone standard and attainment for the previous federal 1-hour ozone standard with an approved maintenance plan must submit an 8-hour maintenance plan under section 110(a)(1). The California Clean Air Act mandates under Health and Safety Code sections 40924 and 40925 require that every three years areas update their clean air plans to attain the state 1-hour ozone standard. More specifically, the 2007 Plan provides a three-year update to the SBCAPCD's 2004 Clean Air Plan. Previous plans developed to comply with the state ozone standard include the 1991 Air Quality Attainment Plan, the 1994 Clean Air Plan, the 1998 Clean Air Plan, and the 2001 Clean Air Plan.

The 2007 Plan must provide an annual five percent emission reduction of ozone precursors, or, if this isn't feasible, include every feasible measure as part of the emission control strategy. In addition, state law requires the 2007 Plan to provide for attainment of the state ambient air quality standards at the earliest practicable date (Safety Code Section 40910).



e. Sensitive Receptors. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The majority of sensitive receptor locations are therefore schools and hospitals. The Lompoc Valley Medical Center is located at 508 East Hickory Avenue. Several other medical clinics are located throughout the City. School locations are identified in Section 4.11, *Public Services*.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of the proposed 2030 General Plan's air quality impacts follows the guidance and methodologies recommended in the SBCAPCD's *Scope and Content of Air Quality Sections in Environmental Documents* (June 2008) as well as Appendix G of the State CEQA Guidelines.

Local criteria pollutant emissions were quantified using the California Air Resource Board's URBEMIS 2007 (version 9.2.4) computer model (see Appendix C for calculations).

The SBCAPCD has adopted numeric significance thresholds for individual development projects. However, use of these thresholds would not be appropriate for a General Plan since they are intended for use in evaluating the effects of individual projects while the General Plan EIR considers the cumulative effect of all individual projects within the City. Therefore, the criteria used to determine the significance of impacts are taken from the checklist contained in Appendix G of the State CEQA Guidelines. According to the CEQA Guidelines, General Plan implementation would result in a significant impact to air quality if it would:

- *Conflict with or obstruct implementation of the applicable air quality plan*
- *Violate any air quality standard or contribute substantially to an existing or project air quality violation*
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed qualitative thresholds for ozone precursors)*
- *Expose sensitive receptors to substantial pollutant concentrations*
- *Create objectionable odors affecting a substantial number of people*
- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment*



- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases*

The SBCAPCD further describes consistency with the 2007 CAP as meaning that a project or program's direct and indirect emissions are accounted for in the growth assumptions of the CAP and that a project is consistent with the policies in the CAP (*Scope and Content of Air Quality Sections in Environmental Documents*, 2008). The CAP relies primarily on the land use and population projections provided by the Santa Barbara County Association of Governments (SBCAG) for its growth assumptions. SBCAG growth forecasts are discussed in greater detail in Section 4.10, *Population and Housing*.

The proposed 2030 General Plan would be inconsistent with the 2007 CAP if:

- *The population generated by the General Plan is greater than what is anticipated in the CAP;*
- *The rate of increase in vehicle trips and miles traveled is greater than the rate of population growth; or*
- *Not all applicable land use and transportation control measures from the CAP have been included in the General Plan to the maximum extent feasible.*

Climate Change. The climate change analysis is based on the guidance from CAPCOA in their *CEQA and Climate Change* white paper (January 2008) and the OPR in their Technical Advisory, entitled *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act Review* (June 19, 2008). The OPR Technological Advisory provides the overarching structure of climate change discussions, while the CAPCOA document provides the technological methodologies to assess GHG emissions.

The OPR Technical Advisory is a guidance document developed in cooperation with the California Resources Agency, the CalEPA and ARB. The document recommends an approach for agencies to analyze GHG emissions for projects (including programs, such as the General Plan update). It recommends three basic steps: identify and quantify the GHG emissions; assess the significance of the impact on climate change; and if the impact is found to be significant, identify alternatives and/or mitigation measures that will reduce the impact below significance.

The information provided in this section is based on recently established California goals for reducing GHG emissions as well as an emissions inventory developed for the proposed 2030 General Plan. The City of Lompoc, as the lead agency, has no duty to establish a significance threshold for GHG emissions. Therefore, this analysis is specific to the proposed 2030 General Plan and does not establish thresholds for the City or set precedence for the type of analysis in a climate change analysis, as this discipline is still evolving and is expected to undergo multiple renditions before standards and thresholds are published.



CAPCOA conducted an analysis of various approaches and significance thresholds, ranging from a zero threshold (all projects are cumulatively considerable) to a high of 40,000 to 50,000 metric tons CO₂E per year. Among the significance thresholds proposed by CAPCOA, Approach 1 of the Non-Zero GHG thresholds (“Threshold 1.1”) is most appropriate to evaluate the proposed 2030 General Plan as it is the only threshold that is derived from AB 32. Threshold 1.1 of the CAPCOA document uses the 2020 target developed by AB 32 and recommends that all discretionary projects incorporate mitigation measures recommended in the CAPCOA White Paper in order to achieve a measurable 28% to 33% reduction from projected unmitigated GHG emissions to be considered less than significant. This GHG significance threshold, which relies on a percentage-based reduction is appropriate for the proposed 2030 General Plan given the limitations of current information and scientific modeling available for GHG at this time, since percentage-based reductions (unlike some of the other thresholds) can be measured using existing tools. As such, the following guideline is used in this analysis of the proposed 2030 General Plan, consistent with Threshold 1.1 of the CAPCOA document to determine the significance level of GHG and GCC related impacts.

Does the project/program comply with the provisions of an adopted Greenhouse Gas Reduction Plan or Strategy? If no such Plan or Strategy is applicable, would the project/program significantly hinder or delay California’s ability to meet the reduction targets contained in AB 32 through greenhouse gasses emitted during either construction or operation?

Calculations of carbon dioxide, methane, and nitrous oxide are provided to identify the magnitude of potential project effects. The analysis focuses on carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄) as these are the GHG emissions that the project would emit in the largest quantities as compared to other GHGs [such as chlorofluorocarbons (CFCs)]. Calculations were based on the methodologies discussed in the CAPCOA white paper (January 2008) and included the use of the California Climate Action Registry General Reporting Protocol (March 2007).

Indirect Emissions from Electricity Use. Area source emissions of CO₂ were quantified using the California Air Resource Board’s URBEMIS 2007 (version 9.2.4) computer model. Nitrous oxide (N₂O) and methane (CH₄) emissions were quantified using the California Climate Action Registry General Reporting Protocol (April 2008) indirect emissions factors for electricity use (see Appendix C for calculations). The calculations and emission factors contained in the General Reporting Protocol were selected based on technical advice provided to the Registry by the California Energy Commission. This methodology is considered to be reasonable and reliable for use as it has been subjected to peer review by numerous public and private stakeholders and in particular by the California Energy Commission, and is recommended by CAPCOA (January 2008).

The following equations are used to determine total emission from Indirect Electricity Use:



$$\text{CH}_4 \text{ Emission (metric tons)} = \text{Electricity Use (kWh)} \times \text{CH}_4 \text{ Electricity Emission Factor (0.0067 lbs/MWh)} / 2,204.62 \text{ lbs/metric tons}$$

$$\text{N}_2\text{O Emission (metric tons)} = \text{Electricity Use (kWh)} \times \text{N}_2\text{O Electricity Emission Factor (0.0037 lbs/MWh)} / 2,204.62 \text{ lbs/metric tons}$$

Equations to determine Carbon Dioxide Equivalent (CO_{2e}) include:

$$\text{Metric Tons of CO}_2\text{e} = \text{Metric tons of CH}_4 \times 21 (\text{GWP CH}_4)$$

$$\text{Metric Tons of CO}_2\text{e} = \text{Metric tons of N}_2\text{O} \times 310 (\text{GWP N}_2\text{O})$$

Direct Emissions from Mobile Combustion. Operational (mobile source) emissions of CO₂ were quantified using the California Air Resource Board's URBEMIS 2007 (version 9.2.4) computer model. Nitrous oxide (N₂O) and methane (CH₄) emissions were quantified using the California Climate Action Registry General Reporting Protocol (April 2008) direct emissions factors for mobile combustion. Total daily mileage was calculated in URBEMIS 2007 and extrapolated out to derive total annual mileage. Emission rates were based on the vehicle mix output generated by URBEMIS and the emission factors found in the California Climate Action Registry General Reporting Protocol.

Equations to determine total emission from fuel use in Motor Vehicles include:

$$\text{CH}_4 \text{ Emission (metric tons)} = \text{Emission Factor by Vehicle and Fuel Type (g/mi)} \times \text{Annual Mileage (mi)} \times 0.000001 \text{ metric tons/g}$$

$$\text{N}_2\text{O Emission (metric tons)} = \text{Emission Factor by Vehicle and Fuel Type (g/mi)} \times \text{Annual Mileage (mi)} \times 0.000001 \text{ metric tons/g}$$

b. Project and Cumulative Impacts.

Impact AQ-1 Population growth that could occur under the proposed 2030 General Plan would exceed the 2007 Clean Air Plan (CAP) population forecasts. Although Transportation Control Measures (TCMs) incorporated into the General Plan Update would likely offset emissions associated with this population increase, based on Air Pollution Control District thresholds, impacts related to CAP consistency would be Class I, *significant and unavoidable*.

As described in Section 4.2.2(a) (Methodology and Thresholds) above, the 2030 General Plan would be inconsistent with the 2007 CAP if: (1) the population generated by the General Plan is greater than what is anticipated in the CAP; (2) the rate of increase in vehicle trips and miles traveled is



greater than the rate of population growth; *or* (3) not all land use and transportation control measures from the CAP have been included in to the General Plan to the maximum extent feasible. It should be noted that a project or program need only meet any one of these criteria to be considered inconsistent with the CAP.

The consistency of the various General Plan components with each of these thresholds is discussed in the paragraphs below.

2030 General Plan Buildout within City Limits

Population Growth. Maximum development facilitated by the 2030 General Plan within the existing City Limits (including the H Street Corridor Infill area) would add an estimated 8,173 residents (2,838 dwelling units x 2.88 people/dwelling unit). This would bring the citywide population to 51,130. This estimate exceeds SBCAG's 2030 growth forecast for the City (48,200 in 2030) by 2,930 people or by approximately 6% percent. It should be noted, however, that the maximum buildout estimate assumes not only that every remaining vacant property in Lompoc would be developed by 2030, but that the H Street Corridor Infill area would completely redevelop over the same time frame. Nevertheless, because development facilitated by full buildout of the 2030 General Plan would exceed SBCAG growth forecasts, it would also be inconsistent with the 2007 CAP population growth assumptions.

It should be noted that although buildout population would be inconsistent with current CAP forecasts, SBCAG and SBCAPCD population estimates are periodically updated based on General Plan Updates, at which time any inconsistencies between regional planning documents and the population growth anticipated under the 2030 General Plan would be rectified (refer also to Section 4.10, *Population and Housing*).

Vehicle Miles Traveled. According to URBEMIS calculations, new population generated by buildout of the 2030 General Plan would increase overall vehicle miles traveled (VMT) by as much as 235,867 miles (or 28.9 daily VMT per new resident). However, under the 2030 General Plan, development within the City of Lompoc will primarily involve intensification, reuse of already developed lands, and infill development on underutilized parcels. By promoting intensification and reuse of already developed and underutilized land, the 2030 General Plan aims to reduce vehicle use and vehicle miles traveled, which would result in a reduction in fuel consumption and air pollutant emissions. Research indicates that infill development reduces VMTs and associated air pollutant emissions as compared to development on sites at the periphery of metropolitan areas, also known as "greenfield" sites. For example, a 1999 simulation study conducted for the U.S. Environmental Protection Agency comparing infill development to greenfield development found that infill development results in substantially fewer VMT per-capita (39% to 52%) and generates fewer emissions of most air pollutants and GHGs (USEPA, 1999). Similarly, a 1991 study presented to the California Energy Resources Conservation and Development Commission (Holtzclaw, 1991) found that a doubling of residential densities is associated with a 20% to 30% reduction in per-capita VMT.



In addition, the Circulation Element of the 2030 General Plan contains policies (listed below) which target reductions in air pollutant emissions through circulation and land use design factors and compliance with applicable laws and regulations.

By increasing the overall population density of the community and encouraging mixed land uses, implementation of the 2030 General Plan would be expected to generally reduce per-capita automobile trips and per-capita travel distances as compared to existing conditions or lower density development in undeveloped areas. This would generally reduce per-capita air pollutant emissions associated with vehicle use. Therefore, the increase in VMT facilitated by buildout under the 2030 General Plan would be consistent with this 2007 CAP consistency criterion.

Consistency with CAP Control Measures. Consistency with the 2007 CAP is also a function of consistency with applicable CAP control measures. The 2007 CAP includes specific emissions control measures and transportation control measures designed to reduce air pollutant emissions in order meet federal and state air quality standards. One of the most important methods the CAP relies on to achieve its goals is the use of Transportation Control Measures (TCMs). TCMs are defined in the 2007 CAP as being “programs or activities that states and localities can implement to encourage the traveling public to rely less on the automobile or to use the automobile more efficiently.” The 2007 CAP includes 13 adopted transportation control measures to be implemented by the SBCAPCD, California Air Resource Board (ARB), the EPA, and SBCAG. Table 4.2-4 lists applicable TCMs and the General Plan policies that support each TCM.

Although development accommodated by the 2030 General Plan would result in an incremental increase in emissions, policies contained in the proposed 2030 General Plan would serve to reduce overall air quality impacts. Because TCMs have been included in to the General Plan to the maximum extent feasible, the 2030 General Plan would be consistent with this 2007 CAP consistency criterion.

Conclusion. As noted above, population growth that could occur under the proposed 2030 General Plan within the existing City Limits would exceed 2007 CAP forecasts by approximately 6%. According to the SBCAPCD, an increase in population growth above that forecasted in the CAP is inconsistent with the CAP, which is a significant and unavoidable impact.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.



**Table 4.2-4
 2030 General Plan Consistency with SBCAPCD Transportation Control Measures**

Transportation Control Measure	2030 General Plan Policy
<p>T-1 Trip Reduction Ordinance</p>	<p><u>Land Use Element</u></p> <p>Policy 1.7: The City shall encourage infill development to meet City residential and commercial growth needs. The City designates the H Street Corridor Infill area as shown on Figure LU-2 as particularly suitable to infill development and shall prescribe specific design and zoning standards for this corridor. Additional information on the intent of the H Street Corridor Infill area is provided in Table LU-1.</p> <p>Policy 3.2: The City shall encourage mixed-use development in appropriate areas to provide opportunities for a jobs and housing balance at the community and neighborhood level. The H Street Corridor Infill Area is designated as an area appropriate for mixed-use development and redevelopment.</p> <p>Policy 3.5: The City shall encourage development and redevelopment of the H Street Corridor Infill Area and Old Town Specific Plan Area to revitalize these areas and provide a diverse and vibrant focal point for business. New commercial and mixed use development should be encouraged, and such new development should incorporate site design and layout that provides an inviting pedestrian-oriented environment in keeping with the Urban Design Element, Old Town Specific Plan, and the H Street Corridor Infill Overlay standards, as applicable, to encourage similar development in these areas. Strategies to revitalize these areas may include the use of redevelopment funds for infrastructure improvements and upgrades to encourage infill development of vacant or underutilized lots.</p> <p>Policy 8.1: The City shall encourage high-quality infill and redevelopment projects to revitalize the community.</p> <p>Policy 8.2: The City shall promote infill development, rehabilitation, and reuse that contributes positively to the surrounding area and assists in meeting neighborhood and other City goals.</p> <p>Policy 8.3: The City shall promote revitalization of the Old Town Specific Plan Area through attractive redevelopment of public and private facilities, whenever such projects are undertaken.</p> <p>Policy 8.4: The City shall promote revitalization of the H Street corridor to serve community needs through attractive redevelopment of public and private properties.</p> <p>Policy 8.6: The City shall encourage co-location of development and mixed uses to enhance the community’s image and convenience within or near public Park-and-Ride sites.</p>



**Table 4.2-4
 2030 General Plan Consistency with SBCAPCD Transportation Control Measures**

Transportation Control Measure	2030 General Plan Policy
	<p>Policy 8.9: The City shall eliminate regulatory obstacles and create more flexible development standards for infill development.</p> <p>Policy 8.10: The City shall provide infrastructure improvements to allow for increased infill development potential.</p> <p>Policy 8.11: The City shall provide focused incentives and project assistance to assist in infill development in target areas and sites.</p> <p>Policy 8.12: The City shall engage the community to ensure new infill development addresses neighborhood concerns and to gain greater acceptance and support for infill development.</p>
<p>T-2 Employer Based Transportation Demand Management Programs</p>	<p><u>Circulation Element</u></p> <p>Policy 3.9: The City should encourage efforts by local employers to offer telecommuting and other work schedule modifications which reduce vehicular use.</p>
<p>T-4 Area-wide Ridesharing Incentives</p>	<p><u>Circulation Element</u></p> <p>Policy 3.5: The City shall encourage regional transportation services to accommodate the needs of commuters and ridesharing.</p> <p><u>Land Use Element</u></p> <p>Policy 8.6: The City shall encourage co-location of development and mixed uses to enhance the community’s image and convenience within or near public Park-and-Ride sites.</p>
<p>T-5 Improve Commuter Public Transit Service</p>	<p><u>Circulation Element</u></p> <p>Policy 3.3: The City shall encourage programs and strategies including site design features that provide for ridesharing and transit use.</p> <p>Policy 3.4: The City shall provide safe and convenient transit service which strives to meet the needs of the transportation-disadvantaged including young, elderly, disabled, and low-income individuals. Such transit service should provide frequent, reliable and efficient service, with service hours that meet the needs of riders to maintain and increase the viability of public transit as an alternative to driving for Lompoc residents and commuting workers.</p> <p>Policy 3.7: The City shall continue to support transit including the COLT bus system and shall work</p>



**Table 4.2-4
 2030 General Plan Consistency with SBCAPCD Transportation Control Measures**

Transportation Control Measure	2030 General Plan Policy
	<p>cooperatively with appropriate jurisdictions and agencies to encourage the augmentation of roadway and transit facilities, which address local and regional travel needs.</p> <p>Policy 3.8: The City shall require, during the development review process, the dedication of land and/or construction of appropriate facilities to ensure a safe and efficient public transportation system.</p> <p>Policy 3.10: The City should require developers to provide bus shelters in high-usage locations, for example, in multi-family developments and within commercial areas. The City should consider the need for bus shelters and other transit facilities in City-sponsored redevelopment projects.</p> <p>Policy 3.11: The City shall require the construction of bus turnouts adjacent to new developments in locations which improve transit service, safety, and efficiency.</p>
<p>T-7 Traffic Flow Improvements</p>	<p><u>Circulation Element</u></p> <p>Policy 1.2: The City shall maintain intersection traffic levels of service (LOS) at LOS C or better throughout the City, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections shall maintain a LOS in accordance with the most recent CMP standards, when it can be demonstrated that all feasible mitigation measures have been applied to the project and LOS C, with said mitigation, cannot be achieved. [GP 05-02, Resolution No. 5267(05)].</p> <p>Policy 1.4: The City shall only allow development in areas where adequate circulation facilities and/or services, as defined in Policy 1.2, will be available at the time of development.</p> <p>Policy 1.5: The City shall maximize movement of through-traffic on expressways and arterials by encouraging efficient utilization of existing roadway capacity, and when necessary providing additional transportation capacity. For arterials, consideration should also be given to planned or future pedestrian and bicyclist facilities so that vehicular improvements are not at the expense of facilities and safety of these other modes of transportation.</p>
<p>T-8 Parking Management</p>	<p><u>Circulation Element</u></p> <p>Policy 1.8: Provide an adequate supply of private and public off-street parking to meet the needs of residents and visitors to the City [refer to Section 8851 of the Lompoc Zoning Ordinance (Schedule of Off-Street Parking Requirements)].</p>



**Table 4.2-4
 2030 General Plan Consistency with SBCAPCD Transportation Control Measures**

Transportation Control Measure	2030 General Plan Policy
<p>T-10 Bicycle and Pedestrian Programs</p>	<p><u>Circulation Element</u></p> <p>Policy 1.5: The City shall maximize movement of through-traffic on expressways and arterials by encouraging efficient utilization of existing roadway capacity, and when necessary providing additional transportation capacity. For arterials, consideration should also be given to planned or future pedestrian and bicyclist facilities so that vehicular improvements are not at the expense of facilities and safety of these other modes of transportation.</p> <p>Policy 1.9: The City shall ensure that developers of new commercial and mixed use areas provide adequate and convenient pedestrian access ways into adjacent residential neighborhoods.</p> <p>Policy 3.1: The City shall provide and maintain a safe and convenient circulation system that encourages walking and that seeks to provide a continuous network of sidewalks and separated pedestrian paths connecting housing areas with major activity centers such as shopping areas, schools, and recreation.</p> <p>Policy 3.2: The City shall provide and maintain a safe and convenient circulation system that encourages bicycle travel.</p> <p>Policy 3.6: The City shall facilitate the provision of lockers and secure enclosed long term parking areas for bicycles at appropriate places throughout the City and at multi-modal stations to extend the range of the bicycle commuter.</p> <p>Policy 3.12: The City shall encourage the inclusion of facilities that promote alternative modes of transportation, including bicycle lanes and connections, pedestrian and hiking trails, park and ride lots, and facilities for public transit into new development as well as existing development.</p> <p><u>Land Use Element</u></p> <p>Policy 2.1: The City shall encourage residential developments to provide amenities and features that provide convenient access by pedestrians and bicyclists to commercial areas.</p> <p>Policy 8.7: The City shall encourage development to be pedestrian-friendly and convenient for transit.</p>

Source: Santa Barbara Air Pollution Control District, 2007 Clean Air Plan.



Population Growth. Development of the Bailey Avenue Specific Plan expansion area would add an estimated 7,827 residents (2,718 dwelling units x 2.88 people/dwelling unit), thus increasing the City's population to 50,784. This estimate exceeds SBCAG's 2030 growth forecast for the City (48,200 in 2030) by 2,584 people or by approximately 5.4%. Buildout of the 2030 General Plan within the Bailey Avenue Specific Plan expansion area therefore exceeds the 2007 CAP population forecasts.

Vehicle Miles Traveled. The Bailey Avenue Specific Plan expansion area is located contiguous to the existing City boundary. Trips generated from development in this area would therefore travel similar distances to destinations when compared to average trips within the existing City Limits. The rate of increase in VMTs would not exceed the rate of population growth, which would be consistent with the 2007 CAP.

Consistency with CAP Control Measures. As shown in Table 4.2-4, the 2030 General Plan contains policies which would implement TCMs to the maximum extent feasible. Development within the Bailey Avenue Specific Plan expansion area in accordance with the General Plan would not alter the degree to which these TCMs are implemented.

Conclusion. Due to the increase in population growth above that forecasted in the CAP, development of the Bailey Avenue Specific Plan expansion area in accordance with the proposed 2030 General Plan is inconsistent with the CAP, which is a significant and unavoidable impact.

Expansion Area B: River Area

Population Growth. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. For the purpose of this analysis, it is assumed that these RV campsites would accommodate long-term residents. Therefore, as a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to an additional 362 residents. This would increase the City's population to 43,319. This estimate would not exceed SBCAG's 2030 growth forecast for Lompoc (48,200 in 2030). Development of the River expansion area in accordance with the 2030 General Plan would therefore be consistent with 2007 CAP population forecasts.

Vehicle Miles Traveled. The River expansion area is located contiguous to the existing City boundary and in close proximity to State Route 246 and Highway 1. Trips generated from development in this area would therefore travel similar distances to destinations when compared to average trips within the existing City Limits. The rate of increase in VMTs would therefore not exceed the rate of population growth, which would be consistent with the 2007 CAP.



Consistency with CAP Control Measures. As shown in Table 4.2–4, the 2030 General Plan contains policies which would implement TCMs to the maximum extent feasible. Development of the River expansion area in accordance with the General Plan would not alter the degree to which these TCMs are implemented.

Conclusion. Development of the River expansion area in accordance with the 2030 General Plan would not exceed 2007 CAP population forecasts, result in an accelerated rate of increase in VMTs, or fail to implement applicable TCMs. Therefore, development of this area would be consistent with the CAP.

Expansion Area C: Miguelito Canyon Area

Population Growth. Development of the Miguelito Canyon expansion area would add an estimated 72 residents (25 dwelling units x 2.88 people/dwelling unit), thus increasing the City's population to 43,029. This estimate does not exceed SBCAG's 2030 growth forecast for Lompoc (48,200 in 2030). Development of the Miguelito Canyon expansion area in accordance with the 2030 General Plan would therefore be consistent with 2007 CAP population forecasts.

Vehicle Miles Traveled. The Miguelito Canyon expansion area is currently developed with minimal urban uses (scattered rural residences) and is located at the periphery of the City. Trips generated from development in this area would therefore travel farther to destinations when compared to average trips within the existing City Limits. The accelerated rate of increase in VMTs would cause development in this area to be inconsistent with this 2007 CAP consistency criterion.

Consistency with CAP Control Measures. As shown in Table 4.2–4, the 2030 General Plan contains policies which would implement TCMs to the maximum extent feasible. Development of the Miguelito Canyon expansion area in accordance with the General Plan would not alter the degree to which these TCMs are implemented.

Conclusion. Development of the Miguelito Canyon expansion area in accordance with the 2030 General Plan would not exceed 2007 CAP population forecasts or fail to implement applicable TCMs. However, due to the accelerated rate of increase in VMTs, development of this area would be inconsistent with the CAP, which is a significant and unavoidable impact.

Expansion Area D: Wye Residential Area

Population Growth. Development of the Wye Residential expansion area would add an estimated 132 residents (46 dwelling units x 2.88 people/dwelling unit), thus increasing the City's population to 43,089. This estimate does not exceed SBCAG's 2030 growth forecast for Lompoc (48,200 in 2030). Development of the Wye Residential expansion area in accordance with the 2030 General Plan would therefore be consistent with 2007 CAP population forecasts.



Vehicle Miles Traveled. The Wye Residential expansion area is located contiguous to the existing City boundary and in close proximity to Highway 1. Trips generated from development in this area would travel similar distances to destinations when compared to average trips within the existing City Limits. The rate of increase in VMTs would not exceed the rate of population growth, which would be consistent with the 2007 CAP.

Consistency with CAP Control Measures. As shown in Table 4.2-4, the 2030 General Plan contains policies which would implement TCMs to the maximum extent feasible. Development of the Wye Residential expansion area in accordance with the General Plan would not alter the degree to which these TCMs are implemented.

Conclusion. Development of the Wye Residential expansion area in accordance with the 2030 General Plan would not exceed 2007 CAP population forecasts, result in an accelerated rate of increase in VMTs, or fail to implement applicable TCMs. Therefore, development of this area would be consistent with the CAP.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to consistency with the 2007 CAP from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, buildout within the existing City Limits (including the H Street Corridor Infill area) and within the four identified expansion areas would add a total of 5,753 new units to the City of Lompoc. Based on an average household size of 2.88 persons per unit (U.S. Census, 2000), a cumulative total of 16,568 residents could be added to the City of Lompoc as a result of the 2030 General Plan. This would bring the citywide population to 59,525, which would exceed SBCAG's 2030 growth forecast for the City by 11,325 people (or 23.5%).

It should be noted, however, that this maximum buildout estimate assumes not only that every remaining vacant or underdeveloped property in Lompoc would be developed by 2030, but that the H Street Corridor Infill area would completely redevelop over the same time frame. Although buildout population would be inconsistent with current CAP forecasts, SBCAG and SBCAPCD population estimates are periodically updated based on General Plan Updates, at which time any inconsistencies between regional planning documents and the population growth anticipated under the 2030 General Plan would be rectified (refer also to Section 4.10, *Population and Housing*). Nevertheless, because development facilitated by the 2030 General Plan would exceed SBCAG current CAP population growth assumptions, it would be inconsistent with this 2007 CAP consistency criterion. In addition, as noted above, development of the Miguelito Canyon expansion area would increase VMTs due to its locations at the periphery of the City. Cumulative CAP consistency impacts would therefore be Class I, *significant and unavoidable*.



General Plan Policies which Reduce Impacts

Table 4.2–4 lists General Plan Land Use and Circulation Element policies which support TCMs. In addition, the existing 1997 General Plan Resource Management Element (RME) includes the following policies which would reduce emissions of criteria air pollutants.

- RME Policy 7.1** *The City shall participate in regional air quality planning programs to attain federal and state air quality standards.*
- RME Policy 7.2** *The City shall encourage federal, state, and local agencies to require local emission offsets and best available air pollution control technology on emission sources affecting the Lompoc Valley.*
- RME Policy 7.3** *The City shall encourage the Air Pollution Control District (APCD) to:*
1) enforce air quality rules and regulations in a uniform manner and
2) maintain air quality monitoring stations in the Lompoc Valley.
- RME Policy 7.4** *The City shall consult with the APCD during the review of any development project which may emit air pollutants or is in the vicinity of a source of air pollutants.*
- RME Policy 7.6** *The City shall encourage the agricultural industry to minimize the emission of pollutants resulting from agricultural activities.*
- RME Policy 8.1** *The City shall require development projects to minimize vehicle-related air quality impacts.*
- RME Policy 8.2** *The City shall discourage auto-dependent facilities which cause excessive emissions from idling vehicles.*

Mitigation Measures. No feasible mitigation measures are available that would reduce impacts to a less than significant level.

Significance after Mitigation. Impacts would remain significant and unavoidable.

Impact AQ-2 Individual development projects facilitated by the proposed 2030 General Plan would generate construction-related emissions. Such emissions may result in temporary adverse impacts to local air quality. However, compliance with SBCAPCD requirements would ensure that impacts remain Class III, *less than significant*.



2030 General Plan Buildout within City Limits

Construction activity facilitated by the proposed 2030 General Plan within the existing City Limits, including the H Street Corridor Infill area, would cause temporary emissions of various air pollutants. Although construction could occur throughout the City, it is anticipated that the areas where the highest amount of construction activity would occur are the vacant and/or underutilized parcels throughout the City and within the H Street Corridor Infill area, which runs along H Street from approximately Ocean Avenue to Central Avenue. Ozone precursors ROG and NO_x, as well as CO, would be emitted by the operation of construction equipment, while fugitive dust (PM₁₀) would be emitted by activities that disturb soil, such as grading and excavation, road construction and building construction. As previously stated, the Santa Barbara County portion of the SCCAB is designated non-attainment for ozone (state standard) and PM₁₀ (state and federal standards).

Taken individually, construction activities are not generally considered to have significant air quality impacts because of their short-term and temporary nature. However, given the amount of development that could occur within the existing City Limits under the proposed 2030 General Plan, it is reasonable to conclude that some major construction activity could be occurring at any given time over the life of the General Plan. Impacts could also be complicated by the fact that multiple construction projects could occur simultaneously in any portion of the City.

According to the SBCAPCD's *Scope and Content of Air Quality Sections in Environmental Documents* (June 2008), because Santa Barbara County violates the state standard for PM₁₀, standard dust control measures are required for any discretionary construction activities regardless of project size or duration. These requirements (outlined below) would ensure that any construction-related air quality impacts remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development in the 270-acre Bailey Avenue Specific Plan expansion area would include up to 2,184 single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. Construction activities associated with this development would result in temporary short-term air quality impacts. These impacts are associated with dust generated by on-site grading activities and as a result of heavy construction vehicle emissions. However, as noted above, because Santa Barbara County violates the state standard for PM₁₀, standard dust control measures are required for any discretionary construction activities



regardless of project size or duration. These requirements (outlined below) would ensure that any construction-related air quality impacts remain less than significant.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. Construction activities associated with this development would result in temporary short-term air quality impacts. However, as noted above, because Santa Barbara County violates the state standard for PM₁₀, standard dust control measures are required for any discretionary construction activities regardless of project size or duration. These requirements (outlined below) would ensure that any construction-related air quality impacts remain less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 rural density residences in an area currently composed of open space and scattered residences. Construction activities associated with this development would result in temporary short-term air quality impacts. However, as noted above, because Santa Barbara County violates the state standard for PM₁₀, standard dust control measures are required for any discretionary construction activities regardless of project size or duration. These requirements (outlined below) would ensure that any construction-related air quality impacts remain less than significant.

Expansion Area D: Wye Residential Area

The approximately 10-acre Wye Residential expansion area would accommodate 46 low density single-family units. Construction activities associated with this development would result in temporary short-term air quality impacts. However, as noted above, because Santa Barbara County violates the state standard for PM₁₀, standard dust control measures are required for any discretionary construction activities regardless of project size or duration. These requirements (outlined below) would ensure that any construction-related air quality impacts remain less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Construction-related air quality impacts from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes temporary short-term air quality impacts primarily associated with dust generated by on-site grading activities and as a result of heavy construction vehicle emissions. Existing requirements in the SBCAPCD *Scope and*



Content of Air Quality Sections in Environmental Documents (June 2008) would reduce impacts to less than significant levels.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Resource Management Element (RME) includes the following policies which would reduce construction-related air quality impacts.

RME Policy 7.3 *The City shall encourage the Air Pollution Control District (APCD) to:*
1) *enforce air quality rules and regulations in a uniform manner and*
2) *maintain air quality monitoring stations in the Lompoc Valley.*

RME Policy 7.4 *The City shall consult with the APCD during the review of any development project which may emit air pollutants or is in the vicinity of a source of air pollutants.*

RME Policy 7.5 *The City shall minimize air quality impacts resulting from construction activities regulated by the City.*

In addition, in accordance with SBCAPCD's *Scope and Content of Air Quality Sections in Environmental Documents* (June 2008) and because Santa Barbara County violates the state standard for PM₁₀, standard dust control measures are required for any discretionary construction activities regardless of project size or duration. These include the following requirements:

- *During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 10 miles per hour. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.*
- *Minimize the amount of disturbed area and reduce on-site vehicle speeds to 15 miles per hour or less.*
- *Gravel pads must be installed at all access points to prevent tracking of mud onto public roads.*
- *If importation, exportation, and stockpiling of fill material are involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.*
- *After clearing, grading, earth moving, or excavation is completed, treat the disturbed area by watering, or revegetating, or spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.*



- *The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to land use clearance for map recordation and land use clearance for finish grading for the structure.*
- *Prior to land use clearance, the applicant shall include, as a note on a separate information sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans.*

As of June 15, 2008, fleet owners are subject to sections 2449, 2449.1, and 2449.3 in Title 13, Article 4.8, Chapter 9, of the California Code of Regulations (CCR) to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use off-road diesel-fueled vehicles. The following shall be adhered to during project grading and construction to reduce NO_x and PM_{2.5} emissions from construction equipment:

- *All portable construction equipment shall be registered with the state's portable equipment registration program OR permitted by the District by September 18, 2008.*
- *Diesel construction equipment meeting the California Air Resources Board's Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting Tier 2 or higher emission standards should be used to the maximum extent feasible.*
- *The engine size of construction equipment shall be the minimum practical size.*
- *The number of construction equipment operation simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.*
- *Construction equipment shall be maintained in tune per the manufacturer's specifications.*
- *Construction equipment operating on-site shall be equipped with two to four degree engine timing retard or pre-combustion chamber engines.*
- *Catalytic converters shall be installed on gasoline-powered equipment, if feasible.*
- *Diesel catalytic converters, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California shall be installed on equipment operating on-site.*
- *Diesel powered equipment should be replaced by electric equipment whenever feasible.*
- *Idling of heavy-duty diesel trucks during loading and unloading shall be limited to five minutes; auxiliary power units should be used whenever possible.*
- *Construction worker trips should be minimized by requiring carpooling and by providing lunch on-site.*



Mitigation Measures. Implementation of standard dust and emissions control measures required by the SBCAPCD would ensure that construction-related air quality impacts remain less than significant.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-3 The 2030 General Plan would facilitate development of projects with the potential to cause significant odor impacts, as well as projects which have the potential to be affected by nuisance odor. Impacts associated with objectionable odors would be Class II, *significant but mitigable*.

2030 General Plan Buildout within City Limits

The proposed 2030 General Plan would facilitate the development of up to 431,245 square feet of commercial uses and 1,071,489 square feet of industrial uses within the existing City Limits (including the proposed H Street Corridor Infill area). Some commercial and industrial uses developed under the 2030 General Plan may generate odor nuisance effects to the public or to adjoining residents. Examples of commercial uses that have the potential to cause odor nuisance impacts include fast food restaurants, photographic studios, and laundry facilities. Industrial uses may also generate nuisance odors.

The proposed 2030 General Plan would also facilitate the development of up to 2,838 residential units within the existing City Limits (including the proposed H Street Corridor Infill area). Some of these residential units could be developed adjacent to or downwind from existing sources of odor. This could include commercial or industrial uses as discussed above, as well as agricultural production or the Lompoc Regional Wastewater Reclamation Plant (LRWRP). Within the H Street Corridor Infill area, which allows mixed-use type development, residential uses could be located in close proximity to potential odor generators.

The extent of perceived odor impacts depends on the nature of the operation, the proximity to residential and other sensitive uses, as well as an individual's tolerance for the odor generated. Mitigation is required to ensure that odor nuisance impacts are reduced to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.



Development in the 270-acre Bailey Avenue Specific Plan expansion area would include up to 2,184 single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. Commercial uses developed on the site could generate nuisance odors, as described above, and residences could be placed in close proximity to existing or future odor generators. Existing odor generators near the site include agricultural operations west of the expansion area. In addition, development within the Bailey Avenue Specific Plan expansion area may include mixed-use development, which could place residential uses in close proximity to potential odor generators.

As noted previously, the extent of perceived odor impacts depends on the nature of the operation, the proximity to residential and other sensitive uses, as well as an individual's tolerance for the odor generated. Mitigation is required to ensure that odor nuisance impacts are reduced to a less than significant level.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. For the purpose of this analysis, it is assumed that these RV campsites would accommodate long-term residents. These units are therefore considered sensitive odor receptors, and may be placed in close proximity to existing or future odor generators. This includes existing agricultural operations north and east of the site. As noted previously, the extent of perceived odor impacts depends on the nature of the operation, the proximity to residential and other sensitive uses, as well as an individual's tolerance for the odor generated. Due to the distance to agricultural operations and the lack of other potential odor-generators in the area, impacts would be less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 rural density residences in an area currently composed of open space and scattered residences. Residential uses would not be considered-odor generating uses, and there are no known odor generators in the vicinity. Impacts would therefore be less than significant.

Expansion Area D: Wye Residential Area

The approximately 10-acre Wye Residential expansion area would accommodate 46 low density single-family units. Residential uses would not be considered-odor generating uses, and there are no known odor generators in the vicinity. Impacts would therefore be less than significant.



Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Odor nuisance impacts from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes potential odor–nuisance impacts from buildout of the 2030 General Plan within the existing City Limits and the Bailey Avenue Specific Plan expansion area. Mitigation measures AQ–4(a) and AQ–4(b) would reduce these impacts to a less than significant level.

General Plan Policies which Reduce Impacts

The 2030 General Plan Land Use Element (LUE) contains the following policies which would reduce odor–related impacts:

LUE Policy 2.2 *The City shall protect residential neighborhoods from encroachment by adverse or incompatible non–residential uses (for example, intensive agriculture or industry) and impacts associated with those non–residential uses, including impacts to neighborhood character.*

LUE Policy 2.3 *The City shall require provision of permanent buffer or transitional areas as part of new residential development adjacent to areas designated for commercial or industrial uses, except where mixed–use development may be appropriate.*

LUE Policy 8.5 *The City shall require commercial, industrial, civic, and institutional development to be designed in ways that minimize conflicts with adjacent homes and neighborhoods.*

Mitigation Measures. The following mitigation measures are required:

AQ–3(a) Odor Abatement Plan. The 2030 Update to the Conservation/Open Space Element shall include the following new policy.

Applicants for potential odor generators shall develop and implement an Odor Abatement Plan (OAP), which shall be submitted to the Community Development Department and approved by the City prior to zoning clearance. The OAP shall include the following:

- *Name and telephone number of contact person(s) responsible for logging and responding to odor complaints;*



- *Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the responsible party on how to respond to an odor complaint;*
- *Description of potential odor sources (i.e. odors associated with a fast food restaurant may include cooking and grease aromas);*
- *Description of potential methods for reducing odors, including minimizing potential add-on air pollution control equipment; and*
- *Contingency measures to curtail emissions in the event of a continuous public nuisance.*

AQ-3(b) Prohibited Commercial Uses in Mixed-Use Zones. To ensure that future residents of mixed-use development would not be exposed to nuisance odors, the following revisions to the 2030 Update of the Land Use Element shall be made:

- 1) Table LU-1 shall be revised to include in the description for the Old Town Commercial (OTC) and Mixed-Use (MU) land use designations the following additional text:

Prohibited uses include photographic studios, laundry facilities, and other potentially incompatible uses.

- 2) A new implementation measure shall be added as follows:

Measure 36. The Zoning Code shall be updated to include a list of prohibited uses in mixed use developments. The list shall include photographic studios, dry-cleaning laundry facilities, and other potentially incompatible uses.

Significance after Mitigation. With implementation of the above mitigation measures, the proposed 2030 General Plan would have less than significant odor nuisance impacts.

Impact AQ-4 Development facilitated by the proposed 2030 General Plan Land Use, Circulation, and Housing Elements would result in an increase in greenhouse gas (GHG) emissions within the South Central Coast Air Basin and would hinder the implementation of AB 32. Impacts would be Class II, *significant but mitigable*.

As there are no adopted thresholds, this analysis conforms closely to the methodologies and thresholds recommended in the AEP *White Paper on Global Climate Change* (2007), as discussed in Section 4.2.2(a).



2030 General Plan Buildout within City Limits

Quantification of GHG Emissions. The following section inventories projected greenhouse gas emissions due to buildout of the General Plan within Lompoc City Limits.

Area Source Emissions. Development under the proposed 2030 General Plan within the existing City Limits would consume approximately 38,339,988 kWh/year based on energy demand factors from the CAPCOA *CEQA and Climate Change* white paper (January 2008). The generation of electricity through combustion of fossil fuels typically yields carbon dioxide, and to a smaller extent nitrous oxide and methane. As discussed above, annual electricity emission can be calculated using the California Climate Action Registry Protocols. Table 4.2-5 shows the estimated area source emissions of GHGs from buildout of the proposed 2030 General Plan within the existing City Limits, including the H Street Corridor Infill area. Carbon dioxide emission estimates using the URBEMIS model also take into account emissions from other area source sources such as natural gas use for space heating, and are included in the CO₂ totals below.

**Table 4.2-5
 Estimated Annual Area Source Emissions of Greenhouse Gases
 Buildout within City Limits**

Emission Source	Annual Emissions	
	Emissions	CO ₂ e
Carbon Dioxide (CO ₂) ¹	16,844.9 tons (short, US)	15,281.4 metric tons CO ₂ e
Carbon Dioxide (CO ₂) ²	9,228.6 tons (short, US)	8,372.1 metric tons CO ₂ e
Methane (CH ₄) ²	0.1 metric tons	2.7 metric tons CO ₂ e
Nitrous Oxide (N ₂ O) ²	0.1 metric tons	22.0 metric tons CO ₂ e
Project Total		23,678.2 metric tons CO₂e

Source:

¹ *Operational Emissions from URBEMIS 2007 (version 9.2.4).*

² *California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, June 2008, page 39-46.*

Operational Emissions. The URBEMIS model estimates emissions from vehicle trips as a result of buildout of the proposed 2030 General Plan. Table 4.2-6 shows the estimated operational emissions of GHGs from buildout of the proposed 2030 General Plan within the existing City Limits.



**Table 4.2-6
 Estimated Annual Operational Emissions of Greenhouse Gases
 Buildout within City Limits**

Emission Source	Annual Emissions	
	Emissions	CO ₂ e
Carbon Dioxide (CO ₂) ¹	38,673.6 tons (short, US)	35,084.1 metric tons CO ₂ e
Methane (CH ₄) ²	36.1 metric tons	758.0 metric tons CO ₂ e
Nitrous Oxide (N ₂ O) ²	40.1 metric tons	12,420.0 metric tons CO ₂ e
Project Total		48,262.0 metric tons CO₂e

Source:

¹ Operational Emissions from URBEMIS 2007 (version 9.2.4).

² California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, June 2008, page 39-46.

Combined Area Source and Operational Emissions. Table 4.2-7 lists the combined area source and operational emissions for buildout of the proposed 2030 General Plan within the existing City Limits, including the H Street Corridor Infill area. Using the numbers described above, the combined area source and operational GHG emissions for the proposed General Plan total approximately 79,045 metric tons per year in carbon dioxide equivalency units. This total represents roughly 0.016% of California’s total 2004 emissions of 492 MMT. These emission projections indicate the majority of the draft General Plan GHG emissions are associated with vehicle miles traveled (about 66%), and to a lesser extent from electricity consumption (about 34%).

**Table 4.2-7
 Combined Annual Emissions of Greenhouse Gases
 Buildout within City Limits**

Emission Source	Annual Emissions
Area Source	23,678.2 metric tons CO ₂ e
Operational	48,262.0 metric tons CO ₂ e
Draft General Plan Total	71,940.2 metric tons CO₂e

Sources:

Operational Emissions from URBEMIS 2007 (version 9.2.4).

California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, June 2008.

Consistency with Climate Action Team Strategies. There is no adopted GHG Reduction Plan or applicable strategy for the City of Lompoc. Therefore, the significance of emissions under the proposed 2030 General Plan is determined based on their impact on the ability of the State to reach AB 32’s goals [refer to Section 4.2.2(a)].

Appendix B of the CAPCOA White Paper (2008) identifies mitigation measures and their reductions in GHG emissions and a range of percentage reductions for a variety of categories



including bicycles, pedestrian pathways, parking, design, mixed-use, energy, and construction features. The ranges are indicative of the reductions each of the features reduce GHG emissions from a numerical low to high. Generally, in determining emissions reductions achieved by a particular policy, low percentage reductions would be used to provide a conservative emissions reduction estimate. The proposed 2030 General Plan includes policies which are intended to limit, mitigate, and reduce criteria pollutant emissions, and which would also reduce GHG emissions (see *General Plan Policies Which Reduce Impacts*, below). However, these General Plan policies do not specifically address greenhouse gas reductions, nor are they equivalent to mitigation measures recommended in the CAPCOA White Paper for measurable greenhouse gas reduction. Therefore, the General Plan does not include measurable GHG reductions from the unmitigated project emissions inventory presented in the above section (Quantification of GHG Emissions), and would therefore hinder implementation of AB 32. Impacts from buildout of the proposed 2030 General Plan within the existing City Limits would therefore be potentially significant.

Expansion Area A: Bailey Avenue Specific Plan Area

Area source and operational emissions totals associated with development of the Bailey Avenue Specific Plan expansion area are shown in Table 4.2-8. For calculations, see Appendix C.

**Table 4.2-8
 Estimated Annual Emissions of Greenhouse Gases
 Expansion Area A: Bailey Avenue Specific Plan Area**

Emission Source	CO ₂ e
Area Source Emissions	17,597.4 metric tons CO ₂ e
Operational Emissions	31,555.6 metric tons CO ₂ e
Total Annual GHG Emissions	49,162.0 metric tons CO₂e

Sources:

URBEMIS 2007 (version 9.2.4).

California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, June 2008, page 39-46.

As noted above, the 2030 General Plan Land Use, Circulation, and Housing Element Update does not include policies equivalent to mitigation measures recommended in the CAPCOA White Paper for measurable GHG reduction. Emissions from development within the Bailey Avenue Specific Plan expansion area in accordance with the 2030 General Plan would therefore fail to contribute to GHG emissions reduction, thereby hindering implementation of AB 32. Impacts from buildout of the proposed 2030 General Plan within the Bailey Avenue Specific Plan expansion area would therefore be potentially significant.

Expansion Area B: River Area

Area source and operational emissions totals associated with development of the River expansion area are shown in Table 4.2-9. For calculations, see Appendix C.



**Table 4.2-9
 Estimated Annual Emissions of Greenhouse Gases
 Expansion Area B: River Area**

Emission Source	CO₂e
Area Source Emissions	757.3 metric tons CO ₂ e
Operational Emissions	948.5 metric tons CO ₂ e
Total Annual GHG Emissions	1,705.8 metric tons CO₂e

Sources:

URBEMIS 2007 (version 9.2.4).

California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, June 2008, page 39-46.

As noted previously, the 2030 General Plan Land Use, Circulation, and Housing Element Update does not include policies equivalent to mitigation measures recommended in the CAPCOA White Paper for measurable GHG reduction. Emissions from development within the River expansion area in accordance with the 2030 General Plan would therefore fail to contribute to GHG emissions reduction, thereby hindering implementation of AB 32. Impacts from buildout of the proposed 2030 General Plan within the River expansion area would therefore be potentially significant.

Expansion Area C: Miguelito Canyon Area

Area source and operational emissions totals associated with development of the Miguelito Canyon expansion area are shown in Table 4.2-10. For calculations, see Appendix C.

**Table 4.2-10
 Estimated Annual Emissions of Greenhouse Gases
 Expansion Area C: Miguelito Canyon Area**

Emission Source	CO₂e
Area Source Emissions	150.2 metric tons CO ₂ e
Operational Emissions	354.7 metric tons CO ₂ e
Total Annual GHG Emissions	504.9 metric tons CO₂e

Sources:

URBEMIS 2007 (version 9.2.4).

California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, June 2008, page 39-46.

As noted previously, the 2030 General Plan Land Use, Circulation, and Housing Element Update does not include policies equivalent to mitigation measures recommended in the CAPCOA White Paper for measurable GHG reduction. Emissions from development within the Miguelito Canyon expansion area in accordance with the 2030 General Plan would therefore fail to contribute to GHG emissions reduction, thereby hindering implementation of AB 32. Impacts from buildout of the proposed 2030 General Plan within the Miguelito Canyon expansion area would therefore be potentially significant.



Expansion Area D: Wye Residential Area

Area source and operational emissions totals associated with development of the Wye Residential expansion area are shown in Table 4.2-11. For calculations, see Appendix C.

Table 4.2-11
Estimated Annual Emissions of Greenhouse Gases
Expansion Area D: Wye Residential Area

Emission Source	CO ₂ e
Area Source Emissions	276.4 metric tons CO ₂ e
Operational Emissions	609.0 metric tons CO ₂ e
Total Annual GHG Emissions	885.4 metric tons CO₂e

Sources:

URBEMIS 2007 (version 9.2.4).

California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, June 2008, page 39-46.

As noted previously, the 2030 General Plan Land Use, Circulation, and Housing Element Update does not include policies equivalent to mitigation measures recommended in the CAPCOA White Paper for measurable GHG reduction. Emissions from development within the Wye Residential expansion area in accordance with the 2030 General Plan would therefore fail to contribute to GHG emissions reduction, thereby hindering implementation of AB 32. Impacts from buildout of the proposed 2030 General Plan within the Wye Residential expansion area would therefore be potentially significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to GHG emissions from these components of the General Plan Update have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, these impacts would be potentially significant for buildout of the General Plan as well as for buildout of each of the identified annexation areas due to the lack of policies equivalent to mitigation measures recommended in the CAPCOA White Paper for measurable GHG reduction.

General Plan Policies which Reduce Impacts

The 2030 General Plan Land Use Element (LUE) includes policies specifically intended to reduce impacts from future growth in Lompoc, which would indirectly reduce GHG emissions. These policies include LUE Policies 1.7 and 5.4 (refer to *General Plan Policies which Reduce Impacts* under Impact AQ-1). In addition, the Circulation Element (CE) includes policies which target reductions in air pollutant emissions through circulation design factors and compliance with



applicable laws and regulations, which would also serve to reduce air pollutants, including GHGs. These policies include CE Policies 3.1 through 3.3, 3.5 through 3.9, 3.12, and 3.13 (refer to *General Plan Policies which Reduce Impacts* under Impact AQ-1). The existing 1997 General Plan Resource Management Element (RME) also includes policies which would reduce emissions through coordination between the City and SBCAPCD, as well as circulation design factors and compliance with applicable laws and regulations. These policies include RME Policies 7.1 through 7.4, 7.6, 8.1, and 8.2 (refer to *General Plan Policies which Reduce Impacts* under Impact AQ-1). In addition, the following Housing Element Goals and Policies and additional LUE Policy would reduce emissions, including GHG emissions.

- HE Goal 4** Maximize energy efficiency in existing and future residential development.
- HE Policy 4.1** The City shall continue to encourage the design and installation of energy conservation, water conservation, and solid waste reduction measures in all construction and rehabilitation projects.
- HE Policy 4.2** The City shall provide financial and technical assistance based upon the availability of funding to property owners who desire to improve energy and water efficiency of their housing units but are unable to afford improvement costs.
- HE Policy 4.3** The City shall encourage the use of active and passive solar energy in the design of all new construction projects.
- HE Policy 4.4** The City shall consider the development of green building standards for possible application to new residential development, including affordable housing.
- LUE Policy 2.4** The City shall encourage creative and efficient site designs in residential developments which address natural constraints, promote energy efficiency and overall sustainability, protect aesthetic qualities, and maintain neighborhood character.

Mitigation Measures. Determination of the significance of GHG emissions impacts is predicated upon a project's consistency with a GHG reduction plan or, in the absence of such a plan, compliance with AB 32 [refer to Section 4.3.2(a)]. Because no GHG reduction plan has been prepared for the City of Lompoc, the following mitigation measure is required:

- AQ-4(a) GHG Emissions Reduction Planning.** To ensure that future development under the General Plan meets the GHG emissions reduction requirements in AB 32, the following policy shall be added to the General Plan Conversation/Open Space Element:



The City shall participate in regional planning efforts with SBCAG and the SBCAPCD to reduce basin-wide GHG emissions in compliance with AB 32 and SB 375.

The City's participation in regional planning efforts to reduce basin-wide GHG emissions is anticipated to include City assistance in developing a GHG emissions inventory, and identifying reduction measures related to site design, energy conservation, and trip reduction.

AQ-4(b) Consideration of Project Greenhouse Gas Emissions Reduction Measures. The following policies shall be added to the 2030 General Plan Conversation/Open Space Element:

- *New development subject to environmental review shall comply with California Environmental Quality Act guidelines for the analysis of greenhouse gas emissions developed pursuant to SB 97 and adopted on December 30, 2009.*
- *Through the CEQA environmental review process for discretionary permit applications, the City shall consider all feasible GHG emissions reduction measures to reduce direct and indirect emissions associated with project vehicle trip generation and energy consumption.*

Significance after Mitigation. The above mitigation measures would ensure City compliance with regional efforts to meet GHG emissions targets in AB 32. Impacts would be reduced to a less than significant level.



4.3 BIOLOGICAL RESOURCES

Direct and indirect impacts to the following special status biological resources are discussed below: regulated waterways; sensitive habitats; sensitive plants and animals; and wildlife movement corridors.

4.3.1 Setting

a. Plan Area Habitat Types. Lompoc is located in the Santa Ynez Valley in the lower reach of the Santa Ynez River Watershed, where tributaries, such as San Miguelito Creek, flow into the Santa Ynez River. A variety of biological resources occur in drainages, hillsides, canyons, and on the valley floor within and around the Lompoc General Plan area. Figure 4.3-1 shows the locations of habitats and special status plant species documented in the Lompoc vicinity. Figure 4.3-2 shows the locations of special status animals and United States Fish and Wildlife Service (USFWS) critical habitat documented in the Lompoc vicinity. The major sensitive ecological areas addressed in the 2030 General Plan are the Santa Ynez River corridor, the hillsides in the northern portion of the Plan area and south of Highway 246, and the San Miguelito Creek drainage. Specific habitat types within the Plan area are discussed in the following paragraphs.

Riparian. Riparian habitat types located within the Lompoc region include riparian woodland and riparian scrub. Riparian woodland is used as a general term for tree dominated plant communities found along streams and drainage channels, such as San Miguelito Creek and the Santa Ynez River. Physical characteristics of these communities include moist to saturated soils and water table levels near or at the surface during part of the year. Typical species include woody plants such as box elder, willows, cottonwoods, and sycamores (see Appendix D – Taxonomic Index).

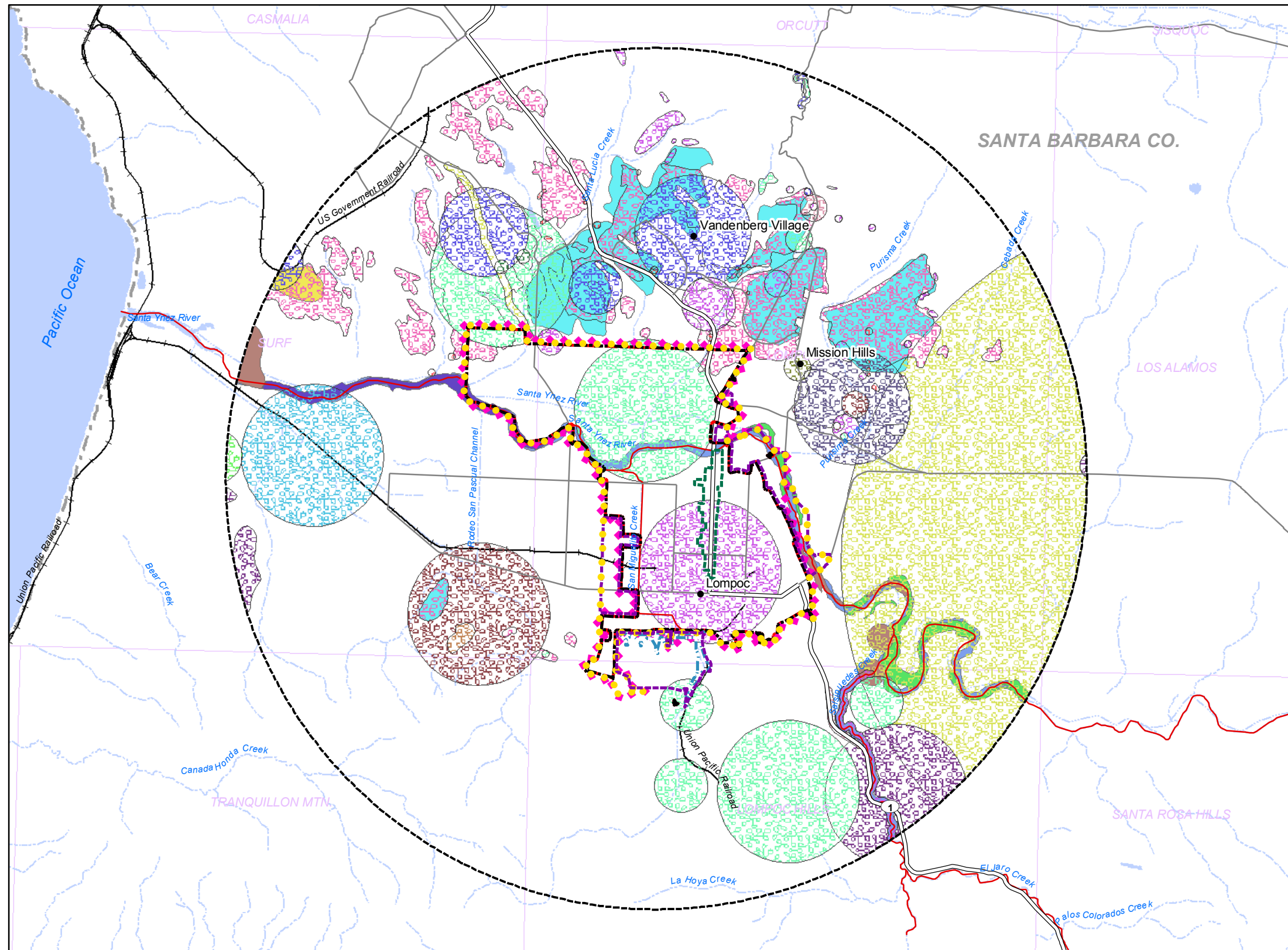
Riparian scrub is similar to riparian woodland, except that the dominant species are scrub species rather trees. This habitat is characterized by low growing shrubs and scrubby trees such as sandbar willow. Taller tree species, such as sycamore and red willow are not common, or dominant, in this habitat. The physical characteristics of riparian scrub, such as soils and hydrological conditions, are similar to riparian woodland, although riparian scrub can tolerate slightly drier conditions. Dominant species in this habitat include mulefat, willows, and young or emergent cottonwoods.

The California Department of Fish and Game (CDFG) classifies several forms of riparian habitat as a high priority for inventory (e.g., rare and considered of high inventory priority, including Central Coast Arroyo Willow Riparian Forest, Southern Cottonwood Willow Riparian Forest, and Southern Willow Scrub each (California Natural Diversity Database [CNDDDB], October 2008). All three of these habitats are found within the Lompoc General Plan area, primarily along the Santa Ynez River and Miguelito Creek (see Figure 4.3-1).



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LEGEND

6 Mile CNDDDB Search Radius

Critical Habitat

- S Calif Steelhead FCH

Plants

- Eastwood's brittle-leaf manzanita
- Hoover's bent grass
- Kellogg's horkelia
- La Graciosa thistle
- La Purisima manzanita
- Lompoc yerba santa
- Santa Barbara honeysuckle
- Santa Ynez groundstar
- Vandenberg monkeyflower
- black-flowered figwort
- dune larkspur
- mesa horkelia
- pale-yellow layia
- sand mesa manzanita
- seaside bird's-beak
- straight-awned spineflower

Natural Community

- Central Coast Arroyo Willow Riparian Forest
- Central Dune Scrub
- Central Maritime Chaparral
- Southern California Steelhead Stream
- Southern Cottonwood Willow Riparian Forest
- Southern Willow Scrub

Additional Overlays

- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

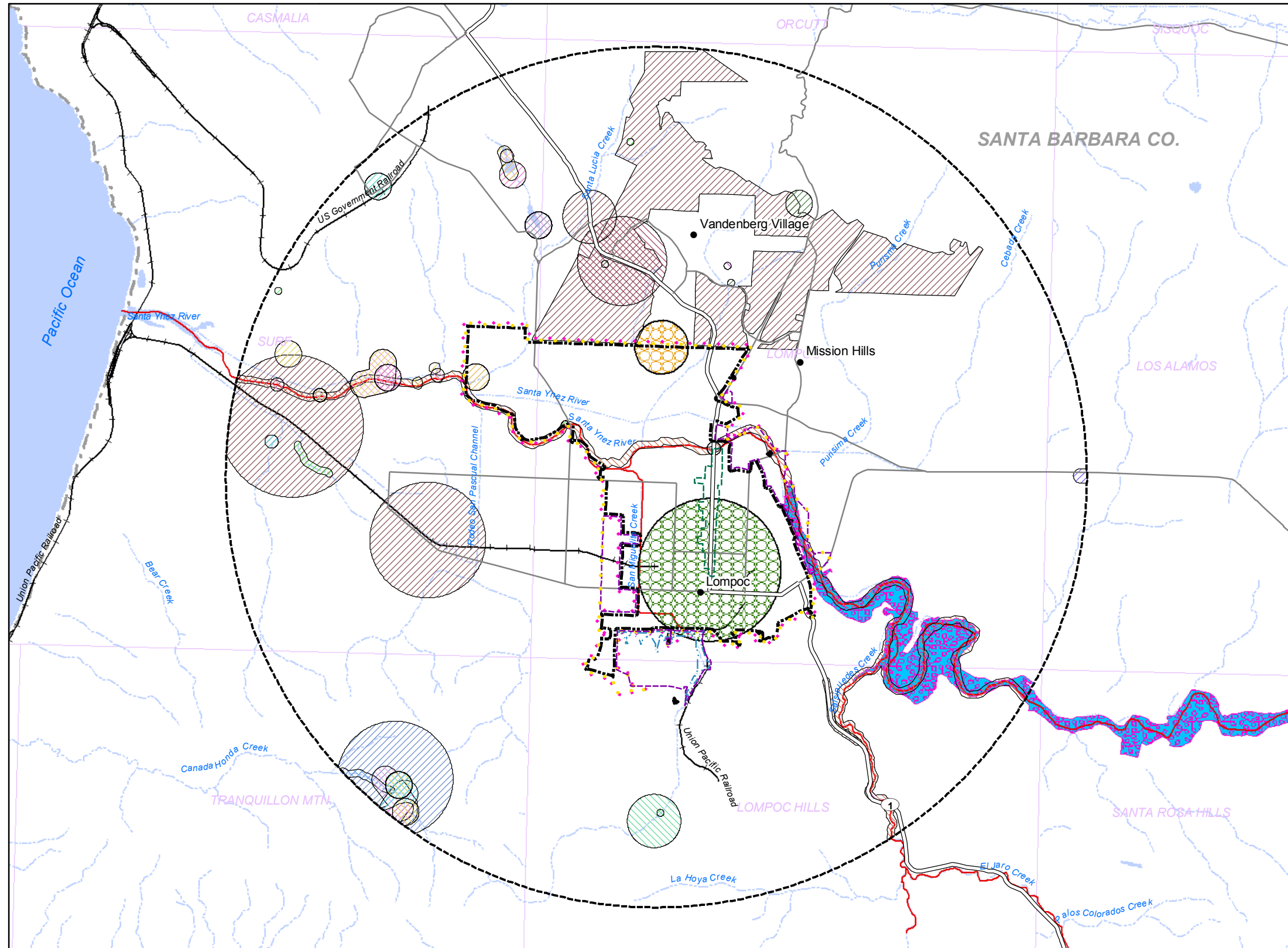
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Basemap Source: California Natural Diversity Database, October, 2008; U.S. Bureau of the Census TIGER 2000 data; and ESRI, 2002.
 Note - Map to be printed in color, due to subtleties in symbology noticeable only on color version.

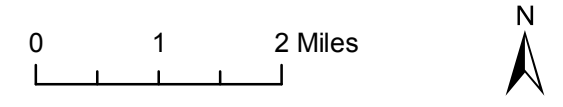
Special Status Plants and Natural Communities Reported by the California Natural Diversity Database

Figure 4.3-1
 City of Lompoc



LEGEND

- 6 Mile CNDDDB Search Radius
- Critical Habitat**
- S Calif Steelhead FCH
- Southwest Willow Flycatcher FCH
- Animals**
- American badger
- California red-legged frog
- California tiger salamander
- Townsend's big-eared bat
- Yuma myotis
- coast (California) horned lizard
- hoary bat
- pallid bat
- silver-haired bat
- silvery legless lizard
- southern steelhead - southern California ESU
- unarmored threespine stickleback
- western mastiff bat
- western red bat
- western spadefoot
- Invertebrates**
- Lompoc grasshopper
- monarch butterfly
- Additional Overlays**
- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence



Basemap Source: California Natural Diversity Database, October, 2008; U.S. Bureau of the Census TIGER 2000 data; and ESRI, 2002.
 Note - Map to be printed in color, due to subtleties in symbology noticeable only on color version.

Special Status Animals and Critical Habitat Reported by the California Natural Diversity Database & USFWS

Figure 4.3-2
 City of Lompoc

Woodlands. The majority of woodlands present within the General Plan area consist of scattered patches of eucalyptus woodlands and coast live oak woodlands. Eucalyptus woodlands are characterized by dense stands of eucalyptus trees with a very sparse understory composed of herbaceous plants and leaf litter. Generally, eucalyptus woodlands offer marginal habitat due to the lack of an established understory. However, eucalyptus woodlands offer nesting opportunities for a variety of protected bird species, and may also provide winter roosting habitat for monarchs.

Oak woodlands are highly variable, but are generally characterized by a relatively dense canopy and open understory, with trees often concentrated near, but not necessarily confined to, a stream course or riparian areas. Oak woodlands can occur on hillsides along a deeply incised drainage, but they are typically found on gentle to moderately steep north-facing slopes with moist, deep soils. Oak woodlands occur within the Lompoc Hills in the southern portion of the General Plan area and at various locations along the Santa Ynez River and are dominated by coast live oak trees. Shrubby understory species include poison oak, toyon, and California coffeeberry.

Maritime Chaparral. Maritime chaparral is a type of chaparral community typically found on well-drained, sandy substrate within the zone of summer coastal fog incursion. Maritime chaparral may also occur on fine grained and serpentine derived soils. It is found in scattered locations on sandy soils of old stabilized sand dunes in coastal Mendocino County to southern California. Chaparral is composed of hardy, woody evergreen shrubs that can form a dense, nearly impenetrable scrub. This community is generally found at higher elevations than coastal sage scrub, and usually on deeper, heavier soils with a moderate moisture content. However, chaparral vegetation at lower elevations can be found on dry ridges with gravelly, shallow soils.

Chaparral habitat types are fire-adapted communities, meaning that the plant species that form the community have evolved mechanisms for coping with fire and heat such as stump-sprouting and seeds with durable coats. Stump-sprouting species have a large stump or burl that is not killed by burning. In these species, when a fire burns the shrub back to the stump, the plant sprouts new growth from tissue on the burned stump.

Burton Mesa chaparral, a regionally important form of maritime chaparral, is found in the northern slopes of the Lompoc Valley. Burton Mesa chaparral is a unique form of maritime chaparral that is restricted to the Orcutt Formation of sand deposits (Gervitz et. al., 2006). A high number of special status plant species occur in this community including La Purisima manzanita, Santa Barbara ceanothus, Lompoc yerba santa, black-flowered figwort, and numerous flowering annuals.

Coastal Sage Scrub. Coastal sage scrub generally occurs on dry slopes lower in elevation than chaparral. It is composed of shrubs that are not as stiff branched as chaparral plants. In the Santa Ynez Mountains, the coastal sage scrub habitat has a dense canopy, with little



herbaceous ground cover. Typical species include California sagebrush, coyote brush, monkeyflower, dune buckwheat, deerweed, and poison oak.

Grasslands. Grassland habitat types form on deep soils, usually on fairly level terrain. The soil moisture can range from moist to almost saturated. Most of the grasslands within and around the Lompoc General Plan area have been disturbed and are dominated by non-native annual weedy species such as wild oats, black mustard, and brome grasses; however, native grassland may also be present. Other species include herbaceous wildflowers such as baby blue eyes, lupines, owl's clover and blue dicks.

Agriculture. Agricultural habitats dominate the landscape of the Lompoc Valley. Agriculture within and around the General Plan area consists primarily of row crops, with patches of orchard, dry-farm grain production, and grazing operations. Row crops grown in the area include broccoli, artichokes, and various cultivated floral species such as pea and marigold. Row crop agriculture is intense and requires frequent ground disturbance. Row crop agriculture is generally incompatible with the habitat requirement of most native plant and animal species and special status species are typically absent. Dry-farm grain production and orchards also require frequent disturbance, though typically at a lower intensity than row crop agriculture. Few native species are able to persist in dry-farm or orchard agricultural production.

Urban/Ruderal. Most of the Lompoc General Plan area is dominated by man-made land uses including urban and ruderal land uses. Urban areas are often landscaped and experience consistently high levels of disturbance due to human presence. Ruderal areas include undeveloped lands that have experienced a high level of disturbance, thus altering the habitat and species composition on-site. Most of the ruderal areas are dominated by non-native annual plant species such as bromes and mustard.

Drainages. Several drainages occur within the Lompoc General Plan area. The Santa Ynez River flows east-west from its headwaters in mountainous areas into the Santa Ynez Valley, through the City of Lompoc, and eventually into the Pacific Ocean. The Santa Ynez River is perennial in nature and has been designated as Biologically Significant in the 1997 Resource Management Element, as it supports a diverse array of native plants and animals (see Riparian discussion above). In addition, the Santa Ynez River is considered Waters of the U.S. and Waters of the State, and thus falls under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Game (CDFG).

San Miguelito Creek is a perennial stream that originates in the Lompoc Hills south of the City. The Creek flows north in a naturally occurring drainage to the City Limits, where it has been channelized downstream through the City to its confluence with the Santa Ynez River. The San Miguelito Creek riparian corridor has also been designated as Biologically Significant in the



1997 Resource Management Element and is vegetated primarily with riparian woodland (see discussion above).

In addition, several unnamed ephemeral drainage features occur in the Lompoc and Purisima Hills surrounding the City of Lompoc. These drainage features may or may not contain definable bed, bank and channels and often do not support substantial hydrophytic vegetation communities, such as riparian woodlands. Nevertheless, these drainages may support special status plant and animal species at least during part of the year, and could potentially fall under the jurisdiction of the USACE, RWQCB, and/or CDFG.

b. Special Status Biological Resources. The term special status biological resources includes those plants, animals, vegetation communities, jurisdictional drainages and other sensitive biological resources that are governed under federal, state, and local laws and regulations.

Listed Species. Federal, state, and local authorities, under a variety of legislative acts, share regulatory authority over biological resources. The CDFG has direct jurisdiction under law for biological resources through the state Fish and Game Code and under the California Endangered Species Act. The federal Endangered Species Act also provides direct regulatory authority over specially designated organisms and their habitats to the United States Fish and Wildlife Service (USFWS). These acts specifically regulate listed and candidate endangered and threatened species, which are defined as:

- ***Endangered Species:*** *any species that is in danger of extinction throughout all or a significant portion of its range.*
- ***Threatened Species:*** *any species that is likely to become an endangered species within the foreseeable future throughout all or a significant part of its range.*

Special Status Plants. Special status plant species are either listed as endangered or threatened under the federal or California Endangered Species Acts, or rare under the California Native Plant Protection Act, or considered to be rare (but not formally listed) by resource agencies. The CDFG also recognizes special listings developed by focal groups (i.e. Audubon Society Blue List; California Native Plant Society [CNPS] Rare and Endangered Plants; U.S. Forest Service regional lists). Table 4.3-1 lists special-status plant species that may occur within the plan area, several of which have a state and/or federal listing status. Figure 4.3-1 illustrates the general locations of special status species documented within the Plan area by the CNDDDB (January 2008).



**Table 4.3-1
 Sensitive Plants in the Vicinity of the Lompoc General Plan Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Habitat
Marsh sandwort	<i>Arenaria paludicola</i>	FE/SE/ CNPS List 1B	Stoloniferous, perennial herb; blooms May to August; occurs in freshwater marshes and swamps, bogs and fens, and some coastal scrub, ranging from 3 to 170 meters in elevation; common associates include Typha, Juncus, and Scirpus.
Hoover's bent grass	<i>Agrostis hooveri</i>	--/--/ CNPS 1B.2	Sandy soils in chaparral, cismontane woodland, and valley and foothill grassland habitats
Santa Ynez groundstar	<i>Ancistrocarphus keilii</i>	--/--/ CNPS 1B.1	Sandy soils in chaparral and cismontane woodland habitats, primarily in the ecotone of the two
La Purisima manzanita	<i>Arctostaphylos purissima</i>	--/--/ CNPS 1B.1	Sandy soils in maritime chaparral
Sand mesa manzanita	<i>Arctostaphylos rudis</i>	--/--/ CNPS 1B.2	Maritime chaparral and coastal scrub habitats on sandy soils
Eastwood's brittle-leaf manzanita	<i>Arctostaphylos tomentosa</i> ssp. <i>eastwoodiana</i>	--/--/ CNPS 1B.1	Sandy soils in maritime chaparral
Coulter's saltbush	<i>Atriplex coulteri</i>	--/--/ CNPS 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland on alkaline clay soils where open sites within habitat are found
Late-flowered mariposa lily	<i>Calochortus weedii</i> var. <i>vestus</i>	--/--/ CNPS 1B.2	Chaparral, cismontane woodland and riparian woodland, often in serpentine, decomposed sandstone soils and sometimes in burn areas
Dwarf calycadenia	<i>Calycadenia villosa</i>	--/--/CNPS 1B.1	Rocky soils in chaparral, cismontane woodland, valley and foothill grassland, and meadows and seeps
Straight-awned spineflower	<i>Chorizanthe rectispina</i>	--/--/ CNPS 1B.3	Chaparral, cismontane woodland, and coastal scrub habitats
La Graciosa thistle	<i>Cirsium loncholepis</i>	FE/ST/ CNPS 1B.1	Mesic conditions in coastal dunes, coastal scrub, and brackish marshes and swamps
Surf thistle	<i>Cirsium rhotophilum</i>	--/ST/ CNPS 1B.2	Coastal dune and coastal bluff scrub communities
California saw-grass	<i>Cladium californicum</i>	--/--/ CNPS 2.2	Freshwater marshes, alkali marshes and seeps



**Table 4.3-1
 Sensitive Plants in the Vicinity of the Lompoc General Plan Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Habitat
Seaside bird's-beak	<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	--/SE/CNPS 1B.1	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub habitats on sandy soils
Gaviota tarplant	<i>Deinandra increscens</i> ssp. <i>villosa</i>	FE/SE/CNPS 1B.1	Clay loam or sandy soils in chaparral
Dune larkspur	<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	--/--/CNPS 1B.2	Maritime chaparral and coastal dune habitats, typically on volcanic soils and/or rocky slopes
Umbrella larkspur	<i>Delphinium umbraculorum</i>	--/--/CNPS 1B.3	Cismontane woodland
Western dichondra	<i>Dichondra occidentalis</i>	--/--/CNPS 4.2	Chaparral, cismontane woodland, coastal scrub, and valley and foothill woodland
Beach spectale pod	<i>Dithyrea maritima</i>	--/ST/CNPS 1B.1	Sandy soils, usually near shore, in coastal dunes and coastal scrub habitats
Blochman's dudleya	<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	--/--/CNPS 1B.1	Clay or serpentine soils in coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland
Blochman's leafy daisy	<i>Erigeron blochmaniae</i>	--/--/CNPS 1B.2	Coastal dunes and coastal scrub
Lompoc yerba santa	<i>Eriodictyon capitatum</i>	FE/SR/CNPS 1B.2	Sandy soils in closed-cone coniferous forest and maritime chaparral
Ojai fritillary	<i>Fritillaria ojaiensis</i>	--/--/CNPS 1B.2	Barren river basins, chaparral, broadleaved upland forest and lower montane coniferous forest; commonly found on moist shale and/or rocky slopes
Mesa horkelia	<i>Horkelia cuneata</i> ssp. <i>puberula</i>	--/--/CNPS 1B.1	Chaparral, cismontane woodland, and coastal scrub on sandy or gravelly soils
Kellogg's horkelia	<i>Horkelia cuneata</i> ssp. <i>sericea</i>	--/--/CNPS 1B.1	Closed-cone coniferous forest, maritime chaparral, and coastal scrub on sandy or gravelly soils, often in open areas
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/CNPS 1B.1	Marshes and swamps, playas, vernal pools
Beach layia	<i>Layia carnosa</i>	FE/SE/CNPS 1B.1	Sandy soils in coastal dunes and coastal scrub
Pale-yellow layia	<i>Layia heterotricha</i>	--/--/CNPS 1B.1	Alkaline, clay, and sandy soils in cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland



**Table 4.3-1
 Sensitive Plants in the Vicinity of the Lompoc General Plan Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Habitat
Santa Barbara honeysuckle	<i>Lonicera subspicata</i> var. <i>subspicata</i>	--/--/ CNPS 1B.2	Chaparral, cismontane woodland, and coastal scrub
Vandenburg monkeyflower	<i>Mimulus fremontii</i> var. <i>vandenbergensis</i>	--/--/ CNPS 1B.1	Sandy soils in chaparral and woodland
Crisp monardella	<i>Monardella crispa</i>	--/--/ CNPS 1B.2	Borders of open, sandy areas in coastal dunes and coastal scrub in backdunes
San Luis Obispo monardella	<i>Monardella frutescens</i>	--/--/ CNPS 1B.2	Sandy soils in coastal dunes and coastal scrub
Bolander's phacelia	<i>Phacelia bolanderi</i>	--/--/--	Sandy to clay soils on bluffs, canyons, and slopes; typically in red fir forests in northwest California; limited sightings in Santa Barbara County; species of interest to the City
Gambel's watercress	<i>Rorippa gambellii</i>	FE/ST/ CNPS 1B.1	Freshwater or brackish marshes and swamps, as well as the margins of lakes and streams
Black-flowered figwort	<i>Scrophularia atrata</i>	--/--/ CNPS 1B.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub habitats, typically on sandy or diatomaceous shale soils
Chaparral ragwort	<i>Senecio aphanactis</i>	--/--/ CNPS 2.2	Drying alkaline flats, serpentine soils and barren gravelly or sandy slopes in chaparral, cismontane woodland, and coastal scrub habitats

Source: CDFG Special Plants (10/2008), California Natural Diversity Database (CNDDDB), January 2008; California Native Plant Society (CNPS) List 1A: Plants Presumed Extinct in California; CNPS List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere. List 4: Plants of limited distribution, a watch list; .1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 - Fairly endangered in California (20-80% occurrences threatened); .3 - Not very endangered in California (<20% of occurrences threatened or no current threats known) FC = Federal Candidate; FE = Federal Endangered; SE = State Endangered; SR = State Rare

Special Status Wildlife. Several invertebrate, amphibian, fish, reptile, bird, and mammal species of concern that are known or possibly occur in the plan area are listed in Table 4.3-2. The general locations of documented species are illustrated on Figure 4.3-2. State or federally listed species are accorded the highest protection status.

c. Wildlife Corridors. Wildlife corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature allowing movement across the landscape. Some habitat



linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return.

A key wildlife corridor in the Plan area is the Santa Ynez River, which bisects the City from east to west (see Figure 4.3-1). This corridor provides wildlife linkages from the Santa Ynez Valley in the east to the Pacific Ocean and to various mountain ranges in between. The Lompoc Hills along the southern boundary of the Plan area also provide for wildlife movement around the City.

**Table 4.3-2
 Sensitive Animals in the Vicinity of the Lompoc General Plan Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Habitat
Invertebrates			
El Segundo blue butterfly	<i>Euphilotes battoides allyni</i>	FE/SA/--	Closely associated with coastal buckwheat (<i>Eriogonum parvifolium</i>)
Monarch butterfly	<i>Danaus plexippus</i>	--/SA/--	Wind-protected tree groves of eucalyptus, Monterey pine and cypress with nectar and water sources nearby
Lompoc grasshopper	<i>Trimerotropis occulens</i>	--/SA/--	Valley and foothill grasslands
Amphibians			
California tiger salamander	<i>Ambystoma californiense</i>	FE/CSC/--	Vernal pools or other seasonal water sources for breeding; grasslands, foothill and oak woodlands located within ~1 mile of seasonal breeding pools; dry-season refuge sites containing small mammal burrows for shelter
California red-legged frog	<i>Rana aurora draytonii</i>	FT/CSC/--	Aquatic, riparian, and adjacent upland habitats including some agricultural ponds; breeding adults are often associated with dense, shrubby riparian or emergent vegetation in areas of deep freshwater
Western spadefoot toad	<i>Spea hammondi</i>	--/CSC/--	Dry grassland habitat close to seasonal wetlands such as vernal pool complexes, typically near extensive areas of friable soil
Coast Range newt	<i>Taricha torosa torosa</i>	--/CSC/--	Near ditches, ponds, lakes, and streams in oak forests, chaparral, and rolling grasslands
Fish			
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE/CSC/--	Brackish water habitats along the California coast from San Diego county to Del Norte county
Unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>	FE/SE, CFP/--	Quiet water habitats like pools with abundant aquatic vegetation



**Table 4.3-2
 Sensitive Animals in the Vicinity of the Lompoc General Plan Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Habitat
Arroyo chub	<i>Gila orcutti</i>	--/CSC/--	Slow-moving sections of rivers with a sand or mud substrate, or standing waters in reservoirs
Southern steelhead	<i>Oncorhynchus mykiss irideus</i>	FE/CSC/--	Requires high-elevation headwaters for spawning, streams without impassable barriers
Reptiles			
Coast horned lizard	<i>Phrynosoma coronatum</i>	--/CSC/--	Loose, fine soils in clearings in riparian woodlands, chamise chaparral, and annual grassland with scattered shrubs
Coastal western whiptail	<i>Apsidoscelis tigris stejnegeri</i> (= <i>Cnemidophorus tigris multiscutatus</i>)	--/SA/--	Primarily utilize hot and dry open areas with sparse foliage in chaparral, woodland, and riparian areas
Silvery legless lizard	<i>Aniella pulchra pulchra</i>	--/CSC/--	Occur in moist warm loose soil with plant cover; in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks
Southwestern pond turtle	<i>Actinemys</i> (= <i>Clemmys</i>) <i>marmorata pallida</i>	--/CSC/--	Ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland
Coastal patch-nosed snake	<i>Salvadora hexalepis virgultea</i>	--/CSC/--	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains
Two-striped garter snake	<i>Thamnophis hammondi</i>	--/CSC/--	Highly aquatic, generally found around pools, creeks, cattle tanks, and other water sources
Birds			
Tricolored blackbird (nesting colony)	<i>Agelaius tricolor</i>	--/CSC/--	Freshwater habitats where it nests in emergent freshwater or riparian vegetation
Grasshopper sparrow (nesting)	<i>Ammodrammus savannarum</i>	--/CSC/--	Dry, dense grasslands, especially those with a variety of grasses, forbs, and scattered shrubs
Golden eagle (nesting and wintering)	<i>Aquila chrysaetos</i>	--/CFP, WL/--	Nest primarily on cliffs and large trees; hunt in nearby open habitats, such as grasslands, oak savannas, and open shrublands
Long-eared owl (nesting)	<i>Asio otus</i>	--/CSC/--	Riparian habitat, live oak thickets and other dense stands of trees



**Table 4.3-2
 Sensitive Animals in the Vicinity of the Lompoc General Plan Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Habitat
Burrowing owl (burrow sites and some wintering sites)	<i>Athene cunicularia</i>	--/CSC/--	Burrows in open, well drained terrain with short, sparse vegetation. Inhabits grasslands, deserts, sagebrush scrub, agricultural areas, earthen levees and berms, and coastal uplands
Ferruginous hawk (wintering)	<i>Buteo regalis</i>	--/CSC/--	Flat and rolling terrain in grassland or shrubsteppe regions, grasslands, sagebrush, and riparian and other forests
Vaux's swift (nesting)	<i>Chaetura vauxi</i>	--/CSC/--	Redwood and Douglas-fir habitats
Western snowy plover (nesting)	<i>Charadrius alexandrinus nivosus</i>	FT/CSC/--	Sandy beaches, salt pond levees or shores of large alkali lakes. Sandy, gravelly or friable soils required for nesting.
Mountain plover (wintering)	<i>Charadrius montanus</i>	--/CSC/--	Grasslands, agricultural fields, valleys and plains
Northern harrier (nesting)	<i>Circus cyaneus</i>	--/CSC/--	Forages and nests in grasslands and marshes. Requires large expanses of habitat for foraging
Yellow warbler (nesting)	<i>Dendroica petechia brewsteri</i>	--/CSC/--	Breeds in wet, deciduous thickets, especially in willows; uses shrubby areas and old fields for foraging
White-tailed kite (nesting)	<i>Elanus leucurus</i>	--/CFP/--	Savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields
Southwestern willow flycatcher (nesting)	<i>Empidonax traillii extimus</i>	FE/SE/--	Dense understory of riparian habitat adjacent to broad, open river valleys. It prefers to nest in areas with slow moving or ponded water or saturated soil and uses low exposed branches for singing and hunting.
Peregrine falcon (nesting)	<i>Falco peregrinus anatum</i>	FD/SE, CFP/--	Nests in cliffs; forages over open habitats such as grasslands, agricultural fields, ponds, and coastal areas; breeds in woodlands, forests, and coastal habitats
Yellow-breasted chat (nesting)	<i>Icteria virens</i>	--/CSC/--	Nests and forages in dense riparian habitat
Loggerhead shrike (nesting)	<i>Lanius ludovicianus</i>	--/CSC/--	Utilizes dry, open habitats with sparse vegetation, including grasslands, pastures, agricultural fields, and orchards
California least tern (nesting colony)	<i>Sternula antillarum browni</i>	FE/SE, CFP/--	Nests along coast from San Francisco Bay to northern Baja California. Nests on sandy beaches, alkali flats, landfills or paved areas.
Least Bell's vireo (nesting)	<i>Vireo belli pusillus</i>	FE/CE/--	Obligate low-elevation riparian nester; inhabits dense, low-elevation, willow-dominated riparian habitats with lush understory vegetation in the immediate vicinity of watercourses



**Table 4.3-2
 Sensitive Animals in the Vicinity of the Lompoc General Plan Area**

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Habitat
Mammals			
Pallid bat	<i>Antrozous pallidus</i>	--/CSC/--	Roosts in caves, crevices, mines, hollow trees, and buildings; forages in rocky canyons, open farmland, scattered desert scrub, grassland, shrubland, woodland, and mixed conifer forest
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	--/CSC/--	Limestone caves, mines, lava tubes, buildings and tunnels within desert scrub, mixed conifer, pinyon-juniper, and pine forest communities; roosts in caves, mines, tunnels, buildings or other man-made structures
Western mastiff bat	<i>Eumops perotis californicus</i>	--/CSC/--	Broad open areas in dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas
Silver-haired bat	<i>Lasionycteris notivagans</i>	--/SA/--	Coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats; roosts in hollow trees, snags, buildings, rock crevices, and caves
Western red bat	<i>Lasiurus blossevillii</i>	--/CSC/--	Roosts in trees from sea level to mixed coniferous forest. Prefers habitat edges and mosaics with trees protected from above and open below with open areas for foraging.
Hoary bat	<i>Lasiurus cinereus</i>	--/SA/--	Roosts in dense foliage of large trees. Requires water. Prefers open habitats or habitat mosaics with access to trees for cover and open areas of habitat edge for feeding.
Yuma myotis	<i>Myotis yumanensis</i>	--/SA/--	Roosts in caves, crevices, and trees; forages in various habitats
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	--/CSC/--	Coastal scrub from San Diego to San Luis Obispo Counties
American badger	<i>Taxidea taxus</i>	--/CSC/--	Open, arid habitats, most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub

Source: CDFG, *Special Animals List (2/2008)*, CNDDb (10/2008), and *Aspen Environmental Group (2008)*.
 CE = California Endangered; CFP = California Fully Protected; CSC = California Species of Concern; FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; FD = Federally Delisted; and SA = CDFG California Special Animal



d. Special Status Communities and Areas. Special status communities and areas are those that are considered sensitive by federal, state, and local agencies due to their rarity or value in providing habitat for vegetation, fish, and wildlife. Rincon Consultants biologists identified special status communities/areas present within the Planning Area through the use of project related map layers, aerial photographs, topographic maps, CNDDDB database and review of scientific literature. Special status communities/areas present include the following (see Figure 4.3-1):

- *Central Coast Arroyo Willow Riparian Forest*
- *Central Dune Scrub*
- *Central Maritime Chaparral*
- *Southern California Steelhead Stream*
- *Southern California Willow Riparian Forest*
- *Southern Willow Scrub*
- *Drainages, wetlands and associated riparian vegetation under the jurisdiction of CDFG, RWQCB as waters of the State, or US Army Corps of Engineers (USACE) as waters of the U.S (i.e., Santa Ynez River and San Miguelito Creek)*

e. Fisheries. This section is based on a Fisheries Study prepared by HDR Engineering and Gus Yates, Consulting Hydrologist (2009). The complete text of this report and technical information is contained in Appendix E.

Twenty-six species of fish inhabit the Santa Ynez River watershed (Table 4.3-3), including 11 native species. Steelhead/rainbow trout, prickly sculpin, partially armored threespine stickleback, and Pacific lamprey are native to the Santa Ynez River and seven additional native species are found only in the lagoon (tidewater goby, Pacific herring, topsmelt, shiner perch, starry flounder, staghorn sculpin, and striped mullet). Fifteen fish species have been introduced to the watershed including the arroyo chub, largemouth and smallmouth bass, sunfishes, and catfish, among others. Two federally listed endangered fish species are found in the Santa Ynez River watershed and one California species of special concern:

- Southern California Coast Distinct Population Segment of steelhead (*Oncorhynchus mykiss*) – Federally-listed endangered species
- Tidewater goby (*Eucyclogobius newberryi*) – Federally-listed endangered species
- Arroyo chub (*Gila orcutti*) – California species of special concern



**Table 4.3-3
 Fish Species in the Santa Ynez River Watershed**

Common Name	Scientific Name	Status	Location
Rainbow/steelhead trout	<i>Oncorhynchus mykiss</i>	N ¹	RATCL
Threespine stickleback	<i>Gasterosteus aculeatus</i>	N	RATCL
Prickly sculpin	<i>Cottus asper</i>	N	RATCL
Pacific lamprey	<i>Lampetra tridentata</i>	N	R
Arroyo chub	<i>Gila orcuttii</i>	I ²	RATCL
Fathead minnow	<i>Pimephales promelas</i>	I	RTL
Mosquitofish	<i>Gambusia affinis</i>	I	RATCL
Smallmouth bass	<i>Micropterus dolomieu</i>	I	RACL
Largemouth bass	<i>Micropterus salmoides</i>	I	RATC
Bluegill	<i>Lepomis macrochirus</i>	I	RAC
Green sunfish	<i>Lepomis cyanellus</i>	I	RATCL
Redear sunfish	<i>Lepomis microlophus</i>	I	RC
Black crappie	<i>Pomoxis nigromaculatus</i>	I	RC
White crappie	<i>Pomoxis annularis</i>	I	C
Channel catfish	<i>Ictalurus punctatus</i>	I	RACL
Black bullhead	<i>Ameiurus melas</i>	I	RATCL
Threadfin shad	<i>Dorosoma petenense</i>	I	C
Goldfish	<i>Carassius auratus</i>	I	RAC
Carp	<i>Cyprinus carpio</i>	I	RAC
Tidewater goby	<i>Eucyclogobius newberryi</i>	N ^{1*}	L
Pacific herring	<i>Clupea harengus</i>	N	L
Topsmelt	<i>Atherinops affinis</i>	N	L
Shiner perch	<i>Cymatogaster aggregata</i>	N	L
Staghorn sculpin	<i>Leptocottus armatus</i>	N	L
Starry flounder	<i>Plattichthys stallatus</i>	N	L
Striped mullet	<i>Mugil cephalus</i>	N	L
Brown trout	<i>Salmo trutta</i>	I	- ³
Brook trout	<i>Salvelinus fontinalis</i>	I	- ³
Walleye	<i>Stizostedion vitreum</i>	I	- ³

Source: State Water Resources Control Board, 2003

1 Endangered species under the ESA; * The tidewater goby has been proposed to be de-listed although no action has yet been taken

2 California species of special concern

3 Introduction of these species was unsuccessful according to DFG region 5 data

N = Native species; I = Introduced species

R = Santa Ynez River below Bradbury Dam; A = Santa Ynez River above Cachuma Lake; T = Tributary streams;

C = Cachuma Lake; L = Santa Ynez River lagoon;

Rainbow/Steelhead Trout. Coastal rainbow trout are native to the Santa Ynez River and exhibit two distinctive life history strategies. Resident rainbow trout live their entire lives in freshwater. Anadromous steelhead are born in freshwater, emigrate to the ocean to rear to maturity, and then return to freshwater to spawn. After spawning, adult steelhead may return to the ocean. According to SWRCB (2003), in the Santa Ynez River system, adult steelhead migrate from the ocean to spawn mainly during January through April. The juvenile



outmigration period is typically February through May, but the timing of migration is dependent upon streamflows.

The Santa Ynez River downstream of Bradbury Dam and its tributaries are designated as critical habitat for the endangered steelhead. Spawning and rearing habitat in the lower Santa Ynez River is restricted to the upper portion of the river where suitable habitat structure exists. The Highway 154 Reach contains the best quality spawning and rearing habitat available in the mainstem. However, steelhead/rainbow trout appear to rely primarily on the tributaries to the Santa Ynez River (i.e., Hilton Creek and Salsipuedes Creek) for spawning and rearing.

Steelhead use the mainstem Santa Ynez River primarily as a migration corridor to the habitat immediately downstream of the dam, and to tributaries located on the south side of the watershed that provide perennial habitat. Upstream migration requires sufficient streamflow to breach the sandbar at the river mouth and to allow passage in the river. In dry years, passage can be impeded by low flows at critical locations (e.g., riffles). Steelhead typically migrate upstream when streamflow rises during a storm event.

Tidewater Goby. The tidewater goby is a small estuarine fish, rarely exceeding 2 inches in length, which inhabits lagoons and the tidally influenced region of rivers from San Diego County to Del Norte County, California. They are typically found in the upper ends of lagoons in brackish water. Tidewater gobies are bottom dwellers and are typically found at depths of less than 3 feet. Instream, they inhabit low-velocity habitats out of the main current. Tidewater gobies may spawn at anytime of the year, but spawning typically peaks in late April through early May.

The Santa Ynez River lagoon is not designated as critical habitat for the tidewater goby. Tidewater goby populations north of Orange County were proposed for de-listing in 1999, but no action has yet occurred. Tidewater gobies were common in the Santa Ynez River lagoon in 1987 and 1993. Observations in July 1994 indicated successful reproduction by tidewater gobies, as evidenced by the presence of large numbers of young-of-the-year.

Arroyo Chub. The arroyo chub was introduced into the Santa Ynez River drainage during the early 1930's. Arroyo chub are native to the Los Angeles, San Gabriel, San Luis Rey, Santa Margarita, and Santa Ana River systems, as well as San Juan Creek. The arroyo chub is a relatively small, chunky minnow, typically less than 5 inches in length. Although the arroyo chub seems to prefer very low water velocities, they are apparently adapted to surviving periodic high winter flows. They are adapted to survive in widely fluctuating water temperatures and oxygen levels. In 1993, the Santa Ynez River Technical Advisory Committee (SYRTAC) found arroyo chub along the Santa Ynez River below the dam in abundant numbers in shallow pools. However, they were not observed in pools inhabited by large predators (bass and sunfish), and they were relatively scarce in riffle and run habitats.



f. Regulatory Setting. The following is a summary of the regulatory context under which biological resources are managed at the federal, state, and local level. Agencies with responsibility for protection of biological resources within the plan area include:

- *U.S. Fish and Wildlife Service and National Marine Fisheries Service (federally listed species and migratory birds)*
- *California Department Fish and Game (waters of the State, state listed and fully-protected species, and other sensitive plants and wildlife)*
- *Central Coast Regional Water Quality Control Board (waters of the State)*
- *U. S. Army Corps of Engineers (wetlands and other waters of the U.S.)*
- *City of Lompoc (General Plan Goals, Policies, and Implementation Measures)*

A number of federal and/or state statutes provide a regulatory structure that guides the protection of biological resources. The following discussion provides a summary of those laws that are most relevant to biological resources in the vicinity of the Plan area.

U.S. Fish and Wildlife Service. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703–711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). USFWS and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (also called NOAA Fisheries) share responsibility for implementing the federal Endangered Species Act (FESA; 16 USC § 153 *et seq*) which prohibits take of federally listed species. NOAA Fisheries is responsible for management of federally protected marine resources, such as steelhead trout (*Oncorhynchus mykiss*), while the USFWS manages non-marine resources. Take under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA, however, the USFWS and NOAA Fisheries advise project applicants that they could be elevated to listed status at any time.

USFWS generally implements the FESA for land and freshwater species (e.g., California red-legged frog), while NOAA Fisheries implements the FESA for marine and anadromous species (e.g., steelhead trout). Projects that would result in take of any federally listed threatened or endangered species are required to obtain permits from the USFWS or NOAA Fisheries through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting or funding the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species.

California Department of Fish and Game. The CDFG derives its authority from the California Endangered Species Act (CESA; Fish and Game Code Section 2050 *et seq*) listed under the Fish and Game Code, which prohibits take of listed threatened or endangered species. Take under



CESA is restricted to direct killing of a listed species and does not prohibit indirect harm by way of habitat modification. A CESA Permit must be obtained if a future project has the potential to result in take of a species of plant or animal listed under CESA, either during construction or over the life of the project.

California Fish and Game Code Sections 3503, 3503.5, and 3511 describe unlawful take, possession, or needless destruction of birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Fully protected birds (Section 3511), mammals (Section 4700), and reptiles and amphibians (Section 5050) may not be taken or possessed except for specifically approved scientific activities. Species of Special Concern (CSC) is a category used by CDFG for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. CSC species do not have any special legal status except that afforded by the Fish and Game Code. The CSC category is intended by the CDFG for use as a management tool, to include these species into special consideration when decisions are made concerning the development of natural lands.

CDFG also has authority to administer the Native Plant Protection Act (Fish and Game Code Section 1900 *et seq*). The Native Plant Protection Act requires CDFG to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the Act, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the particular species.

Perennial and intermittent streams also fall under the jurisdiction of CDFG. Section 1600 *et seq* of the Fish and Game Code (Streambed Alteration Agreements) gives CDFG regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

Regional Water Quality Control Board. The protection of water quality in the watercourses in and around the City of Lompoc is under the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB). The RWQCB is responsible for the coordination and control of water quality under the Porter-Cologne Water Quality Control Act (1969). The RWQCB further administers Section 401 of the Clean Water Act, requiring projects which may result in the discharge of dredged or fill material into waters of the U.S. to obtain water quality certification.

U.S. Army Corps of Engineers. Under Section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act, the USACE has authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States.



Perennial and intermittent creeks and adjacent wetlands may be considered waters of the United States and may be within the regulatory jurisdiction of the USACE. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and to offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of waters of the U.S. and/or wetlands would require a permit from the USACE prior to the start of work.

City of Lompoc. The City has implemented guidelines through the 1997 General Plan that address biological resources. The following goal and policies under the existing Resource Management Element (RME) are intended to protect biological resources:

- RME Goal 2*** *Protect natural habitats in recognition of their biological, educational, and scientific values.*
- RME Policy 2.1*** *The City shall ensure that the biologically significant areas identified on the Biologically Significant Areas map are preserved.*
- RME Policy 2.2*** *The City shall protect the valuable natural resources of the Santa Ynez River and tributaries which serve as flood channels, wildlife habitats, critical links in Lompoc's water supply, and components of the City's urban form. Watercourses shall be retained in a natural state, rather than be concrete-lined or placed underground, so long as proper flood protection is provided.*
- RME Policy 2.3*** *The City shall encourage the restoration and management of natural habitats for wildlife enhancement and public enjoyment.*
- RME Policy 2.4*** *The City shall encourage the provision, maintenance, and protection of direct public access to publicly-owned watercourses and shall integrate watercourses with non-motorized trails and other open space.*
- RME Policy 2.5*** *The City shall ensure that the biologically-significant habitats identified on the Resource Management map are preserved.*

4.3.2 Impact Analysis

a. Methodology and Significance Thresholds. This impact analysis is based on review of available literature regarding the existing biological resources within the Plan area, aerial photography, and field visits. Field investigations concentrated on potentially developable areas that may contain sensitive biological resources. General habitat surveys were performed



in October 2008 to verify habitat types against available background information and aerial photography.

An impact is considered significant if physical changes that could be facilitated by buildout of the 2030 General Plan would result in one or more of the following conditions, which are based upon the environmental checklist in Appendix G of the CEQA Guidelines:

- *Have a substantial adverse effect (i.e. significantly reduce species population, reduce species habitat, restrict reproductive capacity), either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, regulations, or by CDFG or USFWS*
- *Have a substantial adverse effect (i.e. direct/indirect reduction) on any riparian habitat or other sensitive natural community identified in local or regional plans, policies regulations, or by the CDFG or USFWS*
- *Have a substantial adverse effect (i.e. direct/indirect reduction) on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, or hydrological interruption, or other means*
- *Interfere substantially (i.e. direct/indirect reduction) with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites*
- *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*
- *Degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal*

It should be noted that no habitat conservation plan or natural community conservation plan applies to Lompoc. Although the Burton Mesa Ecological Preserve located northwest of the City is owned by the State Lands Commission and operated under a lease to the California Department of Fish and Game, buildout facilitated by the 2030 General Plan would not result in impacts to this area. As a result, a checklist item related to this threshold was excluded from the above list.



b. Project and Cumulative Impacts.

Impact BIO-1 **New development that would be facilitated by the 2030 General Plan may result in impacts to sensitive habitats. However, adherence to General Plan policies would reduce potential impacts to a Class III, *less than significant*, level.**

2030 General Plan Buildout within City Limits

Several vacant and underutilized parcels exist throughout the City's urban limits. The majority of these parcels are highly disturbed and are dominated by non-native weedy plant species such as bromes and mustard. Many of these parcels also contain bare dirt areas and accumulated debris, and a few of these parcels are in active or fallow row-crop agriculture. However, some of these parcels, particularly along the periphery of the urban limits, may contain limited areas of natural habitats such as coastal sage scrub and oak woodlands. However, adherence to General Plan policies and compliance with applicable regulatory agency requirements would ensure that impacts remain less than significant.

H Street Corridor Infill Area. Development accommodated within the H Street Corridor Infill area would be infill redevelopment surrounded by existing urban development, which is primarily composed of commercial land uses developed in strip shopping centers. The majority of the vacant and underutilized lots within this area are highly disturbed and contain barren ground. The northern portion of the infill area abuts the Santa Ynez River, which contains sensitive riparian habitats. However, the City Land Use Map currently designates this portion of the H Street Corridor Infill area as open space, thus prohibiting future development in this area. Impacts would therefore remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area encompasses approximately 270 acres of intensively managed row crop agriculture and ruderal habitat located along the southwestern boundary of the City Limits (see Figure 2-4 in Section 2.0, *Project Description*). It is bordered on the north, east, and south by residential development and to the west by row crop agriculture. No permanent ditches or ponds are present on the site. A narrow strip of highly disturbed ruderal habitat separates the row crops from Ocean Avenue (Highway 246). This strip of habitat appears to be mowed regularly and is dominated by non-native plant species such as bromes, dove weed, and mustard. The Bailey Wetland is located to the north of the expansion area is a recognized jurisdictional area. However, the expansion area will not have an influence



on this wetland. No native or otherwise undisturbed habitats are present within the expansion area. As a result, no impacts to sensitive habitats are expected to occur.

Expansion Area B: River Area

The River expansion area includes approximately 484 acres which includes a 45-acre park and an RV campground, undeveloped open space, and fallow agricultural land on the southeast boundary of the City Limits, north of Highway 246 (see Figure 2-4 in Section 2.0, *Project Description*). The River expansion area is bordered by the Santa Ynez River to the west, Highway 246 to the south, and by agriculture to the east and north. The fallow agricultural field and the undeveloped field are both adjacent to Highway 246 at the southern end of the expansion area. Both fields are dominated by non-native invasive plant species such as bromes and mustard. Historical use of the undeveloped field is unknown, but may have included agriculture. This field has remained relatively undisturbed over recent years as evidenced by the presence of medium-sized scrubs scattered across the landscape.

The Santa Ynez River riparian corridor has been designated as a Biologically Significant Area in the 1997 General Plan Resource Management Element and is known to contain sensitive habitats such as Southern Willow Scrub, Southern Cottonwood Willow Riparian Forest, Central Coast Arroyo Willow Riparian Forest, Southern California Steelhead Stream, and Maritime Chaparral, and also includes critical habitat designations for southern California steelhead and southwestern willow flycatcher (see Figures 4.3-1 and 4.3-2). The river also falls within the jurisdictions of the USACE, RWQCB, and CDFG. Future development of this expansion area in accordance with the 2030 General Plan may result in impacts to sensitive habitats associated with the riparian corridor. However, adherence to General Plan policies and compliance with applicable regulatory agency requirements would ensure that impacts remain less than significant.

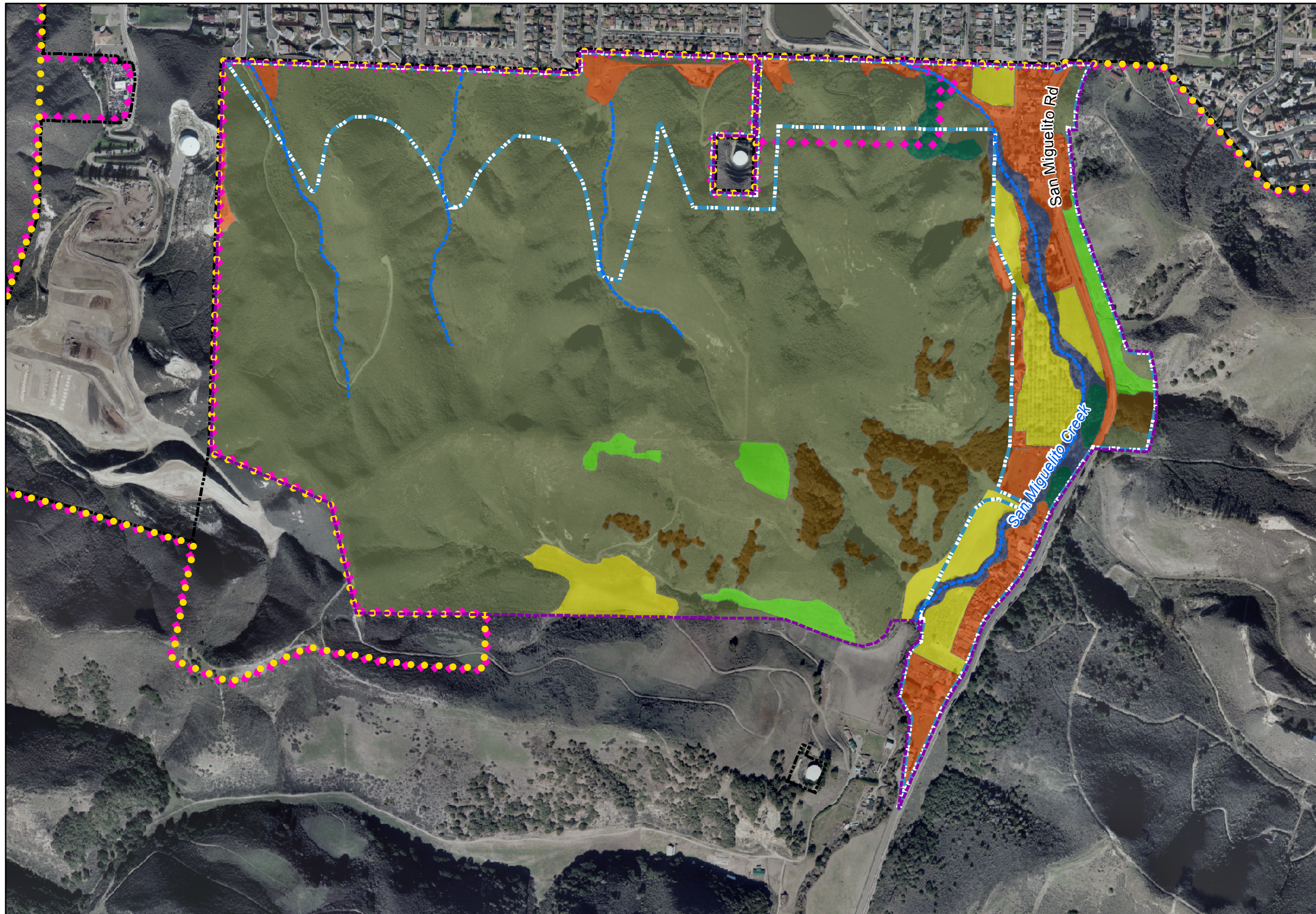
Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would include approximately 165 acres within the City Urban Limit Line of natural habitats and residential development located south of the existing City Limits (see Figure 2-4 in Section 2.0, *Project Description*). A mosaic of natural habitats including grassland, coastal sage scrub, oak woodland and riparian woodland occur within and around this expansion area (see Figure 4.3-3). The San Miguelito Creek riparian corridor is designated as Biologically Significant in the 1997 General Plan Resources Management Element. In addition, San Miguelito Creek falls within the jurisdiction of the USACE, RWQCB, and CDFG. Future development of this expansion area in accordance with the 2030 General Plan may result in impacts to sensitive riparian habitats. However, adherence to General Plan policies and compliance with applicable regulatory agency requirements would ensure that impacts remain less than significant.



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Habitat Type

- Agriculture
- Coastal Sage Scrub
- Eucalyptus Woodland
- Grassland
- Oak Woodland
- Urban / Ruderal
- Riparian

Additional Overlays

- Ephemeral Drainage
- Miguelito Canyon Draft Annexation Area (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

0 500 1,000 Feet

N

Base map source: City of Lompoc, 2008.

Habitats in the Miguelito Canyon (Area C) Development Area

Figure 4.3-3
 City of Lompoc

Expansion Area D: Wye Residential Area

The Wye Residential expansion area includes approximately 10 acres of disturbed grassland north of the existing City Limits (see Figure 2–4 in Section 2.0, *Project Description*). This grassland habitat experiences periodic disturbance due to mowing activities. No sensitive habitats are present within this area and no impacts are expected to occur.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of the areas within the existing City boundaries, buildout of the identified expansion areas, and buildout of surrounding County areas with respect to the cumulative loss of sensitive habitat. Impacts to sensitive habitats from development of these areas within the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes potential impacts to sensitive habitats within the existing City Limits as well as within the River and Miguelito Canyon expansion areas. Existing policies in the 1997 Resource Management Element (discussed below) would reduce impacts to sensitive habitats to a less than significant level.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future projects' contribution to cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies Which Reduce Impacts

The existing 1997 General Plan Resource Element (RME) goal and policies listed in Section 4.3.1(e) (Regulatory Setting) would protect natural habitats. In addition, the following RME implementation measures would also reduce impacts.

RME Measure 6 *The City shall amend the Zoning Ordinance to add an environmentally-sensitive resource overlay zone in order to protect environmentally-sensitive resources, including biologically significant habitats. [Policies 2.1 and 2.2]*

RME Measure 7 *The City shall amend the Zoning Ordinance to ensure that permitted activities in the environmentally-sensitive resource overlay zone will not damage biologically significant habitats. Where no feasible alternative locations exist for the activity, replacement habitat shall be required at a 1:1 ratio of any biological significant habitat located within the overlay zone which is damaged or disturbed by development. [Policy 2.1]*



RME Measure 9 *The City shall amend the Grading Ordinance to require temporary fencing to be installed at the edge of biologically significant habitats prior to construction. [Policy 2.1]*

RME Measure 12 *The City shall amend the Zoning Ordinance to require native plant buffers along stream and riparian habitat to protect riparian vegetation, provide continuous wildlife habitat, retain bank stability, and reduce erosion and sedimentation. [Policies 2.1 and 2.3]*

RME Measure 14 *The City shall amend the Zoning Ordinance to require the preparation of maintenance and management plans for natural habitats affected by development. [Policies 2.2 and 2.3]*

RME Measure 15 *The City shall amend the Zoning Ordinance to require landscape plans for projects adjacent to natural habitats to use local native vegetation which is compatible with the natural habitat.*

Mitigation Measures. The policies and measures outlined in the 1997 General Plan aim to protect sensitive habitats through protection of biologically significant habitats, replacement of these habitats where avoidance is not feasible, and encouragement of restoration and management of natural habitats. In addition, the Santa Ynez River and San Miguelito Creek riparian corridors fall within the jurisdictions of the USACE, RWQCB, and CDFG. As a result, individual permit requirements on a project-specific basis may require a greater replacement ratio for impacted habitat. Additional coordination with these regulatory agencies may be required, including obtaining a Streambed Alteration Agreement from the DFG pursuant to Section 1600 *et. seq.* of the California Fish and Game Code. Adherence to General Plan policies and compliance with applicable regulatory agency requirements would ensure that impacts remain less than significant. No additional mitigation is required.

Significance After Mitigation. Impacts would be less than significant with adherence to General Plan policies and compliance with applicable regulatory agency requirements.

Impact BIO-2 **Development that could be facilitated by the 2030 General Plan may result in impacts to special status plant and animal species. These impacts are Class II, *significant but mitigable.***

2030 General Plan Buildout within City Limits

Most of the vacant and underutilized parcels throughout the City are highly disturbed and lack conditions sufficient to support special status plant and animals species. However, there is potential for special status species, such as the American badger, the coast horned lizard, the silvery legless lizard, and several raptor species, to occur, particularly within those parcels on



the periphery of the City's boundary where native habitat remains. Development of these areas may result in impacts to special status species. Overall, impacts to special-status species would be significant but mitigable.

H Street Corridor Infill Area. As stated above, the majority of the H Street Corridor Infill Area includes highly disturbed lots surrounded by existing development. None of these lots are expected to contain special status plant or animal species.

The northern portion of the infill area abuts the Santa Ynez River, which is designated as Biologically Significant in the 1997 General Plan Resource Management Element. Sensitive riparian habitats, as well as native oak woodland and coastal sage scrub habitats within and adjacent to this portion of the infill area may support several sensitive plant and animal species, especially those associated with riparian corridors, such as least Bell's vireo (*Vireo belli pusillus*) and California red-legged frog (*Rana aurora draytonii*). However, the proposed 2030 General Plan Land Use Map designates this portion of the H Street Corridor Infill area as having a Proposed Park overlay, thus prohibiting future urban development in this area. Impacts to this area would therefore remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

This expansion area is highly disturbed due to active agricultural practices. No special status plant or animal species have been documented within this area. The high level of disturbance on-site creates conditions unsuitable for the survival of most native plants and animals and special status species are not expected to occur.

Expansion Area B: River Area

The dominance of non-native plant species within the developable portion of the River expansion area reduces the overall habitat value for special status plant and animals species. However, some special status species may still occur on-site, such as American badger, coast horned lizard, and black-flowered figwort. Furthermore, development of this area may result in disturbance to special status plant and animals species within the adjacent (off-site) Santa Ynez River riparian corridor through introduction of increased light and noise, through increased human activity, and through introduction of domestic animals. Several special status species could potentially occur within this off-site riparian corridor, such as the California red-legged frog, yellow warbler, willow flycatcher, yuma myotis, and least Bell's vireo, and critical habitat has been designated along this portion of the Santa Ynez River for both the southern California



steelhead and southwestern willow flycatcher (see Figure 4.3-2). Development of this expansion area may result in impacts to special status species.

Expansion Area C: Miguelito Canyon Area

The riparian corridor within this expansion area has been designated as Biologically Significant in the 1997 General Plan Resource Management Element and has the potential to support several special status species such as Santa Barbara honeysuckle, least Bell's vireo, California red-legged frog, steelhead, and white-tailed kite. Grassland, oak woodland, and coastal scrub habitats occurring within the Miguelito Canyon expansion area (see Figure 4.3-3) also have the potential to support special status plant and animal species such as Hoover's bent grass, black-flowered figwort, Lompoc sticky monkeyflower, coast horned lizard, American badger, and silvery legless lizard. Oak woodlands, in particular, are threatened by development in the region. Development of this expansion area in accordance with the 2030 General Plan may therefore result in impacts to special status plant and animal species.

Expansion Area D: Wye Residential Area

The periodic disturbance in this expansion area reduces the functions and values of the habitat on-site and precludes many special status species from occurring. This area is also surrounded by a residential community to the north and east, Harris Grade Road to the west and Purisima Road to the south, all of which further degrades the habitat value of the site. Nevertheless, some special status species, such as the American badger, may utilize the site and may be impacted by future development of the site in accordance with the 2030 General Plan.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of the areas within the existing City boundaries, buildout of the identified expansion areas, and buildout of surrounding County areas with respect to the cumulative contribution to the decline of special status species. Impacts to special status species from development of these areas within the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes potential impacts to special status species within the existing City Limits as well as within the River, Miguelito Canyon, and Wye Residential expansion areas.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.



General Plan Policies Which Reduce Impacts

The 1997 General Plan RME policies listed in Section 4.3.1(e) (Regulatory Setting) address the protection and preservation of natural habitats. In addition, special status plant and animal species are protected by the USFWS, NOAA Fisheries, and the CDFG under a variety of federal and state regulations [refer to Section 4.3.1(e) (Regulatory Setting) for additional discussion]. However, the 1997 General Plan does not contain policies specifically addressing the protection and preservation of special status species.

Mitigation Measures. The following mitigation measures are required.

BIO-2(a) Special Status Species Policy. The following policy shall be added to the General Plan Conservation/Open Space Element:

The City shall encourage the protection of significant biological resources, including sensitive plant and animal species.

BIO-2(b) Native Tree Protection Policy. The following policy shall be added to the General Plan Conservation/Open Space Element:

The City shall encourage the protection, preservation and restoration of native trees, particularly oak tree species.

Significance After Mitigation. With compliance with existing General Plan policies, regulatory programs, and required mitigation measures, impacts would be reduced to a less than significant level.

Impact BIO-3 Development under the 2030 General Plan may result in impacts to wildlife movement. These impacts are Class II, *significant but mitigable*.

2030 General Plan Buildout within City Limits

Vacant and underutilized parcels within the existing City Limits are scattered throughout the City and therefore do not offer substantial wildlife movement opportunities due to adjacent development. Parcels found on the periphery of the General Plan area may offer marginal opportunities for wildlife movement.

The Santa Ynez River and its associated riparian habitats offer a substantial wildlife movement corridor through the Lompoc Valley and provide an important link between the Santa Ynez Valley and the Pacific Ocean. Development facilitated by the 2030 General Plan in areas adjacent to the Santa Ynez River may result in impacts to wildlife movement in this corridor



through encroachment into riparian habitat, increased light and noise pollution, and increased human activity and presence of domestic animals.

H Street Corridor Infill Area. The northern portion of the infill area abuts the Santa Ynez River and includes native habitats that may support wildlife traveling through the river corridor. However, the General Plan Land Use Map currently designates this portion of the H Street Corridor Infill area as open space, thus prohibiting future development in this area. Impacts to wildlife movement through this area would therefore remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

This expansion area is adjacent to the southwestern edge of the existing City Limits and is bordered by agriculture to the west and urban development to north, south, and east. Wildlife movement across this area is highly unlikely due to its proximity to existing development, and the highly disturbed nature of the area. The lack of native habitat further reduces the habitat functions and values and discourages use by wildlife. Development of this expansion area is not expected to significantly impact wildlife movement.

Expansion Area B: River Area

As discussed above, this expansion area is adjacent to the Santa Ynez River riparian corridor, which offers a substantial wildlife movement corridor. Development of the fallow agricultural field adjacent to the river may result in impacts to wildlife movement due to encroachment into riparian habitat, increased light and noise pollution, and increased human activity and presence of domestic animals.

Expansion Area C: Miguelito Canyon Area

The San Miguelito Creek riparian corridor and the abundant open space habitat throughout Miguelito Canyon provide opportunities for wildlife movement in the Lompoc Hills along the southern boundaries of the City. Development that could be facilitated along the San Miguelito Road corridor would be Rural Density Residential (RDR) in nature. The RDR designation would be a new residential land use designation under the General Plan Update, and would only apply to the Miguelito Canyon expansion area. The purpose of this designation is to provide rural residential areas on the fringe of urban development which provide for the selection of appropriate building sites and protection of the area's natural features and resources (refer to Table 2-1 in Section 2.0, *Project Description*). In addition, the Urban Limit Line would extend



into the canyon areas only, thereby prohibiting future development on the adjacent hillsides, outside of this limit. Development would consist of large-lot detached single-family homes. As a result, even with development occurring in these areas, lands would remain primarily undeveloped and development would be compatible with the rural character of the area. Impacts to wildlife movement in this area would therefore be somewhat limited due to the nature of the anticipated development. However, residential development in this area may discourage wildlife from using the adjacent hills through increases in light and noise, increased human activity and presence of domestic animals.

Expansion Area D: Wye Residential Area

The Burton Mesa Ecological Reserve, which is managed by CDFG, is located less than one mile to the north of the Wye Residential expansion area. However, this expansion area is directly bordered by residential development to the north, east and south and is bordered by roads on the west and south. In addition, the expansion area itself is highly disturbed. Buildout of this area in accordance with the 2030 General Plan is therefore not expected to impact wildlife movement.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of the areas within the existing City boundaries, buildout of the identified expansion areas, and buildout of surrounding County areas with respect to the cumulative fragmentation of habitat, isolation of populations, and decreased movement opportunities. Impacts to wildlife movement from development of these areas within the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As discussed above, this includes potential impacts to wildlife movement as a result of development within the existing City Limits as well as within the River and Miguelito Canyon expansion areas.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies Which Reduce Impacts

The existing 1997 General Plan RME does not include goals or policies that specifically address wildlife movement corridors. However, the following policies reduce impacts to the Santa Ynez River and its tributaries, which serve as important wildlife movement corridors in the Lompoc area.



RME Policy 2.2 *The City shall protect the valuable natural resources of the Santa Ynez River and tributaries which serve as flood channels, wildlife habitats, critical links in Lompoc's water supply, and components of the City's urban form. Watercourses shall be retained in a natural state, rather than be concrete-lined or placed underground, so long as proper flood protection is provided.*

RME Policy 2.4 *The City shall encourage the provision, maintenance, and protection of direct public access to publicly-owned watercourses and shall integrate watercourses with non-motorized trails and other open space.*

Mitigation Measures. Mitigation measures BIO-2(a) (Special Status Species Policy) and BIO-2(b) (Native Tree Protection Policy) are required to reduce potential impacts to wildlife movement. Refer to *Mitigation Measures* under Impact BIO-2.

Significance After Mitigation. With compliance with existing General Plan policies, regulatory programs, and required mitigation measures, impacts would be reduced to a less than significant level.

Impact BIO-4 **Development under the 2030 General Plan may result in impacts to fish, including steelhead, in the Santa Ynez River. These impacts are Class III, less than significant.**

This discussion of impacts to fisheries is a cumulative analysis which considers buildout of the Lompoc General Plan within the City Limits (including the H-Street Corridor Infill Area), and each of the proposed expansion areas. The proposed update to the General Plan contemplates a population increase of 16,566 people by 2030. The estimated water demand for this new increment of population is 2,320 acre-feet per year (AFY), as described in Section 4.14, *Utilities*. To the extent the City is unable to offset the increase in demand through water conservation and retrofit programs, the new demand will be met by increased pumping from municipal wells.

The nexus between the Lompoc General Plan and fisheries is the potential influence of groundwater pumping on flow in the mainstem Santa Ynez River. Increased groundwater pumping decreases flow in the Santa Ynez River, which could adversely impact fish in the mainstem Santa Ynez River downstream of the narrows, and in the lagoon. Furthermore, depletion of flow could impair steelhead passage opportunities in the lower Santa Ynez River.

Impacts to Santa Ynez River Fish Species in the Mainstem and Lagoon

The potential for groundwater pumping-surface water flow interactions is restricted to the area of the Santa Ynez River downstream of the Narrows (approximately 35 miles downstream of Bradbury Dam). Therefore, this impact focuses on the Santa Ynez River from the Narrows to the lagoon.



Steelhead/rainbow trout are found in the mainstem below Bradbury Dam, primarily in the first three miles downstream of the dam, but have been observed rearing as far downstream as the Alisal Road bridge (approximately 10 miles downstream) (Appendix E; SYRTAC 1997, 2000a). Depletion of flow could also impact habitat for resident fish (e.g., arroyo chub, largemouth bass, prickly sculpin, catfish) in the mainstem Santa Ynez River from the Narrows to the lagoon.

Because stream flow in this section of the Santa Ynez River is low or absent during the low flow periods of the year, all fish are forced into intermittent pool habitats. Mainstem rearing habitat in the Santa Ynez River downstream of Highway 154 becomes discontinuous in most years and, as such, habitat downstream of Highway 154 is often not directly related to mainstem flow. The majority of resident fish are concentrated in pool habitat in the first 10 miles downstream of Bradbury Dam, and habitat from about the Narrows downstream to the Lompoc Regional Wastewater Reclamation Plant (LRWRP) discharge is often not directly related to mainstem flow. Therefore, buildout of the General Plan is not expected to significantly impact habitat conditions for resident fish species along this section of the mainstem Santa Ynez River.

The mainstem Santa Ynez River below Lompoc extends 8.3 miles. Deep pools, formed by numerous beaver ponds, dominate habitat two miles below the LRWRP. Downstream of Bailey Avenue in Lompoc, the growth of willows and other vegetation in this area is supported by freshwater (treated effluent) releases to the channel from the LRWRP. The volume of wastewater discharge will increase under the 2030 General Plan Update; as a result, flow-dependent instream habitat and riparian vegetation bordering this section of the Santa Ynez River would be expected to be maintained in the future. Therefore, buildout of the General Plan is not expected to significantly impact habitat conditions for resident fish species along the mainstem Santa Ynez River from the LRWRP discharge location to the lagoon.

The lagoon represents a unique habitat characterized by saltwater/freshwater mixing. Water quality within the lagoon, particularly salinity, has a major influence on the distribution of fish and macroinvertebrates. Depletion of river inflow to the lagoon, if it were to occur, could potentially cause adverse impacts on fish habitat in the lagoon by altering water quality, particularly salinity. However, buildout of the General Plan is not anticipated to substantially affect the magnitude, frequency or duration of high winter flows and, therefore, would not significantly impact winter-related fish habitat conditions in the lagoon. Moreover, during the summer low-flow period, future development would not be expected to substantially reduce the magnitude, frequency or duration of lagoon inflow because the volume of wastewater discharge from the LRWRP will increase under the 2030 General Plan. Therefore, potential changes to inflows to the lagoon resulting from buildout of the General Plan are not expected to be of sufficient magnitude, frequency or duration to significantly impact fish habitat conditions in the lagoon.



Impacts to Steelhead Passage

Adult steelhead primarily migrate upstream in the Santa Ynez River from January through April. To allow steelhead/rainbow trout to migrate within the mainstem and into the tributaries, passage flows must be available within the system and for steelhead, the sandbar at the mouth of the lagoon must be open. A passage analysis was conducted to determine the amount of flow needed to provide passage at critical riffles in the lower mainstem of the Santa Ynez River, (Appendix E; SYRTAC 1999). The Narrows is located approximately 1 mile upstream of the City's wells and is upstream of the influence of those wells. The anticipated increase in municipal pumping resulting from implementation of the City of Lompoc's General Plan Update in 2030 would deplete river flow along the reach near Lompoc during January–April by an estimated average of 2.7 cubic feet per second (cfs).

Flow depletion associated with buildout of the General Plan would be expected to result in a minor reduction (approximately 3 percent) in the total number of adult steelhead passage days, relative to existing conditions. Adult steelhead passage opportunities can also be expressed in terms of “events” which are the number of consecutive days where steelhead could theoretically pass. Flow depletion associated with buildout of the General Plan would be expected to result in minor reductions (approximately 3–5 percent) in the total number of 3–day, 5–day, 10–day and 14–day adult steelhead passage events, relative to existing conditions. In summary, buildout of the General Plan would not result in substantial reductions in steelhead passage opportunities in the lower Santa Ynez River, relative to existing conditions.

General Plan Policies Which Reduce Impacts

The following policies in the existing 1997 General Plan RME reduce impacts to the Santa Ynez River and its tributaries.

RME Policy 2.2 *The City shall protect the valuable natural resources of the Santa Ynez River and tributaries which serve as flood channels, wildlife habitats, critical links in Lompoc's water supply, and components of the City's urban form. Watercourses shall be retained in a natural state, rather than be concrete-lined or placed underground, so long as proper flood protection is provided.*

RME Policy 2.5 *The City shall ensure that the biologically-significant habitats identified on the Resource Management map are preserved.*

In addition, the 1997 General Plan Public Services Element (PSE) contains the following policies related to water conservation, which directly relate to the provision of adequate streamflow in the Santa Ynez River.



PSE Goal 19 *Maximize the conservation of water.*

PSE Policy 19.1 *The City shall promote the conservation of water by all customers.*

Mitigation Measures. None required, as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.



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4.4 CULTURAL RESOURCES

Cultural resources include archaeological sites, buildings and other kinds of structures, historic districts, cultural landscapes, and resources important to Native Americans and other ethnic groups. Archaeological sites represent the material remains of human occupation and activity either prior to European settlement (prehistoric sites) or after the arrival of Europeans (historical sites). The historic "built environment" includes structures used for habitation, work, recreation, education and religious worship, and may be represented by houses, factories, office buildings, schools, churches, museums, hospitals, bridges and other kinds of structures.

An historic district is any "geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history" (36 CFR 60.3). The National Park Service defines a cultural landscape as "a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values" (Birnbaum 1994). Landscapes may be designed, such as gardens and parks, or they may be vernacular, evolving over time through a process of continued occupation and use.

Finally, resources important to Native Americans or other cultural groups may include buildings and archaeological sites, but could also include locations lacking distinctive material remains. Such "traditional cultural properties" are associated with the cultural practices or beliefs of a living community, are rooted in that community's history, and are important in maintaining the continuing cultural identity of the community (Parker and King 1998).

This section analyzes the potential impacts of the General Plan Update on cultural resources. The analysis addresses impacts to both prehistoric and historical archaeological resources as well as historic buildings, structures, and districts. The analysis was performed by Applied EarthWorks, Inc. based upon archaeological and historical records searches supplied by the Central Coastal Information Center of the California Historical Resources Information System, housed at the Department of Anthropology, University of California, Santa Barbara; research in existing published and unpublished background literature on local and regional history, prehistory, archaeology, and ethnology; and review of existing plans and policies of the City of Lompoc.

4.4.1 Setting

a. Prehistoric, Ethnohistoric, and Historical Background.

Prehistory. The prehistory of California's central coast spans the entire Holocene and may extend back to late Pleistocene times. The Lompoc Valley was occupied at least 9,000 years



ago, if not earlier, based on radiocarbon dates from two archaeological sites near the mouth of the Santa Ynez River and other sites nearby (Glassow 1990, 1996; Lebow et al. 2001, 2002, 2006, 2007; Woodman et al. 1995). These early occupants are thought to have lived in small groups that had a relatively egalitarian social organization and a forager-type land-use strategy (Erlandson 1994; Glassow 1996; Greenwood 1972; Moratto 1984). Human population density was low throughout the early and middle Holocene (Lebow et al. 2007). Cultural complexity appears to have increased around 3,000–2,500 years ago (King 1990). Around Lompoc, that interval also marks the beginning of increasing human population densities and appears to mark the shift from a foraging to a collecting land-use strategy (Lebow et al. 2006, 2007). Population densities reached their peak around 600–800 years ago, corresponding to the full emergence of Chumash cultural complexity (Arnold 1992).

The native people living in the Lompoc area immediately prior to the arrival of the Spanish are grouped with the Purísimeño Chumash (Greenwood 1978; King 1984; Landberg 1965), one of several linguistically related members of the Chumash culture. In the Santa Barbara Channel area, the Chumash people lived in large, densely populated villages with well-built residential and communal structures and had a culture that “was as elaborate as that of any hunter-gatherer society on earth” (Moratto 1984:118). Relatively little is known about the Chumash in the Lompoc region. Early explorers noted that villages were smaller and lacked the formal structure usually found in the Channel region (Greenwood 1978:520).

Diseases introduced by early Euroamerican explorers, beginning with the maritime voyages of Cabrillo in A.D. 1542–1543, substantially impacted Chumash populations more than 200 years before Spanish settlement began (Erlandson and Bartoy 1995, 1996; Preston 1996). Drastic changes to Chumash lifeways resulted from the Spanish occupation that began with the Portolá expedition in A.D. 1769.

Ethnohistory. Anthropologists, archaeologists, and historians of the Chumash have identified several Purísimeño villages in the Lompoc Valley, and it is likely that the original La Purisima Mission (Mission Vieja) was established in 1787 in the general vicinity of these settlements (King 1975, 1984; Spanne 1988; Applegate 1975; Ruth 1936). The site of *Lompo'* has not been specifically identified but was probably located just west of the current city, while *Sipuc* was located to the east at the big bend or elbow in the Santa Ynez River. *Alsacupi* (also known as *Algsacupi* or *Laxsakupi*) was a large settlement at the mouth of Miguelito Canyon that became the principal Chumash village after establishment of the original mission close by. The village *Amu'u* was located across Lompoc Valley in Los Berros Canyon, at the new mission site established after the original mission was destroyed by earthquake in 1812.

Several early Spanish explorers described Chumash houses as small round and domed structures having the shape of a half orange with an opening for ventilation and light at the top near the center. Chumash subsistence at the time relied on fishing, hunting, and gathering a wide range of plants and shellfish. Their tool kit reflected this subsistence strategy, and included a great variety of fishing tackle, hand traps, poles, nets, spears, and hooks. Hooks



were made from bent cactus spines, shell, wood, and bone. The Purísimeño are credited with using salted sardines for bait and catching larger fish with cactus spine hooks (Greenwood 1978:522). They made knives, scrapers, drills, projectile points, and other stone tools from locally available chert; one extensive site from which chert toolstone was quarried is located within the city.

For hunting, the basic weapon was the bow and arrow. The most common arrow points were small leaf-shaped and triangular types; larger stemmed and side-notched points may have been used with atlatls or spears (Greenwood 1978:522). The Chumash hunted animals such as the California mule deer, coyote, rabbits, and fox. They also produced superb basketry, used in every aspect of food preparation from collecting roots, seeds, and other foodstuff, to carrying or storing water. Natural asphaltum was used to waterproof basketry and affix stone projectiles to their shafts. Stone mortars, pestles, metates, and manos were used for processing acorns, seeds, and other nuts.

In addition to the objects used in everyday life, Chumash craftsmen produced a wide array of shell beads, ornaments and other decorative items. Well-established trade systems overseen by hereditary chiefs ensured that foodstuffs, crafts, and materials from the Channel Islands, coast, and interior regions were distributed throughout the entire Chumash territory. *Olivella* and steatite disc beads were used as currency, while other types of beads appeared as inlay and decoration on clothing, vessels, baskets, and weapons. When not hunting or gathering and preparing food, the Chumash pursued other social activities, such as playing games and preparing for rituals and celebrations. Their complex social organization, traditions, cosmology, and material culture are described in greater detail by Blackburn (1975), Grant (1978a, 1978b), Greenwood (1978), Hudson and Blackburn (1982, 1985, 1986), Hudson et al. (1977), Hudson and Underhay (1978), Johnson (1988), and Landberg (1965).

History. Fermin Lasuen, second *Presidente* of the Franciscan missions of California (replacing Junipero Serra in 1785), established the eleventh mission in Alta California in Lompoc Valley in 1787. *Mision de la Purisima Concepción de Maria Santisima* grew slowly but steadily at the mouth of Miguelito Canyon until a violent earthquake on December 21, 1812, destroyed many of the buildings and made most others unusable. Heavy rains, mudslides, and the relative isolation of the site south of the Santa Ynez River and some distance from *El Camino Real* prompted the padres to relocate the mission five miles to the northwest, on more level ground above the floodplain on the opposite side of the river.

After achieving independence from Spain in 1821, Mexico declared California as one of its territories; the government then became intent on secularizing the missions there. Although missions had produced great amounts of material resources, not enough Native Americans had been “hispanicized” to enable a defense of the province. This defense was essential to repel foreign invaders. Political, economic, and social factors made it difficult for the Mexican government to maintain the California mission chain, and a decision was made to secularize the mission properties. After the proclamation for secularization was issued in 1834, the



landholdings of Mission La Purísima Concepción were divided into seven ranchos. Lands now within the City of Lompoc were apportioned between two of these, the Lompoc Rancho and the Mission Vieja de la Purísima Rancho. Rancho Lompoc totaled approximately 38,335 acres and was granted to Jose Antonio Carrillo in 1837. The Mexican government granted Rancho Vieja de la Purísima, which contained 4,400 acres, to brothers Joaquin and Jose Antonio Carrillo in 1845. The Carrillo brothers appear to have used this land for agricultural purposes (O'Neill 1939; Storke 1891).

In the early 1850s the Carrillo brothers sold Rancho Lompoc to Thomas Wallace More and his brother A. P. More. The More brothers sold their holdings to Hollister, Dibblee, and Cooper in 1863. Hollister, Dibblee, and Cooper had acquired other area ranchos as well for a sheep enterprise, including Rancho Vieja de la Purísima. In 1874, Hollister and Dibblee (Cooper was no longer listed as a partner) sold the Lompoc and Mission Vieja Ranchos to a joint stock company for \$50,000, payable in 10 installments. This joint stock company, known as the California Immigrant Union of San Francisco, was composed of California farmers and businessmen. This group, wishing to establish a land colony upon which no alcoholic beverages could be manufactured or sold, wrote a temperance covenant into the land deed.

The lands of the company were surveyed and divided into lots made up of 5, 10, 20, 40, or 80 acres. A tract measuring 1 square mile was set aside for a townsite. At the subsequent land auction, approximately 200 lots were purchased by settlers from all over the United States. The unsold lots, amounting to approximately 35,000 acres, were sold back to Hollister and Dibblee, who continued to use them for sheep grazing. Settlers began farming and building almost immediately. Within 2 months, 80 families had settled on their newly purchased lots. Within a year the flourishing town supported a newspaper, physician, justice of the peace, notary public, drug store, a 100-member Sunday school, and a tri-weekly stagecoach (O'Neill 1939; Storke 1891).

Of the more than 1,400 settlers that were living on the colony lands by 1880, 200 resided in the Lompoc town site. Attempts to keep the colony “dry” often failed, as liquor was often transported in via stagecoach or was kept by druggists for “medicinal purposes.”

Lompoc was incorporated in 1888; by 1890 a population of 2,000 supported churches, schools, libraries, various retail establishments, a flour mill, physicians, dentists, lawyers, and real estate dealers. Agricultural activities on the outskirts of town produced wheat, beans, hay, sugar beets, onions, potatoes, mustard, cherries, pears, apricots, and apples. The incorporation also brought the end of temperance as courts ruled that the temperance covenant was unenforceable (Lompoc Valley Historical Society [LVHS] 2004; Manfrina 1974; O'Neill 1939; Storke 1891).

Despite drought and a diphtheria epidemic, the town prospered. The completion of the Southern Pacific Railroad between Los Angeles and San Francisco in 1901 included a spur into Lompoc, initiating further agricultural, residential, and commercial growth. This period also was hailed as the beginning of diatomaceous earth mining. The wide variety of uses for this material—including



building materials, insecticides, and pharmaceutical products—made diatomaceous earth mining one of Lompoc’s most important industries. The flower seed industry also found a successful home here (Hart 1978; Manfrina 1974).

Camp Cooke, an army training base, was established north of town in 1941. This facility later became Cooke Air Force Base, and was renamed Vandenberg Air Force Base in 1958. Development of the facility brought an influx of new residents, and within the next decade the population of Lompoc had quadrupled (Hart 1978; LVHS 2004; Manfrina 1974).

b. Archaeological and Historic Resources. The Lompoc General Plan area extends from the base of the Lompoc Hills, on the north flank of the Santa Ynez Mountains, northward across the valley of the lower Santa Ynez River (often referred to as Lompoc Valley) to the base of the Purisima Hills on the opposite side of the river. It encompasses the developed part of the City as well as undeveloped areas in Miguelito Canyon to the south, agricultural land immediately to the west, and undeveloped lands north of the Santa Ynez River.

The records search at the Central Coastal Information Center revealed that very little of this area (less than 10 percent) has been surveyed for cultural resources. Refer to Figure 4.4–1 for a map of areas within and adjacent to the City that have been surveyed for cultural resources. Some 83 cultural resource reports have been filed with the Information Center; most of these are either limited Phase 1 surveys covering very small parcels of land or long, linear transect surveys for pipelines, transmission lines, or highway improvements. There are several overviews and syntheses (e.g. Van Horn 1979; Spanne 1988) which do not include inventories of specific properties, as well as a few site-specific reports such as Costello’s (1993) landmark study at Mission Vieja and Nettles’ (2004) Extended Phase 1 study of the Lompoc City Dump.

Within the General Plan area 25 prehistoric and historical archaeological sites have been recorded on the Information Center base maps. These include the Chumash village *Alsacupi*, several smaller prehistoric campsites and resource procurement locations, an extensive chert toolstone quarry, the site of the original La Purisima Mission, and several historic refuse scatters. The 25 archaeological sites currently recorded on the Information Center base maps are listed and described briefly in Table 4.4–1.

In addition to these archaeological sites, the Information Center search of the State Historic Property Data Files, National Register of Historic Places, California Historic Landmarks, California Points of Historical Interest, Office of Historic Preservation Determinations of Eligibility, and the Caltrans State and Local Bridge Surveys identified three additional properties of historical value: the Old Carnegie Library at 200 South H Street (currently the Lompoc Museum), the U.S. Army Disciplinary Barracks in Santa Lucia Canyon, and the Lompoc Historic District (an unspecified area within the City).

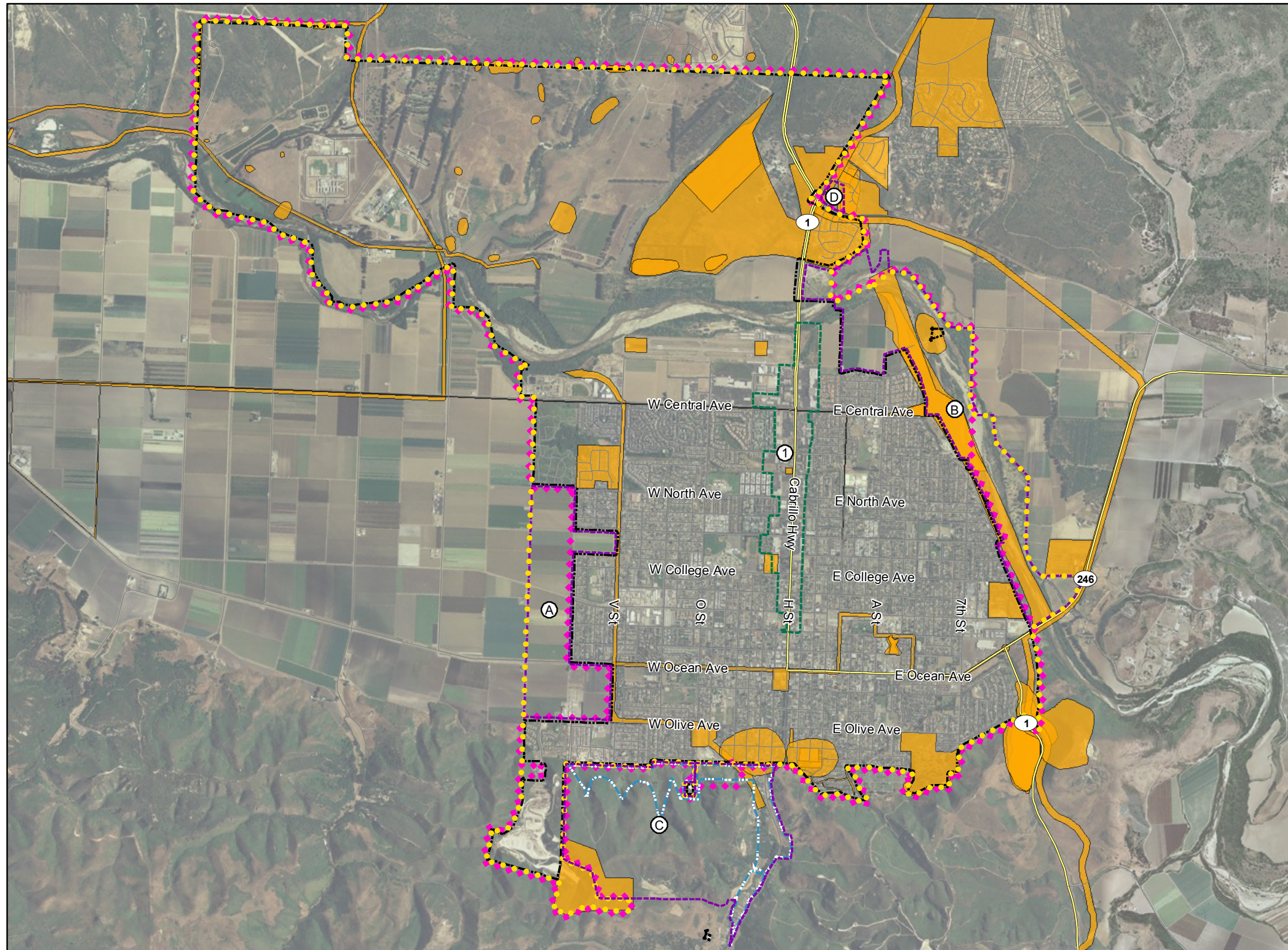


**Table 4.4-1
 Archaeological Sites Recorded at the Central Coastal Information Center**

P-Number	Trinomial	Site Name	Description	NRHP Status
P-42-000220	CA-SBA-220	Alsacupi Village	Chumash village associated with Mission Vieja	Eligible
P-42-000521	CA-SBA-521	Mission Vieja	Ruins of the original La Purisima Mission, destroyed by 1812 earthquake	Listed
P-42-001767	CA-SBA-1767H	Lompoc Dump	Apparent original dump for Lompoc Land Colony and City of Lompoc	Unevaluated
P-42-001811	CA-SBA-1811	none	Small, sparse scatter of chert flakes; one core	Unevaluated
P-42-001824	CA-SBA-1824	none	Small, sparse scatter of chert flakes; one core	Unevaluated
P-42-001892	CA-SBA-1892	none	50-100 chert flakes, bifaces, and a chert scraper along with burned and fractured sandstone cobbles; has depth	Unevaluated
P-42-001893	CA-SBA-1893	none	Small scatter of 13 Monterey chert flakes along intermittent creek	Unevaluated
P-42-001894	CA-SBA-1894	none	Small scatter of several dozen Monterey chert flakes, one preform fragment, four burnt sandstone cobbles, and one possible handstone fragment	Unevaluated
P-42-001895	CA-SBA-1895	none	Small scatter of two dozen Monterey chert flakes	Unevaluated
P-42-001995	CA-SBA-1995	none	Small lithic scatter, possible tarring pebbles, ground stone	Unevaluated
P-42-002066	CA-SBA-2066	none	Chert quarry with numerous quartz and sandstone hammerstones, knife preforms, a very large number of flakes, finished chert knives and scrapers; possible occupation areas with milling tools	Unevaluated
P-42-002266	CA-SBA-2266	none	Moderate density lithic and shell scatter	Unevaluated
P-42-002267	CA-SBA-2267	none	Probable temporary camp with lithic scatter, bifacial and unifacial tools, burnt rock, shell dietary debris	Unevaluated
P-42-002268	CA-SBA-2268H	Dyer House	Historic refuse deposit associated with former Dyer/Leipzig house (no longer standing)	Unevaluated
P-42-002269	CA-SBA-2269	none	Probable temporary camp with lithic scatter, shell debris, burnt rock, milling tools	Unevaluated
P-42-002308	CA-SBA-2308	none		Unevaluated
P-42-002309	CA-SBA-2309/H	none	Low density lithic and shell debris scatter; historic period refuse scatter	Unevaluated
P-42-002449	CA-SBA-2449	none	Large, low density lithic scatter	Unevaluated
P-42-002465	CA-SBA-2465	none	Extensive Monterey chert quarry with at least 15 outcrops of exposed tabular chert and approximately 100-200 chert boulders; formed tools include a Canaliño concave base projectile point, more than five early to mid-stage bifaces, and two hammerstones	Unevaluated
P-42-003506	CA-SBA-3506	none	Sparse scatter of Monterey chert flakes and large mammal bone; depth up to 80-100 cm	Unevaluated
P-42-003507	CA-SBA-3507	none	Scatter of chert flakes and cores, burnt rock, milling tools; depth up to 60-80 cm	Unevaluated
P-42-003508	CA-SBA-3508	none	Small, sparse chert flake scatter; depth up to 80-100 cm	Unevaluated
P-42-003509	CA-SBA-3509	none	Scatter of chert flakes and burnt rock; depth up to 60-80 cm	Unevaluated
P-42-003510	CA-SBA-3510	none	High density lithic scatter with projectile points and other bifaces; depth up to 80-100 cm	Unevaluated
P-42-003576	CA-SBA-3576	none	Low density surface scatter of chert flakes, cores, and scrapers	Not eligible

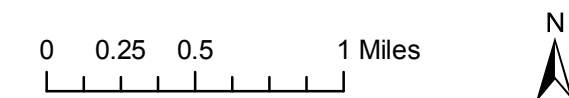
NRHP: National Register of Historic Places





- LEGEND**
- Cultural Resource Survey Area
 - Additional Overlays**
 - H Street Corridor Infill Area
 - Existing City Urban Limit Line
 - Proposed Area to be Added to City Urban Limit Line
 - Draft Annexation Areas (Subject to LAFCO approval)
 - Existing City Limits
 - Existing City Sphere of Influence

- Proposed Land Use Changes**
- Area ① H Street Corridor Infill
 - Area ① Bailey Avenue Specific Plan
 - Area ① River Area
 - Area ① Miguelito Canyon
 - Area ① Wye Residential



Base map source: Central Coast Information Center, 2009. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Location of Cultural Resource Surveys

Figure 4.4-1
 City of Lompoc

In the *Historic Resources Survey and Planning Analysis* commissioned by the City and prepared by Historic Resources Group (HRG) in 2005, HRG identified 73 properties eligible for local landmark status in addition to the ten recognized City Landmarks (refer to Table 4.4-2).

**Table 4.4-2
Designated City Landmarks**

Landmark #	Name	Address
1	Carnegie Library	200 South H Street
2	Spanne Chalk Rock Building	111 South I Street
3	Artesia Schoolhouse	105 West Chestnut Avenue
4	Fabing-McKay-Spanne House	207 North L Street
5	Odd Fellows Hall	106 ½ West Ocean Avenue
6	Henning-Skarup-Belluz House	1113 North A Street
7	McCabe-Mark House	203 North N Street
8	Andrew L. Huyck House	122 West Cypress Avenue
9	Douglass-Willis House	105 East Olive Avenue
10	Veteran's Memorial Building	100 East Locust Avenue

Properties were considered eligible if they had good integrity and were identified as a cultural resource in a previous study, or were constructed prior to 1900, or were excellent examples of their architectural style. In addition, HRG identified a historic district in the heart of Lompoc's "mile-square" site, the original Lompoc town site laid out in 1889 (refer to Figure 4.4-2). This original area is bounded by A Street on the east, O Street on the west, College Avenue on the north, and Willow Avenue on the south, with the town square at the intersection of Ocean Avenue and H Street. The district consists of 565 parcels of land bounded on the north and south by Chestnut and Willow Avenues; it extends east-west from the lots on east side of F Street to the lots on the west side of J Street. This area contains 578 buildings or structures, of which 380 contribute to the significance of the historic district. This ratio of 66% of properties contributing to the district is above the nationally accepted standard of 60%. The district boundaries coincide with the limits of HRG's survey area; they note that adjacent areas may contain additional contributing properties.

c. Regulatory Setting. In Section 21084.1 of the Public Resources Code, CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment. "Historical resources" include archaeological and historical sites listed in or eligible for listing in the California Register of Historical Resources (CRHR) and, by reference, the National Register of Historic Places (NRHP), California Historical Landmarks, Points of Historical Interest, and local registers of historical resources. A local register is broadly defined in Public Resources Code Section 5020.1(k) as "a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution." Local registers come in two forms: (1) surveys of historic resources conducted by a local agency in accordance with Office of Historic Preservation procedures and standards,



adopted by the local agency and maintained as current; and (2) landmarks designated under local ordinances or resolutions (Public Resources Code Sections 5024.1, 21804.1, 15064.5).

Any resource listed in, or eligible for listing in, one of these registers or inventories is presumed to be historically or culturally significant. A substantial adverse change is demolition, destruction, relocation, or alteration that would impair historical significance (Section 5020.1).

Section 21084.1 further requires treatment of any substantial adverse change in the significance of a historical resource as a significant effect on the environment.

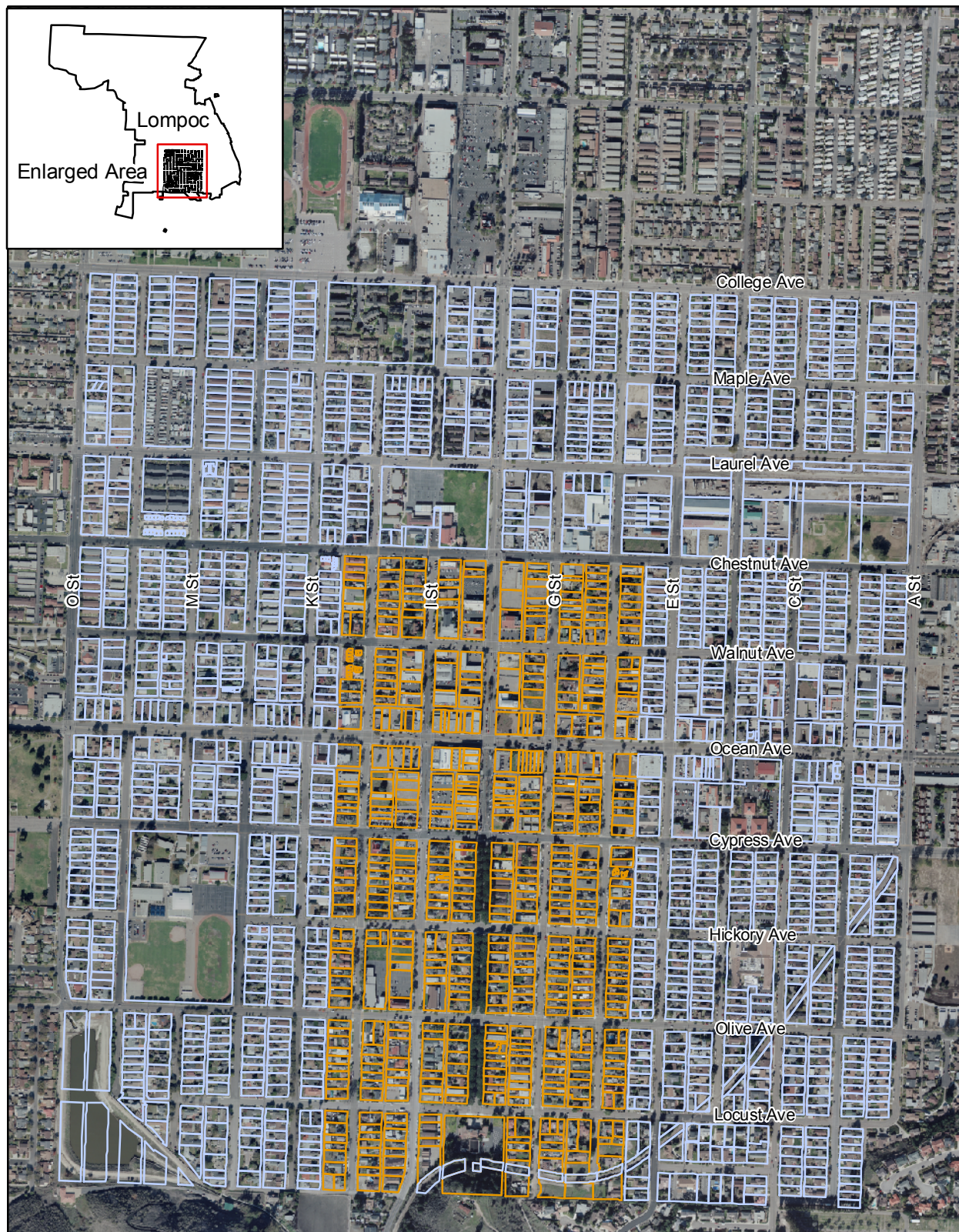
For a resource to qualify for listing in the CRHR or NRHP it must meet one or more identified criteria of significance. A resource may qualify for CRHR listing if it:

- a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;*
- b. Is associated with the lives of persons important in our past;*
- c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
- d. Has yielded, or may be likely to yield, information important in prehistory or history.*

According to State CEQA Guidelines § 15126.4(b)(3), public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource. Preservation in place is the preferred manner of mitigating impacts [14 CCR 15126.4(b)(3)]. Preservation in place may be accomplished by planning construction to avoid the resource, incorporating sites within parks or open space, covering sites with chemically stable and culturally sterile fill, or deeding the site into a permanent conservation easement. For buildings and structures, maintenance, repair, restoration, preservation, conservation, or reconstruction consistent with the *Secretary of Interior's Standards and Guidelines for the Treatment of Historic Properties* is considered mitigation of impacts to a less than significant level (14 CCR 15126.4(b)(1)). Documentation of an historical resource, however, will not mitigate the effects of demolition to a less than significant level [14 CCR 15126.4(b)(2)]. When data recovery excavation of an archaeological site is the only feasible mitigation, a detailed data recovery plan must be prepared and adopted prior to any excavation. If human remains are present, such remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code.

Section 5097.9 of the California Public Resources Code stipulates that it is contrary to the free expression and exercise of Native American religion to interfere with or cause severe irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site, or sacred shrine.





Base map source: *Historic Resources Group, 2005 and City of Lompoc, 2008.*

- Original Mile-Square Township
- Downtown Historic District



0 500 1,000 Feet

Downtown Historic District

Figure 4.4-2
City of Lompoc

If human remains are discovered or exposed during construction, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then contact the most likely descendent of the deceased Native American, who will serve as a consultant on how to proceed with the remains (i.e., avoid, reburial).

City of Lompoc Criteria. The City's cultural resources management and historic preservation program has evolved over the past several decades in response to changing regulatory requirements and public perception. Several major cultural resource investigations have been completed within the city, and several ordinances and measures have been adopted to facilitate the identification, protection, and interpretation of important resources. A summary of major cultural resources studies and program developments is provided in Appendix F. Adopted City ordinances and policies are described below.

Ordinance No. 1142 (1982)

To "promote the general and economic welfare of the City of Lompoc by preserving and protecting those places, sites, buildings, structures, works of art and other objects having special historical or esthetic character or interest, for the use, education and view of the general public and to remind the citizens of this city and visitors from elsewhere of the historical background of the City of Lompoc (Ordinance 1142 (82), City of Lompoc)," the City of Lompoc adopted Ordinance No. 1142 in 1982. This ordinance amends Ordinance 804 relating to the preservation of historic landmarks. It states that the City of Lompoc may "provide for places, buildings, objects, works of art, and other objects, having a special character or a special historical or aesthetic interest or value..." and established the Lompoc Advisory Landmark Committee for reviewing proposed city landmarks. There are currently 10 designated city landmarks; the City Planning Commission must approve any proposed demolition or alteration of the structures. However, in their 2005 Historic Resources Survey for the City of Lompoc (see below), Historic Resources Group noted 73 potential landmarks throughout the city.

City of Lompoc General Plan

The 1997 General Plan Resource Management Element (RME) provides the current framework for protection and preservation of the City's cultural resources. Goal 3 of the RME states that the City shall "Protect cultural resources in recognition of their aesthetic, educational, cultural, and scientific values," and includes policies which provide a framework for achieving this goal.



Ordinance 1521 (2006)

In 2006 the City adopted Ordinance No. 1521 which establishes a Cultural Resources Overlay District for the City's Zoning Map, an area "located south of the centerline of Olive Avenue and its extrapolation to the east, between "V" Street and Highway 1." The district will aid in ensuring the protection of cultural resources in the City while streamlining the process of development review within the Archaeological High Sensitivity Zone on the City's south side, and identified on the Archaeological Sensitivity Zones Map in the Resource Management Element of the Lompoc General Plan. The Cultural Resource Overlay District and Archaeological High Sensitivity Zone both encompass the historic Mission Vieja, a portion of which is listed on the National Register of Historic Places (Site#78000775) and is identified as State Historical Landmark No. 928; however, not all of the known Mission grounds or surrounding use area are encompassed in the National Register site designation.

The ordinance divides the City into two parts with respect to cultural resources: areas of high sensitivity and low sensitivity. It discusses requirements for environmental review of cultural resources under the following classifications:

- A. Historic Structures: Individual environmental documentation shall be prepared for any proposal involving a historic structure, place, or landmark, as a part of the evaluation of the proposed project.

The ordinance also states that "all projects that involve changes to or impacts on designated historic structures, places, and landmarks shall be reviewed through the Lompoc Planning Commission's Architectural Review Process, as described in Title 3, Chapter 2, Article 1 of Lompoc's Comprehensive Zoning Ordinance and the City's Architectural Review Guidelines, Lompoc City Code Section 8825."

- B. Historic Archaeology - Single Issue Evaluation: In cases where the only environmental issue related to a proposed development within the Cultural Resources Overlay District, High Sensitivity Zone, or on or adjacent to a known historic archaeological site, is that of cultural resources that are known, or reasonably expected to be historic archaeological resources, the Negative Declaration prepared for this Ordinance may be relied upon as having adequately addressed the archaeological impact of these subsequent projects, pursuant to the California Environmental Quality Act. When this is the case, all of the measures required by this Ordinance for development located in the Archaeological High Sensitivity Zone or on a known historic archaeological site, shall be fully implemented as set forth in Section 8758 of this Article.
- C. Multiple Environmental Issues of Potential Significance: If there are potentially significant environmental issues, in addition to historic archaeological resources, associated with a proposed project within the Cultural Resources Overlay



District, High Sensitivity Zone, or on or adjacent to a known historic or archaeological site, a full environmental review, in the form of a Negative Declaration or Environmental Impact Report, must be prepared, prior to project approval.

- D. Unique Archaeological Resource: If an archaeological resource is determined to be unique but does not qualify as a historic archaeological resource, a Mitigated Negative Declaration or Environmental Impact Report must be prepared for the proposed project. A Phase 1 study must be prepared, as well as a Phase 2 or 3 investigation if determined to be warranted by a qualified archaeologist, as a part of the environmental evaluation of the project.

If a qualified archaeologist finds that an archaeological resource is unique and cannot be avoided or preserved in place, and data recovery through excavation is the only feasible mitigation, a data recovery plan shall be prepared, unless it is determined that previous investigations have adequately recovered the “scientifically consequential information from and about the resource.”

- E. Low Sensitivity Zone: All projects in the Low Sensitivity Zone involving 20 acres or more in size shall be required to have a Phase 1 Study, and, if cultural resources are identified, a Phase 2 and/or 3 study, as directed by a qualified archaeologist. After the Phase 1–3 studies have been completed, an environmental document shall be prepared pursuant to CEQA.
- F. Non-Unique Archaeological Resource: If an archaeological resource is determined to be non-unique and archaeological resources are the only environmental issues associated with the proposed development or project, a Categorical Exemption may be prepared pursuant to CEQA.

If, however, because of other potentially significant environmental issues, a Negative Declaration or EIR is prepared for the project, the non-unique archaeological resource and the effect of the project on it should be noted in the initial study or EIR, but does not need to be considered further in the CEQA process.

If ground disturbing development has been proposed within the Cultural Resources Overlay District, the applicant has two primary courses of action with regard to cultural resources:

- A. Phase 1 Evaluation: Prior to construction, the project applicant shall retain a qualified archaeologist to conduct a Phase 1 study of the subject property, in relation to the proposed development. If the project area, or a portion thereof, was previously surveyed to acceptable standards, the earlier Phase 1 study can be used to satisfy this requirement for the area that was surveyed. If cultural



resources are found as a result of the Phase 1 study, a qualified archaeologist shall make recommendations regarding the need for additional investigation or measures necessary to protect the archaeological resources on the subject site (Phase 2 or 3 evaluations). As development occurs, measures included in the archaeologist's report shall be implemented. If evidence of prehistoric artifacts are discovered, the Chumash Tribe shall be consulted; or

- B. Monitoring: Prior to construction, the applicant shall retain a qualified archaeologist to monitor all ground-disturbing work associated with the proposed project. If evidence of prehistoric artifacts is discovered, the Chumash tribe shall be consulted. If artifacts of significance are identified during ground-disturbing work, the measures stipulated in the Archaeological Protection Program shall be followed, or the Program, as amended by a qualified archaeologist, shall be followed, to preserve or curate the artifacts.

If cultural resources are uncovered during monitoring then "work shall stop until a qualified archaeologist has reviewed the find and determined if it qualifies as a historic resource or a unique resource. If the find is determined to be historic or unique by the qualified archaeologist, a plan for preservation of the material shall be developed by the archaeologist and implemented. If evidence of prehistoric artifacts is discovered, the Chumash tribe shall be consulted. Preservation in place shall be the preferred manner of mitigation. If data recovery through excavation is the only feasible mitigation, a data recovery plan, providing for adequate recovery of scientifically consequential information from and about the historical resource, shall be prepared and adopted, prior to any further excavation. Data recovery shall not be required for an archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological resource, provided that the studies are deposited with the California Historical Resources Regional Information Center."

If ground disturbing development has been proposed within the Archaeological High Sensitivity Zone, but outside the Cultural Resources Overlay District, or in the Low Sensitivity Zone on or around known archaeological sites in the City, the above conditions apply.

Because the Lompoc Valley has potentially significant cultural and paleontological resources throughout its entirety, all approved development applications, whether they are in the High or Low sensitivity zones, or whether a previous Phase 1 Study has been completed, shall have the following three conditions applied (Accidental Discovery Conditions).

- A. In the event that cultural artifacts are unearthed during excavation, work shall stop and a qualified archeologist, meeting the professional qualifications standards of the Secretary of the Interior for Archaeology, shall evaluate the find. If determined to be



necessary by the archaeologist, a plan for the preservation or curation of the artifacts from the site shall be prepared by the archeologist and implemented, while being overseen by that archeologist. If evidence of prehistoric artifacts is discovered, the Chumash tribe shall be consulted. Construction work may be allowed to continue on other parts of the construction site while mitigation takes place. The archeologist shall file a resource record detailing the materials found and their disposition, as required by the State Historic Preservation Office.

- B. If paleontological artifacts are unexpectedly unearthed during excavation, an evaluation of the artifacts and the site shall be conducted by an experienced paleontologist. An appropriate plan for the preservation of the artifacts shall be prepared by the paleontologist and implemented, while being overseen by that paleontologist. Construction work may be allowed to continue on other parts of the construction site while mitigation takes place.

- C. If human remains are accidentally discovered or recognized during construction, all site excavation or other disturbance shall cease and the County Coroner shall be notified. Excavation shall not resume until the Coroner has determined that the remains are not subject to investigation under Government Code Section 27491 and until any required recommendations on Native American Remains have been made under Public Resources Code Section 5097.98.; Health and Safety Code Section 7050.5(b); 14 Cal. Code Regs Section 15064.5(e); or other applicable law. Construction work may be allowed to continue on other parts of the construction site while the requirements identified above are being met.

The cultural resource requirements of the ordinance are summarized in the Table 4.4-3.

**Table 4.4-3
 Cultural Resource Requirements of Ordinance 1521**

Location of Proposed Development	Required Cultural Resource Process
Designated historic structures, places and Landmarks.	<ul style="list-style-type: none"> • Projects that involve changes to or will impact these historic structures, places and landmarks are to be reviewed through the Lompoc Planning Commission’s Architectural Review Process as described in Title 3, Chapter 2, Article 1 of the City’s Zoning Ordinance and Architectural Review Guidelines. An Individual Environmental Assessment under CEQA must be conducted. • Apply standard cultural resource conditions.
Development on property within the identified Cultural Resource Overlay District, where archaeology is the only environmental issue.	<ul style="list-style-type: none"> • Retain a qualified archaeologist to conduct a Phase 1 evaluation of the site and proposed development and if cultural resources are identified, a Phase 2 and/or 3 study; or retain a qualified archaeologist to monitor all ground disturbing activity associated with the proposed development and implement the Archaeological Protection Program when appropriate. • Apply standard accidental discovery cultural resource conditions.



**Table 4.4-3
 Cultural Resource Requirements of Ordinance 1521**

Location of Proposed Development	Required Cultural Resource Process
Development within the High Sensitivity Zone not within the Cultural Resource Overlay District, where the archaeological resource in question is historic and archaeology is the only environmental issue.	<ul style="list-style-type: none"> • Retain a qualified archaeologist to conduct a Phase 1 evaluation of the site and proposed development, and if cultural resources are identified, a Phase 2 and/or 3 study; or retain a qualified archaeologist to monitor all ground disturbing activity associated with the proposed development and implement the Archaeological Protection Program when appropriate. • Apply standard accidental discovery cultural resource conditions.
Development within the Low Sensitivity Zone on or adjacent to an identified archaeologically historic site, where archaeology is the only issue.	<ul style="list-style-type: none"> • Retain a qualified archaeologist to monitor all ground-disturbing activity associated with the proposed development and implement the Archaeological Protection Plan when appropriate. • Apply standard accidental discovery cultural resource conditions.
Development in the Cultural Resources Overlay District, High Sensitivity Zone, on or adjacent to a known archaeological site, where the resources involved are historic archaeological resources, and there are other environmental issues associated with the project.	<ul style="list-style-type: none"> • A full environmental review, in the form of a Negative Declaration or Environmental Impact Report (EIR) must be prepared, prior to project approval. This review shall include a Phase 1 evaluation and, if cultural resources are identified, a Phase 2 and / or 3 study shall be completed if it is determined to be necessary by a qualified archaeologist. The findings of these studies shall be incorporated into the environmental review document. • Apply standard accidental discovery cultural resource conditions.
Development within the high or low sensitivity zone where the archaeological resource is determined to be unique, but not historic.	<ul style="list-style-type: none"> • Conduct a Phase 1 evaluation of the site and proposed development, and if cultural resources are identified, a Phase 2 and/or 3 study, as determined to be necessary by a qualified archaeologist. Once the Phase 1-3 studies have been completed, an environmental document shall be prepared pursuant to CEQA. • Apply standard accidental discovery cultural resource conditions.
Development within the Low Sensitivity Zone	<ul style="list-style-type: none"> • All projects involving 20 acres or more in size shall be required to have a Phase 1 Study, and if cultural resources are identified, a Phase 2 and/or 3 study. Once the Phase 1-3 studies have been completed, an environmental document shall be prepared pursuant to CEQA. • Apply standard accidental discovery cultural resource conditions.
Citywide, on Discretionary Permits for Development	<ul style="list-style-type: none"> • Apply standard cultural resource conditions.



4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. If a cultural resource meets the criteria of eligibility for the California Register or National Register, is listed in a local register of historical resources [pursuant to Section 5020.1(k) of the Public Resources Code], or is identified as significant in a qualified historical survey [meeting the criteria in Section 5024.1(g) of the Public Resources Code], then it is presumed to be a historical resource for the purposes of CEQA. The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources, or identified in a historical resources survey does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

Under CEQA, an impact on a historical resource is considered significant if the impact lessens the integrity of the qualities of the property that qualify it for the California Register or National Register. If the proposed project may cause damage to a significant historical resource, the project may have a significant effect on the environment. State CEQA Guidelines § 15064.5 pertains to the determination of the significance of impacts to archaeological and historic resources. Direct impacts may occur by physically damaging, destroying, or altering all or part of the resource; altering characteristics of the surrounding environment that contribute to the resource's significance; or neglecting the resource to the extent that it deteriorates or is destroyed. The incidental discovery of cultural resources without proper notification also can result in significant impacts.

Removal, demolition, or alteration of historical resources can directly impact their significance by destroying the historic fabric of an archaeological site, structure, or historic district. Direct impacts can be assessed by identifying the types and locations of proposed development, determining the exact locations of cultural resources within the project area, assessing the significance of the resources that may be affected, and determining the appropriate mitigation.

Indirect impacts result primarily from the effects of project-induced population growth. Such growth can result in increased construction as well as increased recreational activities that can disturb or destroy cultural resources. Due to their nature, indirect impacts are much harder to assess and quantify.

CEQA provides guidelines for mitigating impacts to historical resources in Section 15126.4. According to the CEQA Guidelines, public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered for a project involving such an archaeological site:

(A) Preservation in place (avoidance) is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation



may also avoid conflict with religious or cultural values of groups associated with the site.

- (B) *Preservation in place may be accomplished by, but is not limited to, the following:*
- *Planning construction to avoid archaeological sites;*
 - *Incorporation of sites within parks, greenspace, or other open space;*
 - *Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.*
 - *Deeding the site into a permanent conservation easement.*
- (C) *When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code.*
- (D) *Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented and that the studies are deposited with the California Historical Resources Regional Information Center.*

Typically, such measures will reduce impacts on archaeological resources to less-than-significant levels.

For architectural resources, maintenance, repair, stabilization, restoration, preservation, conservation, or reconstruction in a manner consistent with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995)* generally will constitute mitigation of impacts to a less-than-significant level. Documentation of historic buildings and structures, including documentation to the standards of the Historic American Buildings Survey or Historic American Engineering Record (HABS/HAER), may lessen impacts but may not reduce them to less-than-significant levels.

The Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68) defines four options for the treatment of historic buildings: 1) preservation, 2) rehabilitation, 3) restoration, and 4) reconstruction. Generally:



1. Preservation involves the application of measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment [Weeks and Grimmer 1995:17].
2. Rehabilitation entails making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values [Weeks and Grimmer 1995:62].
3. Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period [Weeks and Grimmer 1995:118].
4. Reconstruction involves new construction to recreate the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location [Weeks and Grimmer 1995:166].

The Secretary's Standards are not prescriptive, but instead provide general guidelines and are intended to be flexible and adaptable to specific project conditions, including aspects of adaptive use, functionality, and accessibility. The goal is to balance continuity and change and retain historic building fabric to the maximum extent feasible. The National Park Service has compiled a series of bulletins to provide guidance on specific historic preservation topics.

b. Project and Cumulative Impacts.

Impact CR-1 **Development facilitated by the proposed 2030 General Plan could adversely affect identified and previously unidentified prehistoric and historical archaeological resources. General Plan policies would ensure that such impacts are addressed on a case-by-case basis. Impacts would be Class II, *significant but mitigable*.**

2030 General Plan Buildout within City Limits

Twenty-five known prehistoric and historical sites have been recorded within the General Plan area, and others are likely to exist in unsurveyed areas. Therefore, the potential to encounter additional, undiscovered resources within the City Limits is considered moderate to high.

Existing codes and policies discussed in Section 4.4.1(c) (Regulatory Setting) require that Phase 1 archaeological and historical surveys be conducted for proposed development within high



sensitivity areas. However, these policies rely on a sensitivity map prepared more than 20 years ago (Spanne, 1988). Moreover, the map does not consider historical archaeology or the built environment. Mitigation is therefore required to ensure preparation of an updated Archaeological Sensitivity Map.

If archaeological resources are found to be present, existing codes and policies stipulate treatment methods for evaluation and treatment of the resources. In addition, the Resource Management Element of the 1997 General Plan includes specific policies intended to ensure that potential impacts to archaeological resources are addressed in conjunction with development of individual sites within the plan area. Implementation of these policies on a project-by-project basis would require the preparation of site-specific archaeological studies in areas of potential sensitivity as well as mitigation of impacts to any identified resources.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted above, 25 known prehistoric and historical sites have been recorded within the General Plan area, and others are likely to exist in unsurveyed areas. Although the Bailey Avenue Specific Plan expansion area is identified as being within a low archaeological sensitivity zone (as identified in the 1997 General Plan Resource Management Element), the potential to encounter additional, undiscovered resources exists.

If archaeological resources are found to be present within the Bailey Avenue Specific Plan expansion area, existing codes and policies stipulate treatment methods for evaluation and treatment of the resources. In addition, the 1997 Resource Management Element includes specific policies intended to ensure that potential impacts to archaeological resources are addressed in conjunction with development of individual sites within the plan area. Implementation of these codes and policies, in combination with mitigation described below, would reduce impacts to a less than significant level.

Expansion Area B: River Area

The River expansion area is identified on the City's archaeological sensitivity map as having a low archaeological potential. If archaeological resources are found to be present, existing codes and policies stipulate treatment methods for evaluation and treatment of the resources. The Resource Management Element of the 1997 General Plan further includes specific policies intended to ensure that potential impacts to archaeological resources are addressed in conjunction with development of individual sites within the plan area. Implementation of these codes and policies, in combination with mitigation described below, would reduce impacts to a less than significant level.



Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is identified as having a high archaeological potential (as identified in the 1997 General Plan Resource Management Element). Additional development in this area could therefore adversely affect Native American and Mission-era resources.

Existing codes and policies discussed in Section 4.4.1(c) (Regulatory Setting) require that Phase I archaeological and historical surveys be conducted for proposed development within high sensitivity areas. In addition, if archaeological resources are found to be present, existing codes and policies stipulate treatment methods for evaluation and treatment of the resources. The Resource Management Element of the 1997 General Plan further includes specific policies intended to ensure that potential impacts to archaeological resources are addressed in conjunction with development of individual sites within the plan area. Implementation of these codes and policies, in combination with mitigation described below, would reduce impacts to a less than significant level.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is identified as having a high archaeological potential (as identified in the 1997 General Plan Resource Management Element). Additional development in this area could therefore affect Native American and Mission-era resources adversely.

Existing codes and policies discussed in Section 4.4.1(c) (Regulatory Setting) require that Phase I archaeological and historical surveys be conducted for proposed development within high sensitivity areas. In addition, if archaeological resources are found to be present, existing codes and policies stipulate treatment methods for evaluation and treatment of the resources. The Resource Management Element of the 1997 General Plan further includes specific policies intended to ensure that potential impacts to archaeological resources are addressed in conjunction with development of individual sites within the plan area. Implementation of these codes and policies, in combination with mitigation described below, would reduce impacts to a less than significant level.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries, as well as buildout of the identified expansion areas. Impacts to identified and previously unidentified prehistoric and historical archaeological resources from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts could occur within the existing City Limits and within all four identified expansion areas. However, existing policies in the 1997 Resource Management Element and existing codes and policies, in combination with mitigation measure CR-1(a) described below, would result in Class II, *significant but mitigable*, impacts.



General Plan Policies which Reduce Impacts

The 1997 General Plan Resource Management Element (RME) includes the following goal and policies intended to protect and preserve the City's prehistoric and historical archaeological resources.

- 1997 RME Goal 3** *Protect cultural resources in recognition of their aesthetic, educational, cultural, and scientific values.*
- 1997 RME Policy 3.3** *The City shall use the Archeological Sensitivity Zones map to determine the type and extent of archeological resource evaluation necessary for development projects.*
- 1997 RME Policy 3.4** *The City shall protect significant archeological resources for the enjoyment and edification of future generations.*
- 1997 RME Policy 3.8** *As required by CEQA, the City shall continue cultural resource investigations as part of the environmental review for all development projects.*
- 1997 RME Policy 3.9** *The City shall use the "California Comprehensive Heritage Resources Management Plan" guidelines and standards for administering cultural resource investigations. The plan provides guidance with respect to: Research design criteria; Evaluation of cultural resources using the three phased methodology noted in Section 6.2 of the Cultural Resources Study; Archiving cultural resource materials; and professional qualifications for cultural resource investigators, including individuals qualified for membership in the Society of Professional Archeologists.*
- 1997 RME Policy 3.10** *The City shall use local specialists in the management of the area's cultural resources. This position could be used on a part-time basis to assist the City with project reviews, surveys for in-house projects, evaluation of cultural resource reports, and to provide advice on a variety of cultural resource matters. In addition, the assistance and advice of local Chumash Indian Native American specialists, Lompoc Museum Associates and staff, Lompoc Valley Historical Society, Lompoc Advisory Landmark Committee, and other heritage-minded organizations and individuals shall be solicited as needed.*
- 1997 RME Policy 3.11** *The City shall support efforts by public and nonprofit organizations to acquire properties adjacent to the Mission Vieja de la Purisima*



site and La Purisima Mission State Historical Park in order to facilitate protection of archaeological resources.

Mitigation Measures. The following mitigation measure is required.

CR-1(a) Update Archaeological Sensitivity Map and Guidelines. The City shall update the existing Archaeological Sensitivity Map to encompass all areas covered by the General Plan Update to take into account the currently available data on the nature and distribution of prehistoric and historical archaeological sites (including buried archaeological sites) and the most current methods of sensitivity modeling. The City also shall update the Guidelines for use of the sensitivity map and provide training to planning staff in its application and use. The Sensitivity Map and Guidelines update as well as training shall be performed by professionals certified by the Register of Professional Archaeologists who have expertise in the historical and archaeological resources of the Lompoc Valley.

Significance After Mitigation. Impacts to prehistoric archaeological resources would be less than significant with mitigation.

Impact CR-2 Development facilitated by the proposed 2030 General Plan could adversely affect historical buildings, structures, and districts. Although adherence to General Plan policies would ensure that impacts are addressed on a case-by-case basis, these policies may not avoid them altogether. Impacts would therefore be Class I, *significant and unavoidable*.

2030 General Plan Buildout within City Limits

The City has identified a downtown historical district bounded by A Street on the east, O Street on the west, College Avenue on the north, and Willow Avenue on the south. The district encompasses a portion of the H Street Corridor Infill area and all of the Old Town Specific Plan Area. Development within the historic district and surrounding areas has the potential to impact significant historical resources by damaging or destroying historical buildings or structures and their associated archaeological remains, diminishing the integrity of the context and setting of individual properties, or diminishing the integrity of the historical district.

Loss of significant historic buildings or new developments within the existing historic district may not be fully mitigable. Careful review of design and siting of new development in compliance with proposed and existing historic preservation policies and programs would reduce this impact but may not avoid perceptible and significant changes to the historical character of the district. Such impacts on historical resources would be Class I, *significant and unavoidable*.



Expansion Area A: Bailey Avenue Specific Plan Area

The Bailey Avenue Specific Plan expansion area does not contain known historical buildings or structures. Therefore, development of this expansion area in accordance with the proposed 2030 General Plan would not result in impacts to historical buildings, structures, and districts.

Expansion Area B: River Area

The River expansion area does not contain historical buildings or structures. Therefore, development of this expansion area in accordance with the proposed 2030 General Plan would not result in impacts to historical buildings, structures, and districts.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area does not contain historical buildings or structures. Therefore, development of this expansion area in accordance with the proposed 2030 General Plan would not result in impacts to historical buildings, structures, and districts.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area does not contain historical buildings or structures. Therefore, development of this expansion area in accordance with the proposed 2030 General Plan would not result in impacts to historical buildings, structures, and districts.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries, as well as buildout of the identified expansion areas. Impacts to historical buildings, structures, and districts from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts within the existing City Limits, including the H Street Corridor Infill area, would be Class I, *significant and unavoidable*. No impacts would occur within the four identified expansion areas due to the lack of historic structures in these areas.

General Plan Policies which Reduce Impacts

The 1997 General Plan Resource Management Element (RME) includes the following goal and policies intended to protect and preserve the City's historical resources.

1997 RME Goal 3 *Protect cultural resources in recognition of their aesthetic, educational, cultural, and scientific values.*



- 1997 RME Policy 3.1** *The City shall promote rehabilitation of residences and structures with historic or architectural value.*
- 1997 RME Policy 3.2** *The City shall encourage owners of historic structures or places to request federal, state, county, or City landmark status.*
- 1997 RME Policy 3.5** *The City shall support efforts by public and nonprofit organizations to acquire properties adjacent to the Mission Vieja de la Purisima site and La Purisima Mission State Historical Park in order to facilitate protection of these resources.*
- 1997 RME Policy 3.6** *The City shall continue support of the Lompoc Museum.*
- 1997 RME Policy 3.7** *The City shall continue to encourage local organizations (e.g. Lompoc Valley Historical Society) to place plaques at historic places and to provide displays, programs, and events that highlight Lompoc's historic heritage.*
- 1997 RME Policy 3.8** *As required by CEQA, the City shall continue cultural resource investigations as part of the environmental review for all development projects.*

Mitigation Measures. The City can take specific actions to promote and facilitate historic preservation, avoid significant impacts whenever feasible, and reduce those impacts when they are unavoidable. Those actions have been outlined in the 2005 *Historic Resources Survey and Planning Analysis*. The following mitigation is required to ensure consistency with this analysis.

- CR-2(a) Adopt a Historic Landmarks Ordinance.** The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows.

The City shall revise its current Landmarks Ordinance to accomplish the following, as recommended in the 2005 Historic Resources Survey and Planning Analysis:

- *Formally adopt the historic district defined in the 2005 Historic Resources Survey and Planning Analysis*
- *Establish a formal process for landmark designation including application, nomination form, and research and documentation requirements, as well as designate a reviewing entity;*
- *Adopt designation criteria for individual landmarks and historic district contributors, possibly using other municipalities' criteria as a basis;*



- *Establish an adequate and qualified historic preservation review commission or reactivate the Advisory Landmarks Committee as outlined in the City's Landmark Ordinance;*
- *Establish design review guidelines for designated landmarks and contributing structures to historic districts based upon the Secretary of the Interior's standards;*
- *Provide for use of the California State Historical Building Code, as appropriate, to include designated city landmarks and district contributors. Currently the SHBC is only used in the Old Town Lompoc Specific Plan Area.*

CR-2(b) Adopt a Historic Resource Inventory and Districts Ordinance. The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows.

The City shall adopt an ordinance that relates specifically to the conduct of historic resource surveys and designation of historic districts. The city shall extend the current survey into adjacent parts of the City, as recommended in the 2005 Historic Resources Survey and Planning Analysis, use available data from prior surveys to prepare a formal historic resources inventory, and develop procedures for maintaining the accuracy of the inventory, updating its information, and covering additional areas of the City by conducting surveys on a regular basis.

Significance After Mitigation. The mitigation measures above would ensure that historical buildings, structures, and districts are treated according to CEQA requirements and City standards and guidelines. In most cases, implementation of these measures, along with application of existing policies and development standards, would reduce impacts. However, certain actions that permanently disturb resources would remain *Class I, significant and unavoidable*.



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4.5 GEOLOGY

This section discusses potential impacts relating to geologic and soil hazards. Seismic and geologic information was obtained from the City of Lompoc Seismic and Geologic Conditions Study (Morro Group, December 1987). Soil data regarding was obtained from the Natural Resource Conservation Service (NRCS) Soil Survey of Northern Santa Barbara County (July 1972) and the NRCS Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov>).

4.5.1 Setting

a. Regional Topography. Topographical conditions in the Lompoc area are varied. Flat or level topography constitutes the majority of the area within the existing City Limits, while the southern hillsides, the Santa Rita Hills, and the Purisima Hills provide distinctive, steeper topography surrounding the City (significant ridgelines are illustrated on Figure 4.1-1 in Section 4.1, *Aesthetics*). The area to the north of the City and north of the Santa Ynez River is a part of the Burton Mesa, which rises above the Lompoc Valley by 200 to 400 feet and contains gentle to moderate topography except along the flanks of locally incised canyons. Figure 4.5-1 shows the topographical features in the City of Lompoc.

b. Regional Geologic Setting. The City of Lompoc is located in the Lompoc Valley on the alluvial plain of the Santa Ynez River, and encompasses approximately 11.65 square miles. The Valley is underlain by a relatively young (i.e., recent to approximately 3 million years old) succession beginning with alluvial soils near the surface and progressing downward with the Orcutt Sand, the Paso Robles Formation and the Careaga Sand.

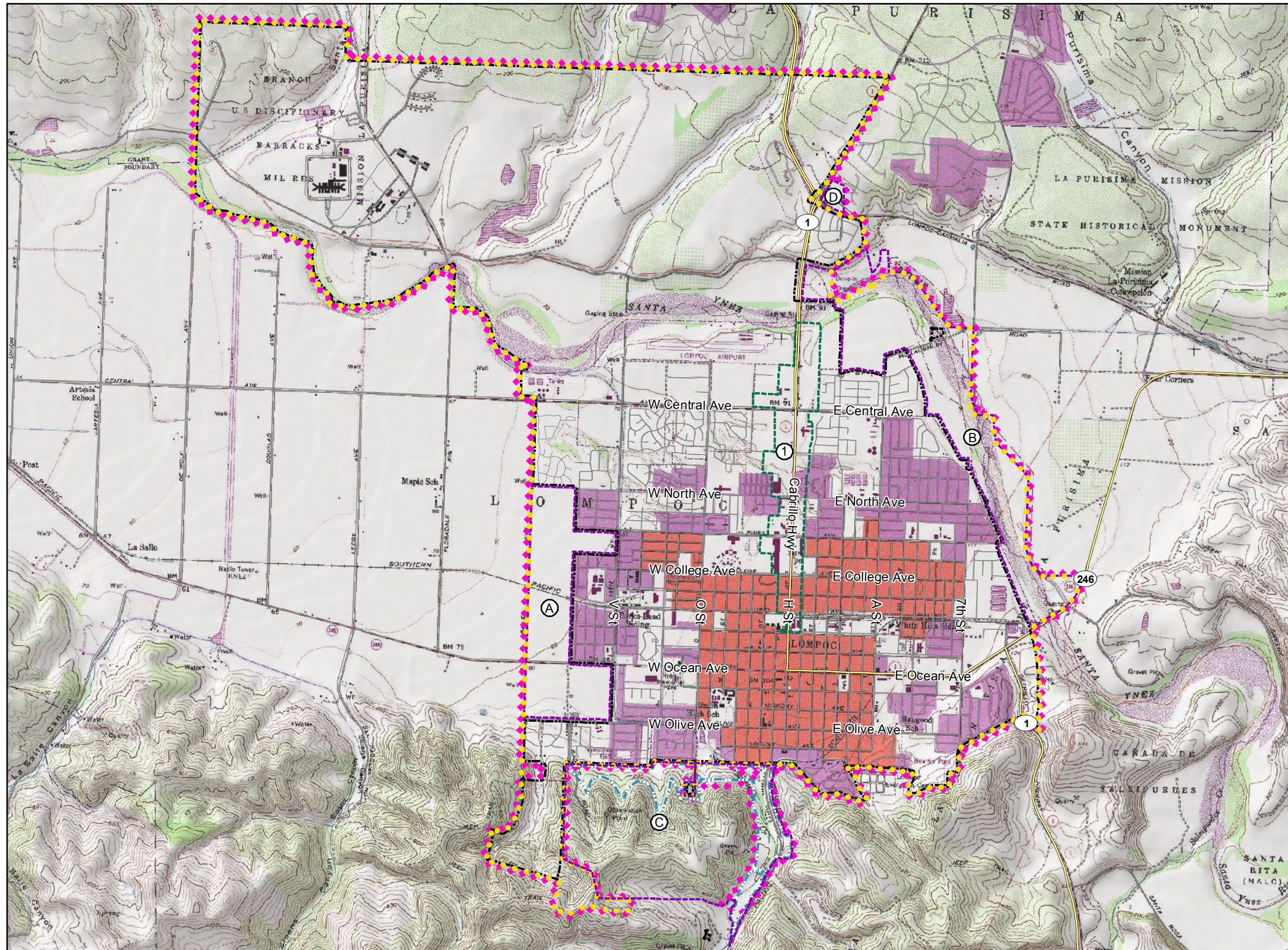
Lompoc is located towards the northern margin of the Transverse Ranges Geological Province and just outside of the southern margin of the Coast Ranges Geological Province. The Transverse Ranges consist of generally east-west trending mountains and valleys, which contrast with the overall north-northwest structural trend elsewhere in the state. The valleys and mountains of the Transverse Ranges are typically bounded by a series of east-west trending, generally north dipping reverse faults with left-lateral, oblique movement. The Coast Ranges province is characterized by northwest-southeast trending faults and mountain ranges. Active faults are found within both the Transverse Ranges and Coast Ranges provinces.

c. Seismic Setting. The U.S. Geological Survey defines active faults as those that have had surface displacement within Holocene time (about the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are ones that have had surface displacement during the last 1.6 million years. Inactive faults have not had surface displacement within the last 1.6 million years.



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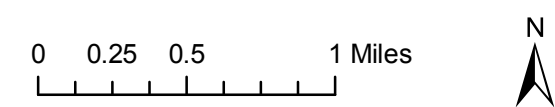


LEGEND

- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area A Bailey Avenue Specific Plan
- Area B River Area
- Area C Miguelito Canyon
- Area D Wye Residential



Base map source: City of Lompoc, 2008, National Geographic TOPOI, 2008.
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Topography

Figure 4.5-1
 City of Lompoc

There are no historically active, active or potentially active faults within or in the near vicinity of the City of Lompoc. Known active faults or fault zones with surface expressions within 100 miles of the City include the San Andreas, Santa Ynez, Hosgri, Los Alamos–Baseline, and the Casmalia faults.

Magnitude scales are often used to describe the seismic energy released by an earthquake. Typically an earthquake with a magnitude of less than 3.5 is not noticeable to humans, while an earthquake with a magnitude of 7.0 to 7.9 is a major earthquake that can cause serious damage. An earthquake with a magnitude 8 or greater is considered a major earthquake that can cause serious damage in areas several hundred miles across.

San Andreas Fault Zone. The San Andreas Fault Zone is the dominant active fault in California. It is located approximately 55 miles northeast of the City. It is the primary surface boundary between the Pacific and the North American plate. There have been numerous historic earthquakes along the San Andreas Fault. The San Andreas Fault is likely capable of producing a maximum credible earthquake of magnitude 8.25.

Santa Ynez. The Santa Ynez fault, west segment, has left lateral strike–slip motion. Displacement along the Santa Ynez fault occurred in Holocene time (within the last 11,000 years). This fault is located approximately 12 miles south of the City and has a probable magnitude of 6.5 to 7.5.

Santa Ynez River Fault. The Santa Ynez River Fault is postulated as trending generally along the southerly edge of the Lompoc Valley, and was at one time proposed as being active and a possible source of strong earthquake shaking. However, more recent investigations indicate that the most recent movements on this fault were of the order of 2 to 3 million years ago. Therefore, this fault, which is located approximately one mile south of the City, is neither active nor potentially active.

Hosgri. This offshore fault has right lateral strike–slip displacement. It is located approximately 21 miles northwest of the City. Movement along the Hosgri fault occurred within the last 11,000 years (Holocene). The Hosgri fault extends from San Simeon to an ocean shelf two miles west of Point Buchon, and then trends toward the Point Sal area. The fault is considered active. A Maximum Credible Earthquake of magnitude 7.5 magnitude and a Maximum Probable Earthquake magnitude of 6.4 are associated with the fault.

Los Alamos– West Baseline. This fault is located approximately 15 miles east of the City. This fault is classified as having Holocene age displacement (within the last 11,000 years).

Casmalia– Orcutt Frontal. This fault is mapped approximately 14 miles north of the City. The fault is a reverse fault. It is depicted as having Quaternary age displacement (11,000 to 2 million years).



Lions Head. This fault is located approximately 6 miles northwest of the City. It is a reverse fault that is identified as having Quaternary age displacement (11,000 to 2 million years ago).

Big Pine. This fault is a left lateral strike-slip fault. It is located approximately 48 miles east of the City. The Big Pine fault is shown on the Fault Activity Map as having Quaternary age displacement (11,000 to 2 million years ago) and is therefore considered potentially active.

Although there are no known active faults within Lompoc, the aforementioned fault systems could cause property damage, possibly resulting in injury and loss of life in the event of a major earthquake due to ground motion. The level of impact resulting from any seismic activity will depend on factors such as: distance from epicenter, earthquake magnitude, and characteristics of soils and subsurface geology. Figure 4.5-2 depicts regional fault systems.

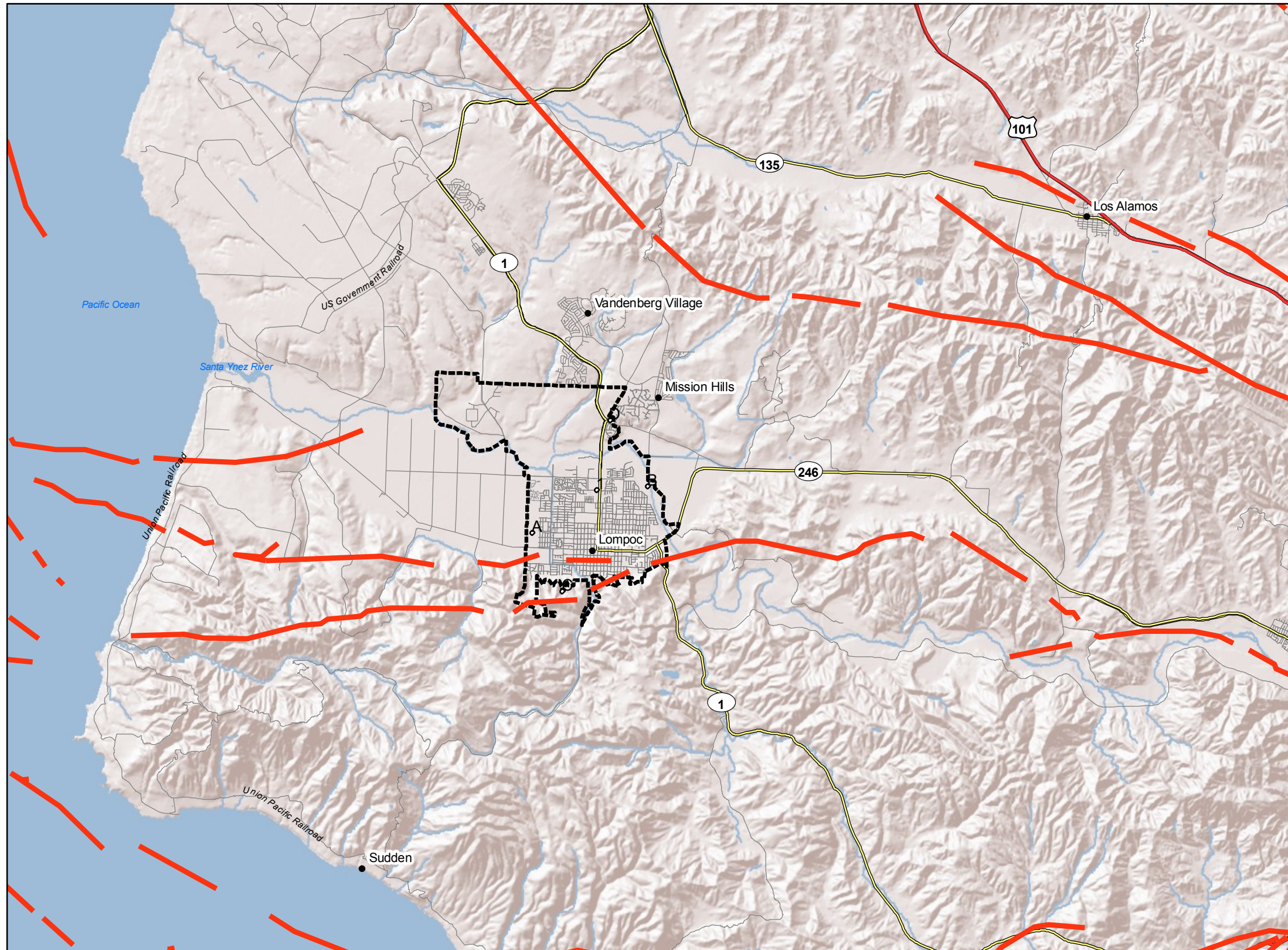
d. Seismic Hazards. Faults generally produce damage in two ways: groundshaking and surface rupture. Seismically induced groundshaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. Surface rupture is limited to very near the fault. Other hazards associated with seismically induced groundshaking include earthquake-triggered landslides and tsunamis. Tsunamis and seiches are associated with ocean surges and inland water bodies, respectively. Neither of these hazards would affect the City of Lompoc due to its distance from the Pacific Ocean and major inland water bodies.

Groundshaking and Acceleration. Ground shaking is typically reduced to ground motion components of wave velocity and acceleration. The velocity, acceleration, and predominant period of a site are dependent upon the distance to the fault, the magnitude and failure mechanics of the earthquake, and the nature of the bedrock, alluvium, and soil through which the shock waves must travel. Generally, shock waves attenuate with distance from the focus of the earthquake.



Active and potentially active faults in the region can generate groundshaking that could affect the City of Lompoc. The area has experienced strong seismically induced ground motion in the past and will likely experience strong seismically induced ground motion in the future.

Liquefaction. Liquefaction describes the behavior of loose saturated soils which go from a solid state to having the consistency of a heavy liquid as a consequence of increasing pore water pressures. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. As a result, structures built on this material can sink into the alluvium, buried structures may rise to the surface or materials on sloped surfaces may run downhill. Liquefaction may also result in cracks in the ground surface





LEGEND

-  Fault Lines
-  City Limits and Proposed Expansion Areas

0 2 4 Miles



Base map source: City of Lompoc, 2008, Bryant, W.A. (compiler), 2005, Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, version 2.0: California Geological Survey Web Page, <http://www.consrv.ca.gov/CGS/information/publications/QuaternaryFaults_ver2.htm>; (1/31/07). Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Regional Earthquake Faults

Figure 4.5-2
City of Lompoc



followed by the emergence of a sand–water mixture. Other effects of liquefaction include lateral spread, flow failures, ground oscillations, and loss of bearing strength.

Liquefaction hazard areas in the Lompoc vicinity include the channel of the Santa Ynez River and low lying areas near River Park and near Central Avenue west of V Street (City of Lompoc Seismic and Geologic Conditions Study, 1987).

Lateral Spreading. Lateral spreading is the horizontal movement of loose, unconfined sedimentary and fill deposits during seismic activity. The potential for lateral spreading is highest in areas underlain by soft, saturated materials, especially where bordered by steep banks or adjacent hard ground.

Lurching. Ground–lurching is the horizontal movement of soil, sediments, or fill located on relatively steep embankments or scarps as a result of seismic activity, forming irregular ground surface cracks. Like lateral spreading, the potential for lurching is highest in areas underlain by soft, saturated materials, especially where bordered by steep banks or adjacent hard ground.

e. Soil Related Hazards. Soil related hazards include expansive soils, erosive soils, subsidence, and settlement. These types of hazards are discussed below. A soils map of the City and proposed expansion areas is included in Figure 4.5–3.

Expansive Soils. During periods of water saturation, soils with high clay content tend to expand. Conversely, during dry periods, the soils tend to shrink. The amount of volume change depends upon the soil swell potential (amount of expansive clay in the soil), availability of water to the soil, and soil confining pressure. Swelling occurs when the soils containing clay become wet due to excessive water from poor surface drainage, over irrigation of lawns and planters, and sprinkler or plumbing leaks. These volume changes with moisture content can cause cracking of structures built on expansive soils. In addition, swelling clay soils can cause distress to lightly loaded structures, walks, drains, and patio slabs. Table 4.5–1 lists the soils found in the City and their shrink–swell potential. Soils with a high shrink–swell potential are concentrated near the Santa Ynez River, including areas within the existing City Limits and the proposed River expansion area.

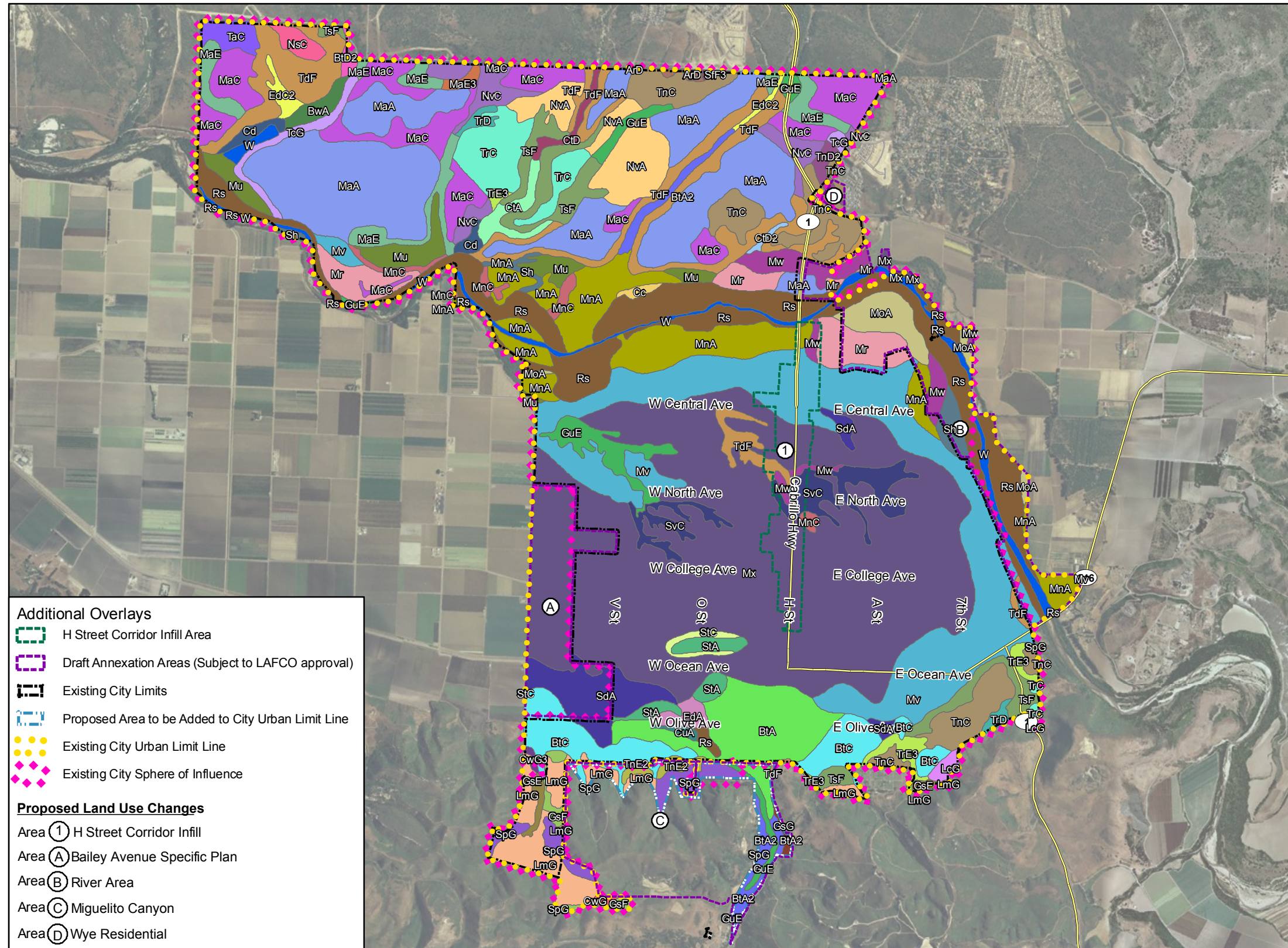
Erosive Soils. Soil erosion is the removal of soil by water and wind. The rate of erosion is estimated from four soil properties: texture, organic matter content, soil structure, and permeability data. Other factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover. Table 4.5–1 lists the soils found in the City and their erosion potential. Soils with a high erosion hazard are located throughout the City and proposed expansion areas, but are concentrated in areas near the Santa Ynez River and in areas containing steeper slopes.

Subsidence and Settlement. Subsidence involves deep seated settlement due to the withdrawal of fluid (oil, natural gas, or water). Settlement is the downward movement of the



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Soil Abbreviation, Soil Description

- ArD, Arnold sand, 5 to 15 percent slopes
- BtA, Botella clay loam, 0 to 2 percent slopes
- BtA2, Botella clay loam, 0 to 2 percent slopes, eroded
- BtC, Botella clay loam, 2 to 9 percent slopes
- BtD2, Botella clay loam, 2 to 15 percent slopes, eroded
- BwA, Botella clay loam, wet, 0 to 2 percent slopes
- Cc, Camarillo very fine sandy loam
- Cd, Camarillo silty clay loam
- CtA, Corralitos sand, 0 to 2 percent slopes
- CtD, Corralitos sand, 2 to 15 percent slopes
- CtD2, Corralitos sand, 2 to 15 percent slopes, eroded
- CuA, Corralitos loamy sand, 0 to 2 percent slopes
- CwG, Crow Hill loam, 45 to 75 percent slopes
- CwG3, Crow Hill loam, 15 to 75 percent slopes, severely eroded
- EdA, Elder sandy loam, 0 to 2 percent slopes
- EdC2, Elder sandy loam, 2 to 9 percent slopes, eroded
- GsE, Gazos clay loam, 15 to 30 percent slopes
- GsF, Gazos clay loam, 30 to 45 percent slopes
- GsG, Gazos clay loam, 45 to 75 percent slopes
- GuE, Gullied land
- LcG, Linne clay loam, 45 to 75 percent slopes
- LmG, Lopez shaly clay loam, 15 to 75 percent slopes
- MaA, Marina sand, 0 to 2 percent slopes
- MaC, Marina sand, 2 to 9 percent slopes
- MaE, Marina sand, 9 to 30 percent slopes
- MaE3, Marina sand, 9 to 30 percent slopes, severely eroded
- MnA, Metz loamy sand, 0 to 2 percent slopes
- MnC, Metz loamy sand, 2 to 9 percent slopes
- MoA, Metz loamy sand, overflow, 0 to 2 percent slopes
- Mr, Mocho sandy loam, overflow
- Mu, Mocho fine sandy loam
- Mv, Mocho loam
- Mw, Mocho loam, overflow
- Mx, Mocho silty clay loam
- NsC, Narlon loamy sand, 2 to 9 percent slopes
- NvA, Narlon sand, hardpan variant, 0 to 2 percent slopes
- NvC, Narlon sand, hardpan variant, 2 to 9 percent slopes
- Rs, Riverwash
- SdA, Salinas silty clay loam, 0 to 2 percent slopes
- Sf3, San Andreas-Tierra complex, 9 to 45 percent slopes, severely eroded
- Sh, Sandy alluvial land
- SpG, Sedimentary rock land
- StA, Sorrento sandy loam, 0 to 2 percent slopes
- StC, Sorrento sandy loam, 2 to 9 percent slopes
- SvC, Sorrento loam, 2 to 9 percent slopes
- TaC, Tangair sand, 2 to 9 percent slopes
- TcG, Terrace escarpments, sandy
- TdF, Terrace escarpments, loamy
- TnC, Tierra sandy loam, 2 to 9 percent slopes
- TnD2, Tierra sandy loam, 9 to 15 percent slopes, eroded
- TnE2, Tierra sandy loam, 15 to 30 percent slopes, eroded
- TrC, Tierra loam, 2 to 9 percent slopes
- TrD, Tierra loam, 9 to 15 percent slopes
- TrE3, Tierra loam, 5 to 30 percent slopes, severely eroded
- TsF, Tierra clay loam, 15 to 45 percent slopes
- W, Water

- Additional Overlays**
- H Street Corridor Infill Area
 - Draft Annexation Areas (Subject to LAFCO approval)
 - Existing City Limits
 - Proposed Area to be Added to City Urban Limit Line
 - Existing City Urban Limit Line
 - Existing City Sphere of Influence

- Proposed Land Use Changes**
- Area ① H Street Corridor Infill
 - Area (A) Bailey Avenue Specific Plan
 - Area (B) River Area
 - Area (C) Miguelito Canyon
 - Area (D) Wye Residential



Base map source: City of Lompoc, 2008, U.S. Department of Agriculture, Natural Resources Conservation Service, 2004. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Soils Map
 Figure 4.5-3
 City of Lompoc

land surface resulting from the compression of void space in underlying soils. Seismically induced settlement occurs in loose to medium dense unconsolidated soil above groundwater. These soils compress (settle) when subject to seismic shaking. The settlement can be exacerbated by increased loading, such as from the construction of buildings. Settlement can also result solely from human activities including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

There is some potential for subsidence or settlement of natural soils throughout the Lompoc General Plan area. The area of primary concern is the floor of the Lompoc Valley which is underlain by poorly consolidated alluvial sediments (City of Lompoc Seismic and Geologic Conditions Study, 1987).

**Table 4.5-1
 Soil Characteristics in the City of Lompoc**

Soil	Shrink-Swell Potential	Erosion Hazard
Arnold sand, 5 to 15% slopes	Low	Moderate
Botella clay loam, 0 to 2% slopes	Moderate	None to Slight
Botella clay loam, 0 to 2% slopes, eroded	Moderate	Moderate
Botella clay loam, 2 to 15% slopes, eroded	Moderate	Slight to Moderate
Botella clay loam, 2 to 9% slopes	Moderate	Slight to Moderate
Botella clay loam, wet, 0 to 2% slopes	Moderate	None
Camarillo silty clay loam	Low	None
Camarillo very fine sandy loam	Low	None to Slight
Corralitos loamy sand, 0 to 2% slopes	Low	None by Water, High by Wind
Corralitos sand, 0 to 2% slopes	Low	None by Water, High by Wind
Corralitos sand, 2 to 15% slopes	Low	Slight by Water, High by Wind
Corralitos sand, 2 to 15% slopes, eroded	Low	Moderate by Water, High by Wind
Crow Hill loam, 15 to 75% slopes, severely eroded	Low	Very High
Crow Hill loam, 45 to 75% slopes	Low	Very High
Elder sandy loam, 0 to 2% slopes	Low	None to Slight
Elder sandy loam, 2 to 9% slopes, eroded	Low	None to Slight
Gazos clay loam, 15 to 30% slopes	Moderate	Moderate to High
Gazos clay loam, 30 to 45% slopes	Moderate	High
Gazos clay loam, 45 to 75% slopes	Moderate	Very High
Gullied land	NA	Actively Eroding
Linne clay loam, 45 to 75% slopes	Moderate	Very High
Lopez shaly clay loam, 15 to 75% slopes	Low	High to Very High
Marina sand, 0 to 2% slopes	Low	None to Slight by Water, High by Wind
Marina sand, 2 to 9% slopes	Low	Slight to Moderate by Water, High by Wind
Marina sand, 9 to 30% slopes	Low	Moderate to High
Marina sand, 9 to 30% slopes, severely eroded	Low	High
Metz loamy sand, 0 to 2% slopes	Low	None to Slight
Metz loamy sand, 2 to 9% slopes	Low	Slight
Metz loamy sand, overflow, 0 to 2% slopes	Low	Slight
Mocho fine sandy loam	Low	None to Slight
Mocho loam	Moderate	None to Slight
Mocho loam, overflow	Moderate	Slight
Mocho sandy loam, overflow	Low	Slight
Mocho silty clay loam	Moderate	None to Slight
Narlon loamy sand, 2 to 9% slopes	Low	Moderate



**Table 4.5-1
 Soil Characteristics in the City of Lompoc**

Soil	Shrink-Swell Potential	Erosion Hazard
Narlon sand, hardpan variant, 0 to 2% slopes	Low	None to Slight
Narlon sand, hardpan variant, 2 to 9% slopes	Low	Moderate
Riverwash	NA	NA
Salinas silty clay loam, 0 to 2% slopes	Moderate	None to Slight
San Andreas-Tierra complex, 9 to 45% slopes, severely eroded	Low	High to Very High
Sandy alluvial land	NA	NA
Sedimentary rock land	NA	NA
Sorrento loam, 2 to 9% slopes	Moderate	Slight to Moderate
Sorrento sandy loam, 0 to 2% slopes	Low	None to Slight
Sorrento sandy loam, 2 to 9% slopes	Low	Slight to Moderate
Tangair sand, 2 to 9% slopes	Low	Slight to Moderate
Terrace escarpments, loamy	NA	Moderate to High
Terrace escarpments, sandy	NA	NA
Tierra clay loam, 15 to 45% slopes	Moderate	High
Tierra loam, 2 to 9% slopes	Moderate	Slight to Moderate
Tierra loam, 5 to 30% slopes, severely eroded	Moderate	High
Tierra loam, 9 to 15% slopes	Moderate	Moderate
Tierra sandy loam, 15 to 30% slopes, eroded	Moderate	Moderate to High
Tierra sandy loam, 2 to 9% slopes	Moderate	Slight to Moderate
Tierra sandy loam, 9 to 15% slopes, eroded	Moderate	Moderate

Source: U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS), Soil Survey of Northern Santa Barbara County, California, July 1972 and Natural Resources Conservation Service (NRCS), USDA. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/> accessed [12/1/2008].

f. Slope Stability and Landslides. Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope’s natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development on a slope can substantially increase the frequency and extent of potential slope stability hazards. Steep, unstable slopes in weak soil/bedrock units that have a record of previous slope failure typically characterize areas susceptible to landslides.

Areas with the potential for major slope instabilities as a result of grading that may accompany development are limited primarily to the steep and moderately steep slopes south of the existing City Limits (City of Lompoc Seismic and Geologic Conditions Study, 1987).

g. Radon Gas. Radon is a cancer-causing natural radioactive gas that is invisible, odorless, and tasteless. Radon forms from the radioactive decay of small amounts of uranium naturally present in the rocks and soil. It can affect indoor air quality, particularly in mountainous areas. Radon gas from natural sources can accumulate in buildings and is a leading cause of non-smoking lung cancer deaths.



The radon level at which the U.S. Environmental Protection Agency (EPA) recommends considering remedial actions for radon reduction in residences is 4.0 picocuries per liter (pCi/L). The California Division of Mines and Geology has developed a radon zone map for unincorporated portions of Santa Barbara County which identifies areas with the potential to exceed 4.0 pCi/L (December 31, 1995). In accordance with this map, moderate potential for indoor radon levels in excess of 4.0 pCi/L occurs south of the existing City Limits, including the southern portions of the proposed Miguelito Canyon expansion area. Although comparable mapping is not available for areas within the City Limits, the California Department of Health Services maintains a database of indoor radon levels throughout the state. According to this database (as updated July 1, 2008), out of 337 radon tests completed within the City of Lompoc, 107 (or 31.8 percent) exceeded 4.0 pCi/L. The potential for radon therefore occurs throughout the General Plan area.

h. Regulatory Setting. The General Plan Safety Element, the California Building Code, and the City of Lompoc Municipal Code attempt to safeguard life or limb, health, property and public welfare. The City's Safety Element is intended to guide land use planning by providing policies regarding geologic, soil, seismic, fire and flood hazards, while the California Building Code (CBC) and the City of Lompoc Municipal Code control building design and construction. The City of Lompoc, along with all of Southern California and the Central Coast, is within Seismic Zone 4, the area of greatest risk and subject to the strictest building standards.

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds. An impact is considered significant if physical changes that could be facilitated by buildout of the 2030 General Plan would result in any of the following conditions, listed in Appendix G of the CEQA Guidelines, without providing a mechanism to address potential site-specific impacts:

- *Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides*
- *Substantial soil erosion or the loss of topsoil*
- *Location of development on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse*
- *Location of development on expansive soil, creating substantial risks to life or property*

It should be noted that all new development within the City is anticipated to be connected to the municipal waste disposal system. Thus, impacts related to having soils incapable of



adequately supporting the use of septic tanks are not expected. This checklist item was therefore excluded from the above list.

b. Project and Cumulative Impacts.

Impact GEO-1 Future seismic events could produce groundshaking within the Lompoc area that could damage structures and/or create adverse health and safety effects. However, compliance with required building codes and implementation of General Plan policies would ensure Class III, *less than significant*, impacts.

2030 General Plan Buildout within City Limits

The City of Lompoc is located in Seismic Zone 4, the highest level of potential earthquake threat in the State of California. However, the City contains no Alquist–Priolo fault rupture zones. No hazards related to fault rupture would be expected because no historically active, active or potentially active faults are located within or in the near vicinity of the City. However, regional faults that could result in strong groundshaking within the City of Lompoc include the San Andreas, Santa Ynez, Hosgri, Los Alamos–Baseline, and Casmalia faults. The range of maximum probable magnitudes for earthquakes emanating from these faults ranges from 6.5 to 8.25.

New development within the City Limits, including within the H Street Corridor Infill area, would conform to the CBC (as amended at the time of permit approval) as required by law and Policy 4.3 in the General Plan Safety Element. Proper engineering, including compliance with the CBC, the City of Lompoc Municipal Code and policies described below, would minimize the risk to life and property. Impacts to new development from groundshaking would therefore be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program–level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

It is anticipated that development could include 2,184 single family residential units, 534 multiple–family residential units, and 228,700 square feet of commercial space. This development would likely experience strong groundshaking at some point during the life of the project.

Proper engineering, including compliance with the CBC, the City of Lompoc Municipal Code and General Plan policies described below, would minimize the risk to life and property within the



Bailey Avenue Specific Plan expansion area. Impacts from groundshaking would therefore be less than significant.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. Future development in this area would likely experience strong groundshaking from any of the regional faults described above.

Proper engineering, including compliance with the CBC, the City of Lompoc Municipal Code and policies described below, would minimize the risk to life and property within the River expansion area. Impacts from groundshaking would therefore be less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate rural density residential hillside development. Future development in this area would likely experience strong groundshaking from any of the regional faults described above.

Proper engineering, including compliance with the CBC, the City of Lompoc Municipal Code and policies described below, would minimize the risk to life and property within the Miguelito Canyon expansion area. Impacts from groundshaking would therefore be less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area would accommodate 46 low density single-family units. Future development in this area would likely experience strong groundshaking from any of the regional faults described above.

Proper engineering, including compliance with the CBC, the City of Lompoc Municipal Code and policies described below, would minimize the risk to life and property within the Wye Residential expansion area. Impacts from groundshaking would therefore be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Potential groundshaking hazards associated with these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts from buildout within the existing City Limits as well as buildout of all four proposed expansion areas would be less than



significant with proper engineering, including compliance with the CBC, the City of Lompoc Municipal Code and policies described below.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The General Plan Safety Element (SE) includes the following goal and policies intended to minimize the risks associated with seismic-related hazards:

- SE Goal 4*** *Minimize risks associated with seismic activity.*
- SE Policy 4.1*** *The City shall not permit placement of critical facilities as identified in the Emergency Preparedness Element [Safety Element] in areas prone to slope instability or liquefaction during an earthquake.*
- SE Policy 4.2*** *The City shall continue to identify all existing seismically vulnerable buildings and require that they be reinforced to minimize risk of personal injury during an earthquake.*
- SE Policy 4.3*** *The City shall ensure that all new development is constructed in accordance with current seismic safety design standards.*
- SE Policy 4.4*** *The City shall continue programs to increase public awareness of: seismic hazards and procedures to minimize injury and property damage before, during, and after an earthquake.*

Mitigation Measures. None required beyond compliance with applicable General Plan policies and provisions of the CBC.

Significance After Mitigation. Impacts would be less than significant with implementation of the CBC requirements and policies contained in the Safety Element.

Impact GEO-2 Future seismic events could result in liquefaction of soils near the Santa Ynez River and low lying areas near River Park and Central Avenue west of V Street. Development in these areas could be subject to liquefaction hazards. The compliance of future development projects with the California Building Code (CBC) and General Plan policies would result in Class III, *less than significant*, impacts.



2030 General Plan Buildout within City Limits

Potential liquefaction hazards occur near the channel of the Santa Ynez River and low lying areas near River Park and near Central Avenue west of V Street. 2030 General Plan buildout within the existing City Limits could result in development within liquefaction zones. In particular, areas near Central Avenue west of V Street and the northernmost portion of the H Street Corridor Infill area (discussed below) could potentially accommodate future residential and non-residential development/ redevelopment. This development could be subject to liquefaction hazards.

The General Plan Safety Element contains policies and implementation measures (described below) which are specifically intended to identify and minimize the risks associated with liquefaction. The CBC also includes specific requirements to address liquefaction hazards. Compliance with Safety Element policies and CBC requirements would ensure that impacts remain less than significant.

H Street Corridor Infill Area. The H Street Corridor Infill area is located in the central portion of the City. The northernmost portion of the area, east of H Street, is identified as a liquefaction hazard area in the General Plan Safety Element. As noted above, compliance with Safety Element policies and CBC requirements would ensure that impacts from liquefaction remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area has a soil profile composed of silty clays which are considered to exhibit a very low, if any, potential for liquefaction. In addition, as discussed above, compliance with Safety Element policies and CBC requirements would ensure that any potential impacts remain less than significant.

Expansion Area B: River Area

As identified on the Geologic and Soils Hazards map in the General Plan Safety Element, the River expansion area is subject to liquefaction hazards. Expansion of the existing RV campground by 126 full hookup RV campsites could therefore be exposed to liquefaction hazards. However, as discussed above, compliance with Safety Element policies and CBC requirements would ensure that impacts remain less than significant.



Expansion Area C: Miguelito Canyon Area

As identified on the Geologic and Soils Hazards map in the General Plan Safety Element, the Miguelito Canyon expansion area is not an identified liquefaction hazard area. Impacts would therefore be less than significant.

Expansion Area D: Wye Residential Area

As identified on the Geologic and Soils Hazards map in the General Plan Safety Element, the Wye Residential expansion area is not an identified liquefaction hazard area. Impacts would therefore be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Potential liquefaction hazards associated with these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts from buildout within the existing City Limits as well as buildout of all four proposed expansion areas would be less than significant with compliance with General Plan Safety Element policies and CBC requirements. Cumulative impacts would therefore be less than significant.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The General Plan Safety Element (SE) includes the following policies and implementation measures intended to minimize the risks associated with liquefaction:

SE Policy 1.4 *The City shall avoid placement of critical facilities in hazardous areas as identified on the hazard maps:*

- *Floodway or Floodway Fringe (Flood Hazard Areas map);*
- *Slope or Liquefaction Hazard Areas (Geologic and Soils Hazard Areas map); and*
- *High or Moderate Wildland Fire Areas (Wildland Fire Hazard Areas map).*



- SE Policy 4.1*** *The City shall not permit placement of critical facilities as identified in the Emergency Preparedness Element [Safety Element] in areas prone to slope instability or liquefaction during an earthquake.*
- SE Measure 23*** *The City shall amend the Zoning Ordinance to incorporate specific standards for siting, designing, and reviewing critical facilities. These standards shall address issues such as: requiring detailed site studies for ground shaking characteristics and liquefaction potential prior to the development of critical facilities, restricting critical facilities from being located in the area of potential liquefaction, and ensuring access to and functioning of critical facilities following an earthquake. [Policy 4.1]*
- SE Measure 25*** *The City shall require the liquefaction potential to be evaluated by a Registered Soils Engineer for all developments within the liquefaction hazard areas as shown on the Geologic & Soils Hazards map. [Policy 4.4]*
- SE Measure 26*** *The City shall require the liquefaction potential to be evaluated by a Registered Soils Engineer for all critical facilities and major structures (reinforced concrete or steel frame, two-stories or more in height) located on the floor of the Lompoc Valley. [Policies 4.1 and 4.4]*

Mitigation Measures. None required beyond compliance with applicable General Plan policies and provisions of the CBC.

Significance After Mitigation. Impacts would be less than significant with implementation of CBC requirements and polices contained in the Safety Element.

- Impact GEO-3** **Development facilitated by the 2030 General Plan could occur on soils that have the potential to present hazards (expansive soils, erosive soils, seismic and differential settlement) to structures and roadways. However, compliance of future development projects with the CBC and adopted General Plan policies would ensure that impacts remain Class III, *less than significant.***

2030 General Plan Buildout within City Limits

As depicted in Table 4.5-1, several soils within the City of Lompoc have moderate shrink-swell potential. The potential for soil settlement could result in significant impacts to new development in these areas. In addition, soils throughout the City of Lompoc have high to very high erosion potential (refer to Table 4.5-1). Structures and facilities constructed on highly



erosive soils, as well as occupants of the structures, would have the potential to be exposed to hazards related to erosion.

The California Building Code (CBC) includes requirements to address soil related hazards. Typical measures to treat hazardous soil conditions involve removal, proper fill selection, and compaction. Expansion, erosion, or large-scale settlement problems would not be a substantial constraint to development of individual sites provided that adequate soil and foundation studies are performed prior to construction and that Building Code guidelines are followed. Therefore, impacts would be less than significant.

H Street Corridor Infill Area. The H Street Corridor Infill area is located in the central portion of the City. Development in this area could be located on soils that have the potential to present hazards (expansive soils, erosive soils, seismic and differential settlement) to structures and roadways. However, as noted above, compliance with Safety Element policies and CBC requirements would ensure that impacts from liquefaction remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Soils within the Bailey Avenue Specific Plan area have low shrink-swell potential and an erosion potential of none to slight and slight to moderate. Compliance with the CBC would ensure that impacts remain less than significant.

Expansion Area B: River Area

Several soils within the River expansion area have moderate shrink-swell potential and high to very high erosion potential. However, compliance with the CBC would ensure that impacts remain less than significant.

Expansion Area C: Miguelito Canyon Area

Several soils within the Miguelito Canyon expansion area have moderate shrink-swell potential and high to very high erosion potential. However, compliance with the CBC would ensure that impacts remain less than significant.



Expansion Area D: Wye Residential Area

Several soils within the Wye Residential expansion area have moderate shrink–swell potential and slight to moderate erosion potential. However, compliance with the CBC would ensure that impacts remain less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to potential soil related hazards from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts from buildout within the existing City Limits as well as buildout of all four proposed expansion areas would be less than significant with compliance with the CBC.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project–level environmental review.

General Plan Policies which Reduce Impacts

The General Plan Safety Element does not contain policies specific to expansion, erosion or settlement. However, new development would be required to conform to the CBC (as amended at the time of permit approval) as required by law and Policy 4.3 in the General Plan Safety Element.

Mitigation Measures. Compliance with the CBC would reduce soil related hazard impacts to a less than significant level. No additional policy–oriented mitigation would be required to address this impact. As individual development projects are considered for construction, separate environmental review may be required, which could result in the implementation of project–specific mitigation measures.

Significance After Mitigation. Impacts would be less than significant with implementation of CBC requirements.



Impact GEO-4 Steep slopes south of the existing City Limits present potential landsliding hazards. Landsliding has the potential to damage or destroy structures, roadways and other improvements as well as to deflect and block drainage channels, causing further damage and erosion. The compliance of future development projects with the California Building Code (CBC) and General Plan policies would result in Class III, *less than significant*, impacts.

2030 General Plan Buildout within City Limits

As shown on the Geologic and Soils Hazards map in the General Plan Safety Element, potential slope hazards occur south of the existing City Limits. Therefore, 2030 General Plan buildout within the existing City Limits, including within the H Street Corridor Infill area, would not result in development in landslide hazard areas. Impacts would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

As identified on the Geologic and Soils Hazards map in the General Plan Safety Element, the Bailey Avenue Specific Plan area is not an identified slope hazard area. Impacts would therefore be less than significant.

Expansion Area B: River Area

As identified on the Geologic and Soils Hazards map in the General Plan Safety element, the River expansion area is not an identified slope hazard area. Impacts would therefore be less than significant.

Expansion Area C: Miguelito Canyon Area

As identified on the Geologic and Soils Hazards map in the General Plan Safety element, the Miguelito Canyon expansion area is subject to slope hazards. Development that could be accommodated in this area includes up to 25 rural density residences. The low density of allowable development would somewhat minimize the potential for landslide-related property damage. In addition, landslide hazards may be somewhat reduced because development could only occur within the proposed Urban Limit Line (ULL), as depicted on Figure 4.5-1, and would therefore only extend into canyons with fewer steep hillsides. Nevertheless, construction in these areas could still result in slope related hazards.



Nevertheless, any development within identified slope hazard areas would have the potential for landslide-related damage. Slope instability may result in landslides, mudslides, or debris flows that can cause substantial damage and disruption to buildings and infrastructure. Impacts from these types of soil hazards are generally reduced to less than significant levels by the standard development review process. Standard building and grading procedures, including geotechnical engineering of landslide areas, would mitigate most soil hazards.

In addition, the General Plan Safety Element and 2030 General Plan Land Use Element contain goals and policies (described below) which would minimize the risks associated with slope instability. The CBC also includes specific requirements to address landslide hazards. Compliance with General Plan policies and CBC requirements would ensure that impacts remain less than significant.

Expansion Area D: Wye Residential Area

As identified on the Geologic and Soils Hazards map in the General Plan Safety element, the Wye Residential expansion area is not an identified slope hazard area. Impacts would therefore be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to potential slope hazards from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts from buildout within the existing City Limits as well as buildout of the Bailey Avenue Specific Plan, River, and Wye Residential expansion areas would be less than significant due to the relatively flat terrain in these areas. Impacts from buildout of the Miguelito Canyon expansion area, which contains steeper slopes identified as potentially hazardous in the Safety Element, would be less than significant with compliance with the CBC, General Plan Safety Element policies, and 2030 Land Use Element policies (described below).

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The General Plan Safety Element includes the following policies which specifically intend to minimize human exposure to landslide areas:



- SE Policy 1.4** *The City shall avoid placement of critical facilities in hazardous areas as identified on the hazard maps:*
- *Floodway or Floodway Fringe (Flood Hazard Areas map);*
 - *Slope or Liquefaction Hazard Areas (Geologic and Soils Hazard Areas map); and*
 - *High or Moderate Wildland Fire Areas (Wildland Fire Hazard Areas map).*
- SE Policy 4.1** *The City shall not permit placement of critical facilities as identified in the Emergency Preparedness Element [Safety Element] in areas prone to slope instability or liquefaction during an earthquake.*
- SE Goal 5** *Minimize injury and property damage resulting from landslides and mass earth movements.*
- SE Policy 5.1** *The City may permit development on hillsides only where it can be demonstrated that geologic conditions are sound for construction purposes.*

In addition, the 2030 General Plan Land Use Element (LUE) includes the following policies regarding steep slopes and associated hazards:

- LUE Policy 5.6** *The City shall limit development on slopes of 20% or greater by designating parcels with a substantial portion of the site containing steep slopes as Open Space, Community Facility (particularly parks), Rural Residential or Very Low Density Residential designations.*
- LUE Policy 5.7** *Development on slopes exceeding 20% shall be avoided if other less steep areas are available for building sites on a given property. Any development on slopes exceeding 20% shall minimize grading and avoid interruption of ridgelines. Development on slopes exceeding 20% shall also be subject to Architectural Review by the City to minimize potential aesthetic impacts.*
- LUE Policy 6.2** *The City shall maintain an Open Space designation for all areas in which topographic, geologic, or soil conditions indicate a significant danger to future occupants.*

Mitigation Measures. None required beyond compliance with applicable General Plan policies and provisions of the CBC.



Significance After Mitigation. Impacts would be less than significant with implementation of the CBC requirements and polices contained in the Safety Element and Land Use Element.

Impact GEO-5 Areas with elevated radon gas levels have been identified in the City and expansion areas. Exposure of people to high levels of radon gas could result in adverse health effects. Impacts would be Class II, *significant but mitigable*.

2030 General Plan Buildout within City Limits

Radon gas levels exceeding the EPA's remedial action level of 4.0 pCi/L have been measured throughout the City of Lompoc. The potential for radon gas exposure could therefore result in significant impacts to new development throughout the existing City Limits. The General Plan Safety Element does not contain policies related to radon gas exposure. Therefore, mitigation is required to reduce impacts to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Radon gas levels exceeding the EPA's remedial action level of 4.0 pCi/L have been measured throughout the City of Lompoc. The potential for radon gas exposure in the Bailey Avenue Specific Plan expansion area could therefore result in significant impacts to occupants of new development in that area. As noted above, mitigation is required to reduce impacts to a less than significant level.

Expansion Area B: River Area

Radon gas levels exceeding the EPA's remedial action level of 4.0 pCi/L have been measured throughout the City of Lompoc. The potential for radon gas exposure in the River expansion area could therefore result in significant impacts to occupants of new development in that area. Mitigation is required to reduce impacts to a less than significant level.

Expansion Area C: Miguelito Canyon Area

Radon gas levels exceeding the EPA's remedial action level of 4.0 pCi/L have been measured throughout the City of Lompoc. In addition, the California Division of Mines and Geology radon zone map identifies the southern portion of this expansion area as containing moderate potential for indoor radon levels exceeding this standard. The potential for radon gas exposure in the Miguelito Canyon expansion area could therefore result in significant impacts to



occupants of new development in that area. Mitigation is required to reduce impacts to a less than significant level.

Expansion Area D: Wye Residential Area

Radon gas levels exceeding the EPA's remedial action level of 4.0 pCi/L have been measured throughout the City of Lompoc. The potential for radon gas exposure in the Wye Residential expansion area could therefore result in significant impacts to occupants of new development in that area. Mitigation is required to reduce impacts to a less than significant level.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to potential radon exposure from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts from buildout within the existing City Limits as well as buildout of the four proposed expansion areas would be Class II, *significant but mitigable*.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The General Plan Safety Element does not contain policies specific to radon hazards. However, new development would be required to conform to the CBC (as amended at the time of permit approval) as required by law and Policy 4.3 in the General Plan Safety Element.

Mitigation Measures. The following mitigation is required.

GEO-5(a) Radon Gas Policies. The following policies shall be added to the 2030 General Plan Safety Element:

- *Promote community education regarding potential hazards associated with radon exposure.*
- *Require radon testing for new development within areas with moderate or high potential for indoor radon levels exceeding U.S. EPA recommended limits.*



- *Where radon levels may exceed U.S. EPA recommended limits, require developers to implement effective measures – such as "sub-slab depressurization" systems – to limit exposure to radon.*

Significance After Mitigation. Compliance with the CBC and implementation of the above mitigation would reduce impacts related to radon gas to a less than significant level.



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4.6 HAZARDS and HAZARDOUS MATERIALS

This section analyzes the impacts associated with exposure to hazards and hazardous materials. Impacts relating to hazardous materials use or development on contaminated sites, transportation of hazardous materials, exposure to wildland fire hazards and airport safety hazards are addressed. Geological and hydrological hazards are described in Sections 4.5, *Geology*, and 4.7, *Hydrology and Water Quality*, of this EIR, respectively.

4.6.1 Setting

a. Hazardous Materials. The federal government defines a hazardous material as a substance that is toxic, flammable/ignitable, reactive, or corrosive. Extremely hazardous materials are substances that show high or chronic toxicity, carcinogenic, bioaccumulative properties, persistence in the environment, or that are water reactive. Improper use, storage, transport, and disposal of hazardous materials and waste may result in harm to humans, surface and groundwater degradation, air pollution, fire, and explosion. The risk of hazardous material exposure can come from a range of sources; these may include household uses, agricultural/commercial/industrial uses, transportation of hazardous materials, and abandoned industrial sites known as brownfields.

Use, Storage, and Handling of Hazardous Materials. Numerous federal, state, and local regulations regarding use, storage, transportation, handling, processing and disposal of hazardous materials and waste have been adopted since the passage of the federal Resource Conservation and Recovery Act (RCRA) of 1976. The goal of RCRA is to assure adequate tracking of hazardous materials from generation to proper disposal. California Fire Codes (CFC) Articles 79, 80 et al., which augment RCRA, are the primary regulatory guidelines used to govern the storage and use of hazardous materials. The CFC also serves as the principal enforcement document from which corresponding violations are written.

Hazardous substances include both hazardous wastes and hazardous materials. In general, a material or waste is classified as hazardous if it is one of more than 700 chemicals specifically listed in the California Code of Regulations; if it contains one of these chemicals; or if it is reactive, ignitable, corrosive, or toxic. Because of their potential threat to public health and the environment, hazardous substances are closely regulated by federal, state, and local laws that focus on controlling their production, handling, storage, transportation, and disposal.

Federal and state environmental laws provide that all property owners be required to pay for cleanup, when necessary, of contamination by hazardous materials on or originating from their land. Because of the potential liability, purchasers or developers of commercial, industrial, or agricultural property should perform environmental assessments before development or purchase. In addition to being liable for cleanup, the owner can be responsible for toxic effects



on human health, and measures should be taken to avoid exposing people to hazardous materials. The transportation of hazardous materials is regulated by the Department of Transportation (Caltrans), USEPA, California Department of Toxic Substances Control (DTSC), California Highway Patrol (CHP), and California State Fire Marshal regulations. Under the California Vehicle Code, the CHP has the authority to adopt regulations for transporting hazardous materials in California. The CHP can issue permits and specify the route for hazardous material delivery.

Gas stations and industrial activities located next to roadways in the plan area may have released hazardous materials into the environment. To determine the full extent of possible hazardous materials sources, Phase I and Phase II hazardous materials site assessments would need to be completed for suspect parcels.

Such assessments are beyond the scope of this program-level analysis. The first step in identifying sources of hazardous materials is to conduct a database search of federal, state, and local agency records. A database search is the principle source of information to verify the presence of hazardous materials/wastes in the City of Lompoc. The results of these searches include lists of sites with known, potential, or existing hazardous materials in a specified search area. Individual sites can occur on several lists for the same reason and are sometimes repeated under different names on the same list.

Pursuant to SB 1082 (1993), the State of California adopted regulations to consolidate six hazardous materials management programs under a single, local agency, known as the Certified Unified Program Agency (CUPA). The CUPA provides regulatory oversight for the following program elements:

- *Aboveground Storage Tanks Hazardous Materials Release Response Plans and Inventories*
- *California Accident Prevention Program*
- *California Uniform Fire Code: Hazardous Materials Management Plans and Hazardous Materials Inventories*
- *Hazardous Waste Programs: Generator programs and Onsite Hazardous Waste Treatment Activities*
- *Underground Tank Program*
- *Above Ground Petroleum Storage Act Requirements For Spill Prevention, Control, and Countermeasure Plans*

In addition to conducting annual facility inspections, the Hazardous Materials Program is involved with hazardous materials emergency response, investigation of the illegal disposal of hazardous waste, public complaints, and storm water illicit discharge inspections. The Santa Barbara County Fire Department Hazardous Materials Unit has been designated as the administering agency for CUPA within the County of Santa Barbara. Accordingly, the County



Fire Department compiles and maintains the Hazardous Materials Business Plan database, which is a list of businesses that meet the threshold criteria for use, storage, or disposal of hazardous materials, compressed gases and/or hazardous waste. Threshold quantities are defined as hazardous materials equal to or exceeding 55 gallons or 500 pounds, 200 cubic feet of compressed gas, and/or hazardous waste in any amount.

Household Products. By far the most common hazardous materials are those found or used in the home. Waste oil is a common hazardous material that is often improperly disposed of and can contaminate surface water through runoff. Other household hazardous wastes (used paint, pesticides, cleaning products, and other chemicals) are common and often improperly stored in garages and homes throughout the community. Because of their prevalence and proximity to residents, household products constitute the most pervasive potential health hazard facing residents of Lompoc.

Commercial and Industrial Uses. Users of hazardous materials include commercial manufacturing, petroleum exploration, industrial fabrication, biotechnology, and agribusinesses. Potentially hazardous materials used by businesses may include petroleum based fuels, chlorinated solvents, acrylic coatings, corrosive or caustic additives, and to a lesser extent, chemical fertilizers, pesticides, and herbicides. The majority of users of hazardous materials include gas stations and other automotive service-related business, utilities, agribusinesses, and other commercial and industrial uses.

Soil Contamination. Regulatory agencies such as the United States Environmental Protection Agency (EPA), Department of Toxic Substance Control, and Department of Environmental Health Hazard Assessment set forth guidelines that list at what point concentrations of certain contaminants pose a risk to human health. The EPA combines current toxicity values of contaminants with exposure factors to estimate the maximum concentration of a contaminant that can be in environmental media before it is a risk to human health. These concentrations set forth by the EPA are termed Preliminary Remediation Goals (PRGs) for various pollutants in soil, air, and tap water (USEPA Region IX, Preliminary Remediation Goals Tables, 2002). PRG concentrations can be used to screen pollutants in environmental media, trigger further investigation, and provide an initial cleanup goal. PRGs for soil contamination have been developed for industrial sites and residential sites. Residential PRGs are more conservative and take into account the possibility of the contaminated environmental media coming into contact with sensitive receptor sites such as nurseries and schools. PRGs consider exposure to pollutants by means of ingestion, dermal contact, and inhalation, but do not consider impacts to groundwater.

The County of Santa Barbara Fire Prevention District (FPD) has developed contaminant threshold concentrations to determine the need for remediation of gasoline and volatile organic compound (VOC) contaminated soils. The guidance document has been used to determine when a site may require remedial action or be required to establish an acceptable clean up



standard for a particular constituent. The document was developed to simplify the remediation process by facilitating the selection of soil cleanup levels for sites affected by gasoline and VOCs.

Groundwater Contamination. Both the EPA and the California Department of Health Services (DHS) regulate the concentration of various chemicals in drinking water. The DHS thresholds are generally stricter than the EPA thresholds. Primary maximum contaminant levels (MCLs) are established for a number of chemical and radioactive contaminants (Title 22, Division 4, Chapter 15 California Code of Regulations). MCLs are often used by regulatory agencies to determine cleanup standards when groundwater is affected with contaminants.

Brownfield Sites. Brownfield sites are areas with actual or perceived contamination and that may have potential for redevelopment or reuse. Brownfields are often former industrial facilities that were once the source of jobs and economic benefits to the community, but lie abandoned due to fears about contamination and potential liability. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, \$1.6 billion was collected and the tax went into a fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA was amended in January of 2002 with passage of the Small Business Liability Relief and Brownfields Revitalization Act. This Act provides some relief for small businesses from liability under CERCLA. CERCLA also facilitated a revision of the National Contingency Plan (NCP), which provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the generation of the EPA's National Priorities List (NPL), a list of all the sites with known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. According to the NPL database, there are no Superfund sites within the Lompoc study area. (<http://www.epa.gov/superfund/sites/npl/index.htm>).

Additional to the National Priorities List for of Brownfield sites, the State Water Resources Control Board maintains an online database (GeoTracker) to provide access to environmental data. The GeoTracker database tracks regulatory data about leaking underground fuel tank (LUFT) sites, fuel pipelines, and public drinking water supplies and presents it in a geographic information system format. This provides a means of mapping the location of the sites with environmental conditions in the database.

The State Water Resources Control Board regulates spills, leaks, investigation, and cleanups sites. Data is obtained from GeoTracker (<http://www.geotracker.waterboards.ca.gov>). A database search for the City of Lompoc indicates that there are 45 leaking underground storage tanks (LUSTs), 27 of which have been cleaned up, and listed as completed/closed. The 18 LUST



cases that are still open are primarily located along H Street and Ocean Avenue. The majority of these open cases are associated with gas stations or other automotive service related uses.

The California Department of Toxic Substances Control also maintains a list of cleanup sites and hazardous waste permitted facilities on their EnviroStor database, located at <http://www.envirostor.dtsc.ca.gov/public/>. The EnviroStor database has record of one “State Response Site” and three “Military Evaluation Sites” within the City or proposed expansion areas. The State Response Site is located at the Federal Penitentiary, and the only information available is that the site is reported to have been used as a disposal site in the 1950’s. The three Military Evaluation Sites are listed as inactive, pending evaluation since 2005. No additional information or specific locations are available.

Landfills. Landfills are classified by their permitted contents. Class I landfills are permitted to accept toxic or hazardous substances. Class II landfills are permitted to accept chemically or biologically decomposable substances. Class III landfills are permitted to accept non-water soluble, non-decomposable inert solids.

As part of this analysis, a review of the California Integrated Waste Management Board’s (CIWMB's) searchable Solid Waste Information System (SWIS) database was completed for the Plan Area. The SWIS database tracks regulatory information on solid waste facilities, operations, and disposal sites throughout the State of California. The database includes information on landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. The database tracks regulatory information regarding the site location, owner, operator the facility type, operational status, regulatory enforcement records and inspections. Three sites listed on the SWIS database are located within the City limits:

- City of Lompoc Sanitary Landfill – SWIS No. 42-AA-0017; located at 700 South Avalon Road; status: active; accepted wastes include: construction/demolition, mixed municipal
- Lompoc Federal Prison Wwds Landfill – SWIS No. 42-CR-0019; located at the Federal Penitentiary, north of the Santa Ynez River, east of Santa Lucia Cyn Rd; status: closed
- Lompoc Burn Dump – SWIS No. 42-CR-0054; located at the southeast corner of Burton Mesa Blvd. and Highway 1; Status: closed as of 11/98

The only active landfill is the Lompoc Sanitary Landfill. This Class III landfill has been operational since 1961. The landfill does not have a liner, but is monitored for leachate and landfill gas emissions, although there are currently no collection systems in place for either of these. This facility does not accept toxic or hazardous substances. The City’s Household Hazardous Waste Collection Facility is located at 1585 North V Street.



Asbestos. Asbestos is a highly crumbly material often found in older buildings (pre-1979), typically used as insulation in walls or ceilings. It was formerly popular as an insulating material; however, it can pose a health risk when very small particles become airborne. In addition, the Santa Barbara County Air Pollution Control District (SBCAPCD) has identified serpentine rock as a source of naturally-occurring asbestos. Serpentine rock is not known to occur in the City of Lompoc (California Department of Conservation, Division of Mines and Geology, 2000). In conformance with the Clean Air Act, the EPA established the National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the public. The asbestos regulations under NESHAP control work practices during the demolition and renovation of institutional, commercial, or industrial structures. Following identification of friable asbestos the Federal OSHA, and SBCAPCD require that asbestos trained and certified abatement personnel perform asbestos abatement and all asbestos containing material (ACM) removed from on-site structures shall be hauled to a licensed receiving facility and disposed of under proper manifest by a transportation company certified to handle asbestos. Disposal of any ACM is also regulated by the County Fire Department, and specific requirements are determined during the permitting process.

Lead-Based Paint. Prior to the enactment of federal regulations limiting their use in the late 1970s, lead-based paint (LBP) was often used in residential construction. Lead is a highly toxic metal that was used for many years in products found in and around homes. Lead may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. The primary source of lead exposure in residences is deteriorating LBP. Lead dust can form when LBP is dry scraped, dry sanded, or heated. Dust also forms when painted surfaces bump or rub together. Lead-based paint that is in good condition is usually not a hazard. Regulations for LBP are contained in the Lead-Based Paint Elimination Final Rule 24 CFR 33, governed by the U.S. Housing and Urban Development (HUD) requires sellers and lessors to disclose known lead-based paint and lead-based paint hazards to perspective purchasers and lessees. Additionally, all lead-based paint abatement activities must be in compliance with California and Federal OSHA, and with the State of California Department of Health Services requirements. Only lead-based paint trained and certified abatement personnel are allowed to perform abatement activities. All lead-based paint removed from structures must be hauled and disposed of by a transportation company licensed to transport this type of material. In addition, the lead contaminated material be taken to a landfill or receiving facility licensed to accept the waste.

Agricultural Pesticide Regulation. A variety of chemicals are used on agricultural crops in the Plan Area. A variety of pesticides, fungicides and herbicides are used in the cultivation of row crops. Some pesticides and herbicides are injected into the soil as fumigants, while fungicides are generally sprayed by crop dusters. The CalEPA's Department of Pesticide Regulations establishes regulations regarding agricultural chemical use. These regulations are designed to prevent pesticides from being used in such a way as to jeopardize or cause injury



to others. Among these regulations is Section 6614 from Title 3 of the California Code of Regulations, which is included in part as follows:

(b) Notwithstanding that substantial drift will be prevented, no pesticide application shall be made or continued when:

- (1) There is a reasonable possibility of contamination of the bodies or clothing of persons not involved in the application process;*
- (2) There is a reasonable possibility of damage to non-target crops, animals, or other public or private property;*
- (3) There is a reasonable possibility of contamination of non-target public or private property, including the creation of a health hazard, preventing normal use of such property.*

Hazardous Materials Transportation. Both the U.S. EPA and the U.S. Department of Transportation (DOT) regulate the overall transportation of hazardous waste and material, including transport via highway and rail. The EPA administers permitting, tracking, reporting, and operations requirements established by the Resource Conservation and Recovery Act (RCRA). DOT regulates the transportation of hazardous materials through implementation of the Hazardous Materials Transportation Act. This Act administers container design, and labeling and driver training requirements. These established regulations are intended to track and manage the safe interstate transportation of hazardous materials and waste.

Transportation of hazardous materials on highways falls under federal legislation; however, authority is relegated to various state and local agencies that are focused on specific aspects of hazardous materials and transportation. The Hazardous Waste Control Act establishes the California Department of Health Services as the lead agency in charge of the implementation of the RCRA program. State and local agencies such as the California Highway Patrol (CHP), State of California Department of Transportation (Caltrans), and the City and County Fire Departments are responsible for the enforcement of state and federal regulations and responding to hazardous materials transporting emergencies. The CHP establishes state and federal hazardous material truck routes and has lead responsibility over hazardous material spills on State highways.

Truck routes are designed to provide access to areas of the City that utilize truck service (primarily commercial and industrial areas). State-designated truck routes within the City include H Street and Ocean Avenue. In addition, the City has designated Central Avenue, Laurel Avenue, and portions of A, I, and V Streets as truck routes. Under current State regulations, trucks transporting hazardous materials or wastes are allowed to use normal truck routes. However, the City of Lompoc has designated specific travel routes for trucks transporting explosive materials, as required by the State. Explosive materials include dynamite, fuming nitric acid, anhydrous hydrazine, and liquid nitrogen tetroxide. The designated Explosive



Material Route avoids the urbanized areas of the City, by restricting their travel on the portion of Highway 1 that traverses the City between its intersection with Harris Grade Road, and Ocean Avenue to the South. These trucks must go around the City, to the east, via Highway 246 and Purisima Road, rather than pass through it.

b. Oil Wells. The Division of Oil, Gas and Geothermal Resources (DOGGR) oversees the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal wells. Additionally, DOGGR keeps and maintains public maps that list and describe the locations and current status of wells throughout California. Section 3208.1 of the Public Resources Code authorizes DOGGR to order the re-abandonment of any previously abandoned well when the development of structures over or near wells could occur and subsequently result in human health hazards. However, in order to avoid the costly re-abandonment of wells DOGGR has established the following buffer distances for development near wells: 10 feet or greater from the structure and property line on any two adjacent sides of the well and 50 feet or greater on the third side of the well and the fourth side must remain open for permanent access.

A review of DOGGR Region 3 maps indicates that there are numerous oil and gas wells located near the Lompoc region. The majority of these wells are located north of the City, in the Lompoc Oil Field at the base of the Purisima Hills. Several wells are also scattered throughout the hills to the south of the City. Only four wells are shown within the City boundary. All four of these are located in the agricultural land north of the urbanized areas. In addition, one well (NCT-1) is located near the City’s eastern border, near the Santa Ynez River. None of these listed wells are in areas envisioned for future development. Information on these 5 wells is summarized in Table 4.6-2 below.

**Table 4.6-2
 Oil Wells Located Within the Plan Area**

Number	Operator-Name of Well	Status
08304503	Lompoc Petroleum Co-Beuterbaugh (1)	Buried-idle
08304504	Lompoc Petroleum Co-Beuterbaugh (2)	Buried-idle
08304392	Hugh B Martin-Beuterbaugh (3)	Plugged and abandoned dry hole
08304418	Chevron U.S.A. Inc.-Lompoc Community Seven (NCT-1)	Plugged and abandoned dry hole
08304417	Chevron U.S.A. Inc.-Irma Wilson	Plugged and abandoned dry hole

Source: California Department of Oil, Gas and Geothermic Resources (DOGGR), Region 3 Database, 2008

c. Wildfire Hazards. The California Department of Forestry and Fire Protection (CalFire) is responsible for identifying the governmental agencies responsible for preventing and suppressing fires in all areas of the state. Within the Lompoc Valley, this responsibility is shared between the City, County, State, and Vandenberg Air Force Base Fire Departments.



Impacts related to the provision of fire protection services are addressed in Section 4.11, *Public Services*.

Determination of wildland fire hazards is based on three major factors: fuel loading, weather conditions, and topography. The City has designated areas High, Moderate and Low Wildland Fire Hazard Areas, as illustrated on the Wildland Fire Hazard Areas Map in the Safety Element. Data from CalFire in 2006 presents similar classifications in this area, but adds the category of “Very High” fire hazard areas. Figure 4.6-1 illustrates the most recent CalFire designations for the City and surrounding areas.

The only areas within the existing City limits that are classified as a “High Hazard” are the landfill, and portions of the open agricultural lands in the northwestern and northeastern portions of the City. Portions of the City along the Santa Ynez River, and the residential areas adjacent to the open lands on the southern perimeter of the City are classified as having a “Moderate” hazard for wildfires. While the urbanized areas within the City limits are generally classified as a “Low Hazard” for wildland fires, the Lompoc study area is surrounded by large areas or generally unbroken natural vegetation. Undeveloped areas surrounding the City are considered to have a “High” or “Very High” hazard levels, and fires originating in these surrounding areas could spread quickly, and threaten portions of the City. The three areas that pose the greatest threat for wildfire hazards are the Santa Ynez Mountains and Foothills (including Miguelito Canyon) to the south, the Burton Mesa area to the northwest, and the Cebada Canyon/Santa Rita Hills areas to the northeast and east. Due to steep topography, limited access roads, and security concerns at the Vandenberg Air Force Base, access for fire control to these areas surrounding the City can be difficult.

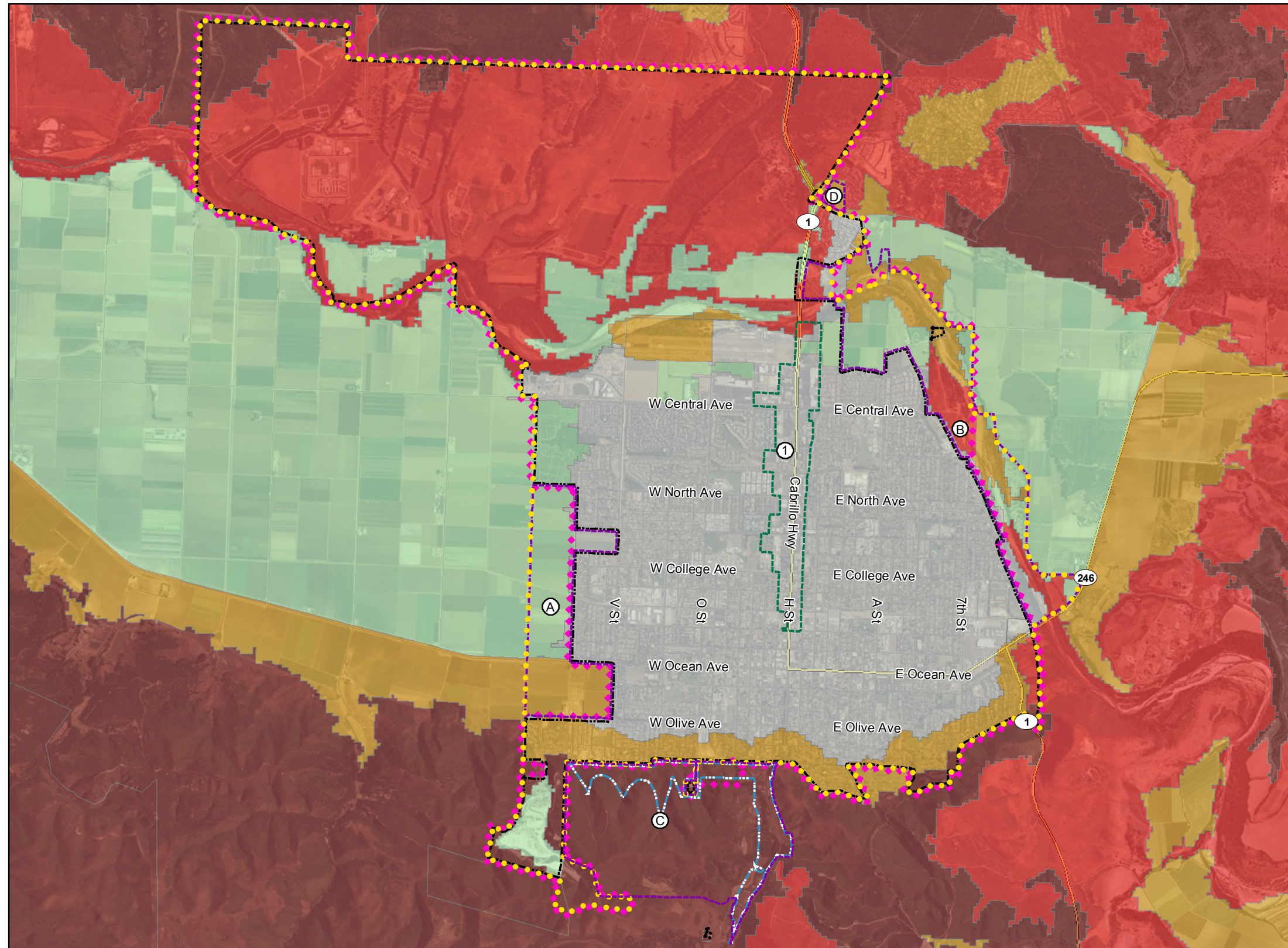
d. Airport Safety Hazards. The Lompoc Airport is owned by the City of Lompoc, and located on the north side of the City, immediately south of the Santa Ynez River, west of Highway 1, and north of Central Avenue. The Lompoc Airport is a general aviation airport and is used exclusively by private and business aircraft that do not provide common-carrier passenger service.

Santa Barbara County Association of Governments (SBCAG) serves as the County’s Airport Land Use Commission (ALUC). To reduce the risk of airport-related safety hazards, land uses and development proposals in the vicinity of the airport are reviewed by the ALUC for consistency with the Santa Barbara County Airport Land Use Plan. According to the most recent Airport Land Use Plan, the existing land uses around the airport are considered safe land uses (SBCAG, 1993). Flight paths to and from the Lompoc Airport generally occur to the north of the airport, thereby avoiding most of the developed and residential areas of the City, as shown on Figure 4.6-2



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Fire Hazard Classification

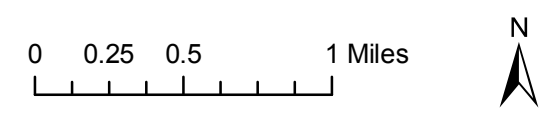
- Very High
- High
- Moderate
- Non-Wildland/Non-Urban
- Urban Unzoned

Additional Overlays

- H Street Corridor Infill Area
- Draft Annexation Areas *(Subject to LAFCO approval)*
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

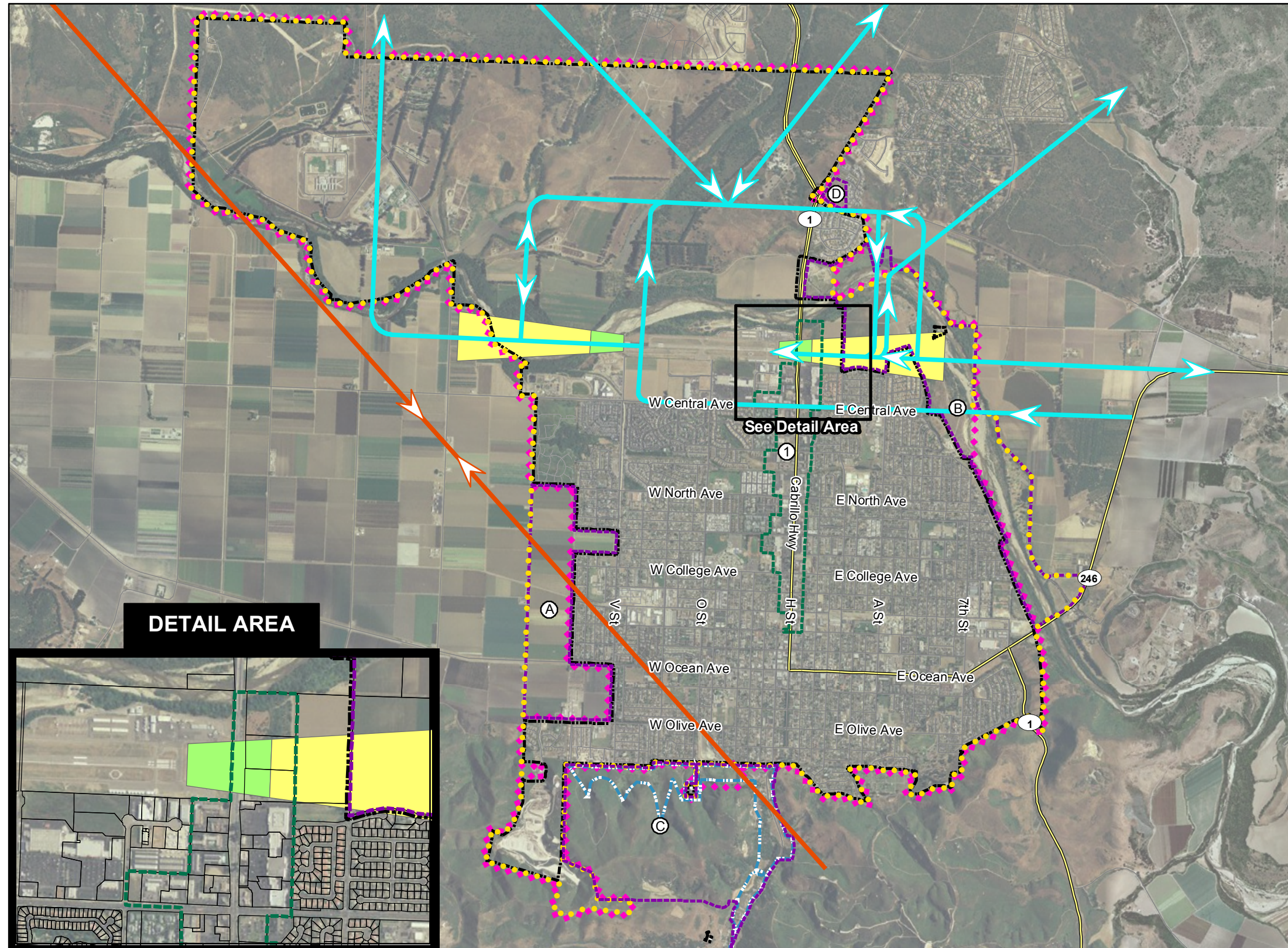
Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential



Base map source: City of Lompoc, 2008, U.S. California Department of Forestry and Fire Protection, 2006. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Fire Hazard Severity Zones
 Figure 4.6-1
 City of Lompoc



LEGEND

Flight Track

- Lompoc Airport
- Vandenberg Air Force Base

Airport Overlay Safety Zones

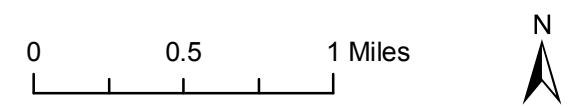
- Approach Zone
- Clear Zone

Additional Overlays

- H Street Corridor Infill Area
- Existing City Limits
- Draft Annexation Areas (Subject to LAFCO approval)
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area A Bailey Avenue Specific Plan
- Area B River Area
- Area C Miguelito Canyon
- Area D Wye Residential



Base map source: Santa Barbara County Association of Governments, Airport Land Use Commission, 1993 & 2008, City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Lompoc Airport Flight Patterns and Safety Zones

Figure 4.6-2
 City of Lompoc

Although it is not considered a public use airport, Vandenberg Air Force Base is located northwest of the City. It is estimated that 93 percent of the aircraft operations approach the airfield from the southeast (over the City of Lompoc) and depart to the northwest (over the Pacific Ocean). Therefore, occasional flights from Vandenberg AFB would occur over the project area. In addition, rockets are regularly launched from Vandenberg Air Force base. Launching areas are located near the coast, northwest and southwest of the site. However, rocket launch trajectories are over the Pacific Ocean, and in the event that the launch has to be aborted, the debris would fall into the ocean and not on land.

4.6.2 Impact Analysis

a. Methodology and Thresholds of Significance. For the purpose of this analysis, a significant impact would occur if physical changes that could be facilitated by buildout of the 2030 General Plan would result in the following conditions, listed in Appendix G of the CEQA Guidelines, without providing a mechanism to address potential site-specific impacts:

- *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials*
- *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment*
- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school*
- *Be located on a site included on a list of hazardous material sites compiled pursuant to State Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment*
- *Result in a safety hazard for people residing or working in the project area, if the project is located within an airport land use plan or in the vicinity of a private airstrip*
- *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan*
- *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands*



b. Project and Cumulative Impacts.

Impact HAZ-1 Potential development that could be facilitated near known hazardous material users, or construction in areas with existing hazardous materials, could expose individuals to health risks due to soil/groundwater contamination or emission of hazardous materials into the air. This is a Class II, *significant but mitigable*, impact.

2030 General Plan Buildout within City Limits

The 2030 General Plan would facilitate development (including residences) within several areas in and around the City where hazardous materials could be stored or used, or where previous use has resulted in contamination of the site. Development of residential uses in proximity to commercial or industrial uses that use or store hazardous materials could increase the risk of exposure to harmful health effects. Areas where users of hazardous materials are located are confined primarily to commercial and industrial areas of the City. By allowing for residential or mixed use development in commercial and industrial areas where there may have been past use or there may be current use of hazardous materials, the potential for exposure may increase due to: (1) potential soil/groundwater contamination resulting from past practices; and (2) the proximity of new residential development to ongoing activity involving the use of hazardous materials. Development or redevelopment in these areas would have the potential for exposure of hazardous materials to the public. The magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites.

Older structures throughout the City could potentially contain asbestos containing materials (ACM) and/or lead-based paint (LBP). If demolition of these structures occurred, ACM or LBP could be released, resulting in adverse health effects. To prevent health risks to occupants or construction workers, proper ACM and LBP abatement and disposal procedures, described in the regulatory setting section above, are required to be undertaken whenever the demolition is considered for structures that were built prior to 1979.

The presence of soil or groundwater contamination would depend upon the location of the construction site and its proximity to sources of contamination. Depending on the previous land uses, new development could present potential risk of exposure to contamination associated with agricultural pesticide use, leaking underground storage tanks (LUSTs), undocumented abandoned oil and gas wells, and/or various industrial contaminants. Hence, development of vacant and underutilized sites under Plan buildout would increase the potential for exposure to soil and groundwater contamination hazards. However, any necessary assessment and remediation of the properties would be completed in accordance with applicable regulatory requirements prior to development. In addition to compliance with



General Plan policies and regulatory requirements, mitigation would be required to reduce potential impacts to a less than significant level.

H Street Corridor Infill Area. Under the proposed H Street Corridor Infill, development and redevelopment could occur on sites that may have existing contamination due to past commercial or industrial uses. Development on contaminated sites could result in hazardous conditions for construction workers and future occupants by exposing them to hazardous materials that may be found in the soil. Many LUST sites are located near this area, which may pose a greater risk of exposure than other areas of the City. Remediation, including soil and groundwater sampling, under the appropriate oversight agency would reduce the risk of possible contamination. Nevertheless, impacts in this area are considered potentially significant. In addition to compliance with General Plan policies and regulatory requirements, mitigation would be required to reduce potential impacts to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The 270-acre Bailey Avenue Specific Plan expansion area would accommodate development at the periphery of the City of Lompoc, in an area currently used for agriculture. No sources of contamination were listed in the GeoTracker database for this site. However, existing development located in the southern portion of the Specific Plan area includes a maintenance building/machine shop, an office building, a pesticide storage shed, a pesticide storage room located within a structure used for storage, a seed storage structure, a seed cleaning structure, a seed counting structure, a structure containing a reverse osmosis system, and numerous greenhouses. In addition, a fenced-in area of the site contains miscellaneous trash and debris including abandoned farming equipment, old fuel storage tanks, and 55-gallon drums. The use and storage of chemicals associated with these types of facilities may have resulted in contamination of the site. Furthermore, the historical use of the site for agricultural production may have resulted in undocumented residual quantities of presently-banned agricultural chemicals, such as arsenic, which could pose a health hazard to construction workers or future residents. Arsenic exceeding naturally occurring background levels has been detected on property north of the expansion area, which was historically used for agriculture. Therefore, it is likely that arsenic may be located on the Bailey Avenue Specific Plan expansion area as well.

The presence of railroad tracks on the central portion of the site is also an indication of potential soil contamination. Historically, oil and pesticides were used for weed abatement along railroad tracks. Therefore, there is the potential that soil beneath and along the railroad tracks could be contaminated with petroleum hydrocarbons and/or pesticides.



Further analysis of the Bailey Avenue Specific Plan area, including testing, is necessary to determine the full extent to which these present and historic uses could have contaminated the site. Impacts related to hazardous materials in this area would be potentially significant. Further research, testing and remediation, including soil and groundwater sampling, under the appropriate oversight agency would reduce the risk of possible contamination. Such assessments are beyond the scope of this program-level analysis, and would be completed as part of the project-level review for development in this area.

Expansion Area B: River Area

The River expansion area is approximately 484 acres located east of the eastern boundary of the City, bisected by the Santa Ynez River. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing 35-space RV campground by 126 full hookup RV campsites. No sources of contamination were listed in the GeoTracker database for this area. However, surrounding agricultural uses and an on-site fallow agricultural field suggest that the expansion area was previously used for agricultural production. Historic agricultural use may have resulted in undocumented residual quantities of presently-banned agricultural chemicals, which could pose a health hazard to construction workers or future residents or visitors. Further research, testing and remediation, including soil and groundwater sampling, under the appropriate oversight agency would reduce the risk of possible contamination. Such assessments are beyond the scope of this program-level analysis, and would be completed as part of the project-level review for development in this area.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is located along the hillsides adjacent to the southern boundary of the City, and along San Miguelito Canyon Road. Existing development in this area is limited to some scattered rural residences. There are no records of previous or existing sources of contamination in this area. Given that the site is not located in a commercial or industrial area, the potential for contamination is low. Significant impacts related to exposure to hazardous materials on-site are not anticipated.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is approximately 10 acres of undeveloped land that is bordered by single-family residences to the south and east and a church to the north. There are no records of previous or existing sources of contamination in this area. Given that the site is not located in a commercial or industrial area, the potential for contamination is low. Significant impacts related to exposure to hazardous materials on-site are not anticipated.



Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to hazardous materials from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. If soil and groundwater contamination were found to be present on sites where development under the 2030 General Plan could occur, impacts associated with such contamination would be limited to the individual development site and would not contribute to any cumulative health and safety impacts in the community. It is anticipated that any necessary remediation would be completed in accordance with applicable regulatory requirements prior to development of any sites determined to have significant hazards. While compliance with existing regulatory requirements, as well as 2030 General Plan policies would partially reduce impacts, mitigation is necessary to ensure that previously unidentified hazardous materials do not pose a threat to the public or environment.

General Plan Policies which Reduce Impacts

There are numerous federal, state, and local regulations regarding use, storage, transportation, and disposal of hazardous materials and waste. In addition, the General Plan Safety Element (SE) contains policies that aim to minimize adverse impacts to health and quality of life associated with exposure to hazardous materials. These include:

- SE Goal 6** Protect the Community through the safe and efficient production, use, storage, dispensing, use, handling, transport, and disposal of hazardous materials.*

- SE Policy 6.1** The City shall promote waste minimization, recycling, and safe management of hazardous wastes.*

- SE Policy 6.2** The City shall encourage the safe and economical use, collection, storage, treatment, and disposal of hazardous materials generated by businesses and households.*

- SE Policy 6.3** The City shall site hazardous materials facilities in areas that ensure the protection of public health, safety, and the environment.*

- SE Policy 6.4** The City shall ensure that adequate protection of public health and safety is provided to new developments which are located in the vicinity of existing hazardous materials facilities.*



SE Policy 6.6 *The use, storage, and handling of hazardous materials by businesses and industries within the project area is done in compliance with applicable City policies, as well as any State and local laws, guidelines, and regulations.*

SE Policy 6.7 *Residents within one quarter mile of new hazardous materials handling facilities shall be notified immediately by the City emergency response organizations of any accidental occurrences such as the spills, leakages, or eruptions which may affect the health, safety and welfare of the public.*

Mitigation Measures. As individual development projects are considered for construction, separate environmental review may be required, which could result in the implementation of project-specific mitigation measures. In addition, compliance with federal, state, and local regulations, in combination with the General Plan policies listed above, would partially reduce impacts related to past usage of hazardous materials. However, the following mitigation measure is required to ensure that the public and environment are protected from exposure to previously unidentified hazardous materials that may exist in the General Plan area.

HAZ-1 **Previously Unidentified Hazardous Materials.** The following policies shall be added to the 2030 General Plan Safety Element:

Any work on a known remediation site or discovery of hazardous materials during excavation must be reported to the Santa Barbara County Fire Department Hazardous Materials Unit (HMU). In the event that hazardous waste and/or materials, including chemical odors or stained soils, are encountered during construction of future development sites, the following actions shall be taken by the applicant or authorized agent thereof: (1) all work in the vicinity of the suspected contaminant will be halted; (2) all persons shall be removed from the area; (3) the site shall be secured under the direction of the County Fire Department HMU staff; and (4) the City of Lompoc Hazardous Waste/Materials Coordinator shall be notified. Work shall not recommence until such time as the find is evaluated and appropriate measures are implemented as necessary to the satisfaction of the California Department of Toxic Substances Control.

Significance After Mitigation. Implementation of the referenced policies and mitigation measure would reduce potential hazardous materials impacts to less than significant level.



Impact HAZ-2 **The transportation of hazardous materials could potentially create a public safety hazard for new development that could be accommodated along major transportation corridors under the General Plan Update. However, compliance with existing regulations and General Plan policies would ensure that impacts remain Class III, *less than significant*.**

2030 General Plan Buildout within City Limits

The City of Lompoc has designated a route for transportation of explosive materials that traverses around the City to the east. Under current State regulations, trucks transporting hazardous materials or wastes are allowed to use normal truck routes. Within Lompoc, State Highways 1 and 246 (H Street and Ocean Avenue within the City Limits) are designated as truck routes. Therefore, the transport of hazardous materials on these roadways through the City is not prohibited. The Vandenberg Air Force Base (VAFB) also constitutes a potential hazardous materials threat to the City of Lompoc, as the main route to Vandenberg is through the City. A large tank storage facility for launch vehicle fuels located on the base is part of this threat. This facility is filled from truck tankers traveling through or near the City. The fuels include oxidizers, hydrogenics, and highly toxic fuels. While incidents related to hazardous materials spills are infrequent, accidents along major transportation corridors are a possibility. When properly contained, these materials present no hazard to the community. However, in the event of an accident, such materials may be released, either in liquid or gas form.

Development along H Street and East Ocean Avenue would be the most susceptible to hazardous materials impacts associated with highway accidents, including those associated with truck tankers traveling to the VAFB storage facility. However, all transport of hazardous materials is subject to numerous federal, state, and local regulations and future development facilitated by the 2030 General Plan would be subject to independent environmental review and regulations in place to minimize any potential health risks. In addition, the Lompoc Fire Department participates in the North Santa Barbara County multi-agency HazMat Team, which also includes the Santa Barbara County and Santa Maria Fire Departments. The Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan, prepared in 2004, states that the Lompoc Fire Department, Police Department, and the City Public Works staff shall respond to disasters involving hazardous materials clean up, oversee traffic and perimeter control efforts, and perform traffic accident clean up and evacuation routing. The Lompoc Fire Department has additionally established a direct line of communication with the VAFB. In addition, General Plan Safety Element policies would minimize human exposure to hazardous material spills. Therefore, impacts would remain less than significant.

H Street Corridor Infill Area. Development accommodated within the H Street Corridor Infill area would be located along H Street/Highway 1, which is used for the transportation of hazardous materials. Development and redevelopment in this area would expose additional



residents to hazardous materials in the event of an accident on this route. However, through appropriate regulation and continued participation in existing emergency response programs, including the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan, impacts related to risk of upset along this corridor would remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area is not located near the explosive materials truck route. However, this area is bisected (east to west) by Ocean Avenue, which is a designated truck route that may be used to transport hazardous materials, including those being transported to the VAFB. Future development adjacent to this route could expose residents to hazardous materials in the event of an accident. However, through appropriate regulation and continued participation in the existing emergency response programs, impacts related to risk of upset along this corridor would remain less than significant.

The Bailey Avenue Specific Plan area is also bisected (east to west) by the Union Pacific Railroad. The freight trains that run on this line could transport hazardous materials. Therefore, there is potential for the future development in this area to be exposed to a significant hazard in the event of a railway accident involving hazardous materials.

Numerous regulations are in place, as administered by the Federal Railroad Administration (<http://www.fra.dot.gov>), to prevent railway accidents that could result in unsafe conditions for people nearby. In addition, the transportation of hazardous materials would continue to be regulated by federal, state and regional agencies, and all new development would be subject to existing regulations to minimize any potential health risks. Therefore, through appropriate regulation and continued participation in existing emergency response programs, impacts related to risk of upset in the Bailey Avenue Specific Plan expansion area would remain less than significant.

Expansion Area B: River Area

The majority of the River expansion area is located away from major transportation corridors. However, under the 2030 General Plan, the existing RV campground located adjacent to Highway 246 could expand. Highway 246 is part of the City's designated route for transportation of explosive materials. In addition, Highway 246 could potentially be used for transportation of other (non-explosive) hazardous materials, including those being transported to VAFB. By increasing the density of development within this area, more people would be at



risk of exposure to hazardous materials in the event of an accident on this route. However, the transportation of hazardous materials would continue to be regulated by federal, state and regional agencies, and all new development would be subject to existing regulations intended to minimize any potential health risks. Therefore, through appropriate regulation and continued participation in existing emergency response programs, impacts related to risk of upset near the River expansion area would remain less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is located adjacent to a Union Pacific Railroad Line that runs along San Miguelito Road, and serves the Celite Corporation mining operation. Large quantities of diatomaceous earth from the mining area are transported on these trains each year. Diatomaceous earth is composed of Crystalline Silica (CS), which is considered hazardous when inhaled. The International Agency for Research on Cancer (IARC) has classified inhalation of CS as carcinogenic for humans. Inhalation of CS is also a known cause of silicosis, a noncancerous lung disease. However, the diatomaceous earth mined at this facility is transported in closed bags which are shrink-wrapped prior to loading on the trains, thereby eliminating the potential for “blow-off” of these chemicals (Robins, Scott, Shipping Manager, Celite Corporation (World Minerals), Telephone Communication, December 11, 2008).

Nevertheless, since the freight trains that run on this line transport hazardous materials, there is potential for the future development in the Miguelito Canyon expansion area to be exposed to a significant hazard in the event of a railway accident. However, numerous regulations are in place, as administered by the Federal Railroad Administration (<http://www.fra.dot.gov>), to prevent railway accidents that could result in unsafe conditions for people nearby. In addition, the transportation of hazardous materials would continue to be regulated by federal, state and regional agencies, and all new development would be subject to existing regulations intended to minimize any potential health risks. Therefore, through appropriate regulation and continued participation in existing emergency response programs, impacts related to risk of upset in the Miguelito Canyon expansion area would remain less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is approximately 10 acres of undeveloped land that is located at the intersection of Lompoc-Casmalia Road/Highway 1, H Street/Highway 1 and Purisima Road. As discussed above, hazardous materials could be transported on Highway 1. In addition, the City-designated route for transport of explosive materials directs trucks around the developed portions of the City, via Purisima Road and Highway 246. The addition of 46 residences in this area could therefore expose future residents to a significant hazard in the event of an accident on any of these routes. However, the transportation of hazardous materials would continue to be regulated by federal, state and regional agencies, and all new development would be subject to existing regulations intended to minimize any potential health



risks. Therefore, through appropriate regulation and continued participation in existing emergency response programs, impacts related to risk of upset along this corridor would remain less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to risk of upset from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, compliance with existing regulations would ensure that impacts from buildout within the City Limits as well as buildout of all four proposed expansion areas would remain less than significant.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

As described in the setting section, there are numerous federal, state, and local regulations regarding transportation of hazardous materials and waste. In addition to the policies listed under Impact HAZ-1, the General Plan Safety Element (SE) contains the following policy to reduce exposure to hazardous materials being transported through the Plan Area:

***SE Policy 6.5** Open space buffers shall be provided between hazardous materials routes and residential areas.*

Mitigation Measures. Compliance with existing hazardous materials transportation regulations as well as continuing participation and maintenance of the City and Countywide emergency response systems would reduce impacts related to hazardous material upset risk to a less than significant level. No mitigation would be required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-3 Development consistent with the proposed 2030 General Plan would introduce residential land uses into areas designated as Moderate or High Wildland Fire Hazard areas. However, compliance with existing policies and state and local regulations would ensure Class III, *less than significant*, impacts.



2030 General Plan Buildout within City Limits

Buildout of the 2030 General Plan would facilitate the development of residential uses in areas of the City that are at risk of damage from wildland fires. As described in the setting section above and illustrated on Figure 4.6-1, the northern portion of the City, north of the Santa Ynez River, is a High to Very High Fire Hazard area. The southeast quadrant of the intersection of Highway 1 and Highway 246/E Ocean Avenue is also designated as a High Fire Hazard area. In addition, Moderate Fire Hazard Areas are located along the southern portion of the City. As development of any vacant and underutilized parcels in these areas occurs, the risk of exposure to wildland fires increases. The Uniform Fire Code (UFC) and the California Building Code (CBC) set construction requirements for residences and structures in wildland fire hazard areas. Compliance with these requirements would minimize risks associated with development in these areas. Compliance with General Plan policies would further reduce the risks in these areas.

The remainder of the urbanized City has a low potential for wildland fires. However, mountains with steep terrain that is covered with brush and trees surround Lompoc, and during fire season, areas within the City Limits are susceptible to wild fire damage if nearby fires cannot be controlled. Santa Barbara County has adopted fire safety standards relating to road standards for fire equipment access, standards for signs identifying streets, roads, and buildings, minimum private water supply reserves for emergency fire use, and fuel breaks and greenbelts. These standards apply to all development outside of the incorporated City, and would help to reduce the risk of wildfires spreading and impacting the City.

H Street Corridor Infill Area. The majority of the H Street Corridor Infill Area is located in the already developed commercial core of the City. These urbanized areas have a low potential for wildland fires. However, the northernmost parcels are designated as a High Fire Hazard area. Compliance with the requirements of the UFC, CBC, and General Plan policies would reduce the risk of injury or damage from wildland fires to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The majority of the Bailey Avenue Specific Plan expansion area is classified as a Low Wildland Fire Hazard Area; however, the southern portion is designated as a Moderate Wildland Fire Hazard area. While there is a moderate risk of nearby wildland fires spreading into this area, compliance with the requirements of the UFC, CBC, and General Plan policies would reduce the risk of injury or damage from wildland fires to a less than significant level.



Expansion Area B: River Area

Portions of the River expansion area are designated as Low, Moderate, and High Wildland Fire Hazard Areas. Future development could therefore be exposed to potential wildland fire hazards. However, compliance with applicable UFC, CBC and General Plan policies would reduce the risk of injury or damage from wildland fires to a less than significant level.

Expansion Area C: Miguelito Canyon Area

Development in the Miguelito Canyon expansion area would place residential uses in a designated Very High Wildland Fire Hazard area. As described in the setting section above, steep topography and limited access roads for fire suppression in the undeveloped areas south of the City increase the risks associated with wildland fires in these areas. The development of up to 25 additional residences scattered throughout these hillsides would expose future residents and properties to potential wildland fire hazards.

As described in Section 4.11, *Public Services*, the Miguelito Canyon expansion area is outside of the Lompoc Fire Department's five-minute response time zone. When development is proposed outside of the five-minute response zone, it is subject to review by the Fire Department, and will need to comply with project-specific building requirements beyond the standard UFC, CBC and General Plan policies. Additional requirements such as stricter vegetation management, fire-resistant building materials, or roadway access requirements may be required for future development proposed in this area. The specific requirements will depend on the location and size of the structures, and will be determined by the Fire Department on an individual project-specific basis, as part of the environmental review and permitting process.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is approximately 10 acres of undeveloped land that is classified as a Moderate Wildland Fire Hazard area. Placing residential units in this area would expose future residents and properties to a risk of loss or damage from wildfires. However, compliance with applicable UFC, CBC and General Plan policies would reduce the risk of injury or damage from wildland fires to a less than significant level.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to wildland fire hazards from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the



proposed General Plan Update. As noted above, compliance with applicable UFC, CBC and General Plan policies (described below) would ensure that impacts from buildout within the City Limits as well as buildout of all four proposed expansion areas would remain less than significant.

General Plan Policies which Reduce Impacts

The General Plan Public Services Element (PSE) and Safety Element (SE) contain the following policies to reduce the risk of property damage, injury or loss of life related to wildfires:

***PSE Goal 5** Minimize property damage due to fires.*

***PSE Policy 5.1** The Fire Department shall strive to provide on scene response within five minutes at 90 percent of all structural fires within the City.*

***PSE Policy 5.2** The City shall continue to participate in an automatic aid agreement with Santa Barbara County and in mutual aid agreements with Vandenberg Air Force Base and the State of California.*

***PSE Policy 5.3** The Fire Department shall review all development projects for fire safety requirements.*

***SE Goal 3** Ensure adequate fire protection in wildland fire hazard areas while maintaining protection of biologically sensitive habitats.*

***SE Policy 3.1** The City shall use the Wildland Fire Hazard map in determining the suitability and design of development in wildland fire hazard areas.*

***SE Policy 3.2** The City shall work with governmental agencies, landowners, and the public to minimize wildland fire risks by managing fuel and vegetation in wildland fire hazard areas, while protecting biologically sensitive habitats.*

***SE Policy 3.3** The City shall restrict activities in wildland fire hazard areas which increase the danger of wildland fires.*

Mitigation Measures. Compliance with the above policies and existing regulations would reduce the risk of injury or damage from wildland fires to a less than significant level. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.



Impact HAZ-4 **Aircraft from the Lompoc or Vandenberg Airports would fly over portions of the City of Lompoc, which may result in a safety hazard for people residing or working in these areas. Impacts would be Class III, *less than significant*.**

2030 General Plan Buildout within City Limits

The Lompoc Airport is located immediately north of the Santa Ynez River and the Vandenberg Air Force Base is located northwest of the City. Portions of the City of Lompoc are overflowed by aircraft approaching or departing from these two airports. Aircraft overflights of occupied urban areas present a potential for off-airport aircraft accidents, which could result in personal injury or property damage. While aircraft from the Lompoc Airport are generally able to avoid flying over residential areas, flight paths currently pass over a portion of the Mesa Oaks area, Purisima highlands, northeast of the airport, and occasionally along Central Avenue (Lompoc Airport Master Plan, 1993).

Aircraft from the Vandenberg Air Force Base fly over the southwest portion of the City. These flight patterns overlap with the Lompoc Airport's Area of Influence. However, as stated in the ALUP, the slope of the flight path from the end of the Vandenberg Air Force Base runway does not impose practical height or safety restrictions on land uses, and because the aircraft are so high above the City, the Vandenberg Air Force Base presents no substantial hazards to any off-base land uses (SBCAG, 1993). The Santa Barbara County ALUC will continue to coordinate with the VAFB to reduce potential impacts to off-base land uses. Refer also to Impact HAZ-2 above for a discussion of impacts related to the transportation of hazardous materials to and from the VAFB.

Development within the Lompoc City Limits will continue to be subject to ALUC review to ensure that future land uses are compatible with airport-related land use restrictions. Compliance with existing regulations, including coordination with the ALUC, would ensure that future development under the 2030 General Plan would not result in significant airport-related safety hazards.

H Street Corridor Infill Area. The H Street Corridor Infill area is located in the Area of Influence (AIA), and flight paths are designated over certain parcels. In addition, the northernmost parcels in this infill area are within the City's Airport Overlay Zone. The "Airport Overlay Zone" is mapped on Figure 2-6 in Section 2.0, *Project Description*, and is shown as the Airport Clear Zone and Approach Zone on Figure 4.6-2. Runway Clear Zones are areas at ground level which begin at the end of each runway. Noise, height, and safety restrictions apply to development in Clear Zones, since these areas are subject to the greatest danger. The Clear Zone for the Lompoc Airport runway extends 1,200 feet from the end of the runway. Approach Zones are the land beneath the runway approach surfaces, where low-flying aircraft approach the runway.



As described in Section 2.0, *Project Description*, the northernmost parcels in the H Street Corridor Infill area that are within the City's "Airport Overlay Zone" will be subject to existing land use and zoning restrictions. Land uses within the Clear Zone of the Airport Overlay will be limited to open space, agriculture-related uses, automotive retail and parking lots. Any development on parcels within the Approach Zone of the Airport Overlay will be subject to ALUC review and approval (Lompoc Zoning Ordinance, 2002). Height restrictions are strictly enforced in these areas, and land uses that would result in a concentration of greater than 25 people per acre, or more than four residential units per acre, are prohibited. The storage of toxic or flammable materials is also prohibited within the Approach Zones. Compliance with existing regulations, including coordination with the ALUC, would ensure that future development in the H Street Corridor Infill area would not result in significant airport-related safety hazards.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area is located in the Area of Influence (AIA) for the Lompoc Airport. Furthermore, a designated flight path for the Vandenberg Airport passes directly over the Specific Plan area. It is anticipated that development could include 2,184 single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. Development under the proposed Specific Plan may therefore result in a safety hazard for people residing or working in this area. However, future development of this area would be subject to ALUC review and approval. In addition, compliance with existing regulations, including coordination with the ALUC, would ensure that future development under the General Plan would not result in significant airport-related safety hazards.

Expansion Area B: River Area

The River expansion area is located within the Lompoc AIA. However, flight paths do not pass over this property. The potential expansion of the existing RV campground by 126 full hookup RV campsites is not anticipated to result in significant airport-related safety hazards. In addition, future development would be subject to ALUC review for consistency with the ALUP. Impacts would therefore be less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is not located within the Lompoc AIA. However, flight paths from the Vandenberg Airport pass through portions of this area. Development that could occur in this area would be limited to scattered rural residential uses on the hillsides, which



would not result in a dense concentration of structures or people. Future development in this area would not be subject to ALUC review, as it is outside of the designated AIA for the Lompoc Airport. As stated in the ALUP, the slope of the flight path from the end of the Vandenberg Airport runway does not impose practical height or safety restrictions on land uses for the City of Lompoc. Therefore, future development in the Miguelito Canyon expansion area would not result in significant airport-related safety impacts.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is located less than one half mile northeast from the runway at the Lompoc Airport. However, the “Clear Zones” for this runway do not include this proposed expansion area and airport flight paths identified in the ALUP do not pass directly over this property. Nevertheless, future development of this area would be subject to ALUC review and approval. Compliance with existing regulations, including coordination with the ALUC, would ensure that future development under the General Plan would not result in significant airport-related safety hazards.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts of airport-related hazards from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, development within the City Limits or proposed expansion areas that falls within the AIA would be subject to ALUC review for consistency with the ALUP during the environmental review and permitting process. ALUC review and compliance with existing regulations would ensure that impacts remain less than significant.

General Plan Policies which Reduce Impacts

The General Plan does not contain policies related to airport-related safety hazards. However, the Santa Barbara County Airport Land Use Plan, prepared by the ALUC, sets forth appropriate land uses, including building height and density restrictions, for the areas within an airport’s area of influence.

Mitigation Measures. Beyond compliance with existing policies, including ALUC review, no mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.



4.7 HYDROLOGY and WATER QUALITY

This section addresses impacts to the City's storm drain infrastructure as well as surface water quality impacts. Watershed information was obtained from the Lompoc 2008 Water Resources Study. Data regarding flood hazards was obtained from the Federal Emergency Management Agency (FEMA) and Santa Barbara County Comprehensive Plan, while data regarding dam inundation hazards was obtained from the Multi-Jurisdictional Hazard Mitigation Plan, for which the City of Lompoc is a participating jurisdiction (Santa Barbara County, November 2006).

4.7.1 Setting

a. Watershed and Surface Water. Lompoc is located at a downstream segment of the Santa Ynez River watershed. This watershed covers nearly 900 square miles in central and southern Santa Barbara County. Primary land uses in this watershed include open space, agriculture and a limited amount of rural and urban development. Lompoc is also located on the downstream end of San Miguelito Creek, which flows from Santa Barbara County's jurisdiction into southern Lompoc, travels through Lompoc in a concrete channel and joins the Santa Ynez River just west of Lompoc. While Miguelito Creek has some limited flow generally year-round, the Santa Ynez River, upstream of the junction with Miguelito Creek, is dry for the majority of the year. On average, Lompoc receives 15 – 16 inches of rain per year, however in recent years this average rainfall amount has not been achieved.

San Miguelito Creek's Watershed is generally rural in nature. The largest influences in Miguelito Canyon are current and past diatomaceous earth mining operations in the lower portion of the watershed (located approximately 1 mile south of the southern City boundary) and a number of private cattle ranches in the upper reaches of the watershed (located southwest of the primary earth mining operation). There are also a limited number of single-family homes on larger lots at the mouth of Miguelito Canyon. A portion of Vandenberg Air Force Base property is included in the upper reaches of the watershed.

The San Miguelito Creek Watershed is almost exclusively within the County of Santa Barbara's jurisdiction. Within the County's jurisdiction, the Creek is unlined. When it reaches the valley floor and the City of Lompoc, it flows into a retention basin and from there is discharged into a trapezoidal concrete channel (V Street Channel) which conveys the creek through the City of Lompoc to the Santa Ynez River. Lompoc's primary storm drains discharge into the concrete V Street channel at the lowest portion of the watershed, before it discharges into the Santa Ynez River.

The City of Lompoc owns the majority of the land over which the Santa Ynez River flows, where it is adjacent to the City, to the east and north of the main portion of Lompoc. This includes property in and adjacent to Riverbend Park, the Riverbend Bike Trail, River Park on the eastern



side of the City, and the Municipal Airport. Most of this property is not within the City Limits but is under City ownership. As a result, this area is a part of the City's Stormwater Management Program (SWMP), which implements requirements of the Federal Clean Water Act's NPDES Phase II Program and the State's Porter Cologne Water Quality Act to address municipal Storm Water Pollution Prevention. Portions of the Lompoc Airport Property east and west of H Street and the Wastewater Reclamation Plant property are also adjacent to, or near, the Santa Ynez River. Only a short stretch of river on the City's north side east of H Street is not in City ownership.

On the west side of Lompoc is the City's only remaining major wetland: the 23-acre Bailey Wetland, which is north of the Bailey Avenue Specific Plan area. The 1997 General Plan Resource Management Element designates the property adjacent to the Santa Ynez River and the Bailey Wetland as Biologically Significant Areas.

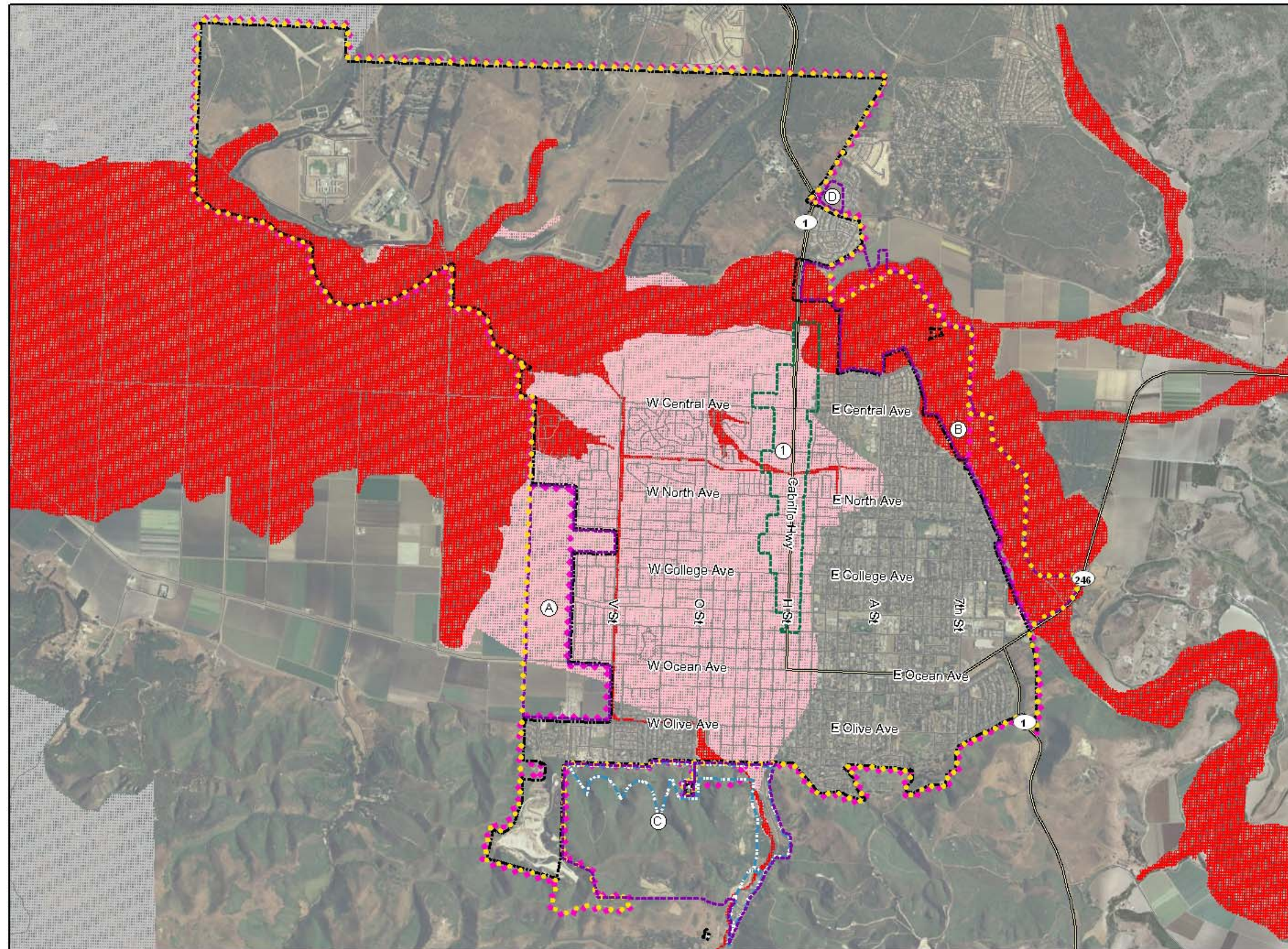
b. Topography. The topography in the Lompoc area is varied. Flat or level topography constitutes the majority of the area within the existing City Limits, while the southern hillsides, the Santa Rita Hills, and the Purisima Hills provide distinctive, steeper topography surrounding the City (scenic ridgelines are illustrated on Figure 4.1-1 in Section 4.1, *Aesthetics*). The area to the north of the City and north of the Santa Ynez River is a part of the Burton Mesa, which rises above the Lompoc Valley by 200 to 400 feet and contains gentle to moderate topography except along the flanks of locally incised canyons. Figure 4.5-1 in Section 4.5, *Geology*, shows the topographical features in the City of Lompoc.

c. Flood Hazards. Two major indicators of potential flooding are the presence of a floodplain as defined by the Federal Emergency Management Agency (FEMA) and Flood Hazard Areas as defined in the Environmental Resources Management Element (ERME) of the Santa Barbara County Comprehensive Plan. A floodplain is defined by FEMA as the area of land adjacent to the water course that may be submerged by flood water during a 100-year storm. These areas are defined on FEMA Flood Insurance Rate Maps (FIRM). Flood Hazard Areas are defined in ERME adjacent to water courses where the potential for flooding may adversely affect urban development and are coincident with the 100-year flood plain areas as defined by FEMA.

All major waterways and streams in the Lompoc vicinity have been mapped by FEMA on Flood Insurance Rate Maps (FIRM). In some instances detailed studies have been conducted on smaller tributaries which lead into or out of these and other waterways. Figure 4.7-1 illustrates the 100-year and 500-year floodplains within the City of Lompoc, as designated by FEMA.

Lompoc is subject to flooding from the Santa Ynez River to the north, east, and from backflow to the west. In addition, the area adjacent to San Miguelito Creek in the southern portion of the City, the channelized drainage conveying San Miguelito Creek to the Santa Ynez River, as well as the east-west channel, fall within the 100-year floodplain. High flows from the Santa Ynez River result in short-term back-up of the Miguelito channel, east-west channel, and the City's storm drain system, as well as resulting in flooding of the agricultural fields west of Lompoc.



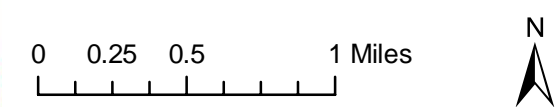


LEGEND

- 100-year Floodplain
- 500-year Floodplain
- Undetermined Floodplain
- H Street Corridor Infill Area
- Draft Annexation Areas *(Subject to LAFCO approval)*
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area ① Bailey Avenue Specific Plan
- Area ② River Area
- Area ③ Miguelito Canyon
- Area ④ Wye Residential



Base map source: City of Lompoc, 2008, Federal Emergency Management Agency National Flood Hazard Layer (NFHL), October, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

FEMA Flood Insurance Rate Map

Figure 4.7-1
 City of Lompoc

d. Dam Inundation. There are four major reservoirs located in the County of Santa Barbara: Lake Cachuma, Twitchell, Gibraltar, and Jameson Lake. Lake Cachuma, Gibraltar Reservoir, and Jameson Lake are located along the Santa Ynez River. Lake Cachuma is the largest reservoir along the Santa Ynez River, with a drainage area of 421 square miles upstream of the Bradbury Dam. The City of Lompoc lies approximately 33 miles west of the Bradbury Dam and west and south of the Santa Ynez River, which is the downstream receiving water for the Bradbury Dam's discharge.

e. Water Quality. Within the City of Lompoc, potential pollutants of concern in surface water include sediment, nutrients, pathogens, hydrocarbons, pesticides, trash and toxics. While some of these pollutants can be naturally occurring, they can be more concentrated in urban areas, due to the nature of urban use of land. However, the extent to which the City of Lompoc is a generator of these potential storm water pollutants has not been determined. Groundwater pollutants found in the water table below Lompoc are primarily salts and other pollutants generated by current and historic adjacent agricultural uses in the Lompoc Valley, as well as geologic formations contacting the aquifer in, or upstream of, the Lompoc Valley.

f. Regulatory Framework. Development in the Plan Area is subject to various local, state, and federal regulations and permits regarding water quality and the use of water resources.

The federal government administers the National Pollutant Discharge Elimination System (NPDES) permit program, which regulates discharges into surface waters. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill materials into Waters of the United States or adjacent wetlands without a permit from the U.S. Army Corps of Engineers. As discussed under *Flood Hazards*, the Federal Emergency Management Agency (FEMA) establishes base flood heights for 100-year and 500-year flood zones.

The primary regulatory control relevant to the protection of water quality is the Federal National Pollution Discharge Elimination System (NPDES) permit administered by the State Water Resources Control Board. This board establishes requirements prescribing the quality of point sources of discharge and establishes water quality objectives. These objectives are established based on the designated beneficial uses (e.g, water supply, recreation, and habitat) for a particular surface water or groundwater. There is a Water Quality Control Plan for the Central Coast Region (Basin Plan) which shows how the quality of the surface and ground waters in the Central Coast Region should be managed to provide the highest water quality reasonably possible. The Santa Ynez River is listed as a 303d impaired waterbody; however, Total Maximum Daily Loads (TMDLs) have not yet been established for the Santa Ynez River by the Central Coast Regional Water Quality Control Board. The Santa Ynez River is also governed by the terms of an agreement between the Santa Ynez River Water Conservation District, the City of Lompoc and the Cachuma Member Units, that governs the operation of Cachuma Reservoir. This agreement achieves several goals, including protection of water quality in the Lompoc Plain Groundwater Sub-basin.



NPDES permits are issued to point source dischargers of pollutants to surface waters and are issued pursuant to Water Code Chapter 5.5 that implements the Federal Clean Water Act. Examples include, but are not limited to, public wastewater treatment facilities, industries, power plants, and groundwater cleanup programs discharging to surface waters (State Water Resources Control Board, Title 23, Chapter 9, Section 2200). Discharge limits, under the NPDES permits, for minerals and pollutants are established and regulated by the California Regional Water Quality Control Board. The Lompoc Regional Wastewater Reclamation Plant is the one identified point source located in the City of Lompoc.

In 1999, the State revised the existing NPDES Construction General Permit to require that construction sites disturbing one acre or greater of land must file a Notice of Intent (NOI) with the State Water Board and prepare a Storm Water Pollution Prevention Plan (SWPPP).

4.7.2 Impact Analysis

a. Methodology and Significance Thresholds. Flooding risk was determined using Federal Insurance Rate Maps for the area.

Impacts would be considered significant if development facilitated by the 2030 General Plan would:

- *Potentially degrade surface or groundwater quality below applicable standards established by the Regional Water Quality Control Board (these standards are usually in accordance with the California EPA's maximum contaminant levels (MCLs) for drinking water)*
- *Substantially interfere with groundwater recharge*
- *Substantially alter the existing drainage pattern of the area such that substantial erosion or siltation occurs*
- *Substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner which results in flooding*
- *Substantially add additional sources of polluted runoff to a water body*
- *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map*



b. Project and Cumulative Impacts.

Impact HWQ-1 New residential development within the 100-year flood plain could be subject to flooding. However, with implementation of General Plan policies and adherence to the City's Floodplain Ordinance, impacts related to flooding would be Class III, *less than significant*.

2030 General Plan Buildout within City Limits

Flooding can cause widespread damage to affected areas, and endanger human safety. When urban areas encroach on floodplains, buildings and vehicles can be damaged or destroyed, while smaller objects can be buried in flood-deposited sediments. Floodwaters can break utility lines, interrupting services and potentially affecting health and safety. Floods may also create health and safety hazards and disrupt vital public services. The secondary effects of flooding are due to standing water, which can result in crop damage, septic tank failure, and water well contamination. Standing water can also damage roads, foundations, and electrical circuits. The extent of damage caused by any flood depends on the topography of the area flooded; depth, duration, and velocity of floodwaters; the extent of development in the floodplain; and the effectiveness of forecasting, warnings, and emergency operations. Encroachment onto floodplains, such as artificial fills and structures, reduces the capacity of the floodplain and increases the height of floodwater upstream of the obstructions. It should be noted, however, that the City's Floodplain Management Ordinance requires that all habitable floors be built a minimum of one foot above the 100-year floodplain.

For most of Lompoc, the 100-year floodplain occupies land around the Santa Ynez River. Additional areas within the 100-year floodplain include San Miguelito Creek where it enters the City, the storm drain which conveys San Miguelito Creek through the City of Lompoc to the Santa Ynez River, and the East-West Channel (see Figure 4.7-1). The General Plan Land Use Map designates all areas within the 100-year floodplain as open space, community facility, or proposed park. Development within the 100-year flood plain must comply with the City's Floodplain Ordinance. Impacts to new development within the 100-year flood plain would therefore be less than significant.

H Street Corridor Infill Area. As shown in Figure 4.7-1, the northernmost portion of this area and the East-West Channel are within the 100-year floodplain. However, the General Plan Land Use Map currently designates both of these areas with a proposed park overlay, thus prohibiting future urban development in these locations. Impacts to new development within the 100-year flood plain would therefore be less than significant.



Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development of this 270-acre site would yield up to 2,184 new single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. No portion of the Bailey Avenue Specific Plan Area is within the designated 100-year floodplain. No new development would occur within the 100-year flood plain; therefore impacts would be less than significant.

Expansion Area B: River Area

Development that could occur in the River expansion area under the 2030 General Plan would include expansion of an existing RV campground by 126 new RV spaces. Nearly all of the River expansion area is within the Santa Ynez River 100-year floodplain, as shown in Figure 4.7-1. New development in this potential expansion area would therefore occur within the 100-year flood plain. However, development in this area would be subject to General Plan policies and the City Flood Ordinance, which are intended to reduce hazards related to flooding (listed below). With development adhering to these policies, impacts would be less than significant.

Expansion Area C: Miguelito Canyon Area

Development that could occur in the Miguelito Canyon expansion area under the 2030 General Plan on this 165-acre site would include up to 25 rural density residences. San Miguelito Creek and the adjacent 100-year floodplain passes through the eastern portion of the Miguelito Canyon area (refer to Figure 4.7-1). New development could potentially occur within or adjacent to the San Miguelito Creek 100-year floodplain. However, development in this area would be subject to General Plan policies and the City Flood Ordinance, which are intended to reduce hazards related to flooding (listed below). With development adhering to these policies, impacts would remain less than significant.

Expansion Area D: Wye Residential Area

Development that could occur in the Wye Residential expansion area under the 2030 General Plan on this 10-acre site would include up to 46 low density single-family units. No portion of the Wye Residential expansion area is within or adjacent to local 100-year floodplains. No new development would occur within the 100-year flood plain; therefore impacts would be less than significant.



Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to flood hazards from buildout of the 2030 General Plan, as well as development of the potential annexation areas, have been addressed separately in the sections above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, these impacts would be less than significant for buildout of the General Plan, as well as for the Bailey Avenue Specific Plan Area and the Wye Residential Area. In addition, existing policies in the 1997 Safety Element (identified below) would reduce impacts from buildout of the River and Miguelito Canyon expansion areas to a less than significant level.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The Safety Element (SE) of the 1997 General Plan includes policies which are intended to reduce hazards related to flooding:

SE Policy 1.4 *The City shall avoid placement of critical facilities in hazardous areas as identified on the hazard maps:*

- *Floodway or Floodway Fringe (Flood Hazard Areas map);*
- *Slope or Liquefaction Hazard Areas (Geologic and Soils Hazard Areas map); and*
- *High or Moderate Wildland Fire Areas (Wildland Fire Hazard Areas map).*

SE Policy 2.1 *The City shall designate floodways, as shown on the Flood Hazard Areas Map, for open space land uses. Developments which impair the ability of the floodway to convey floods shall be prohibited.*

SE Policy 2.6 *The City shall preclude new developments from compounding the potential for flooding.*

Mitigation Measures. Implementation of General Plan policies would reduce flooding impacts to a less than significant level. Therefore, mitigation is not required.

Significance After Mitigation. Flooding impacts would be less than significant without mitigation.



Impact HWQ-2 The majority of the City of Lompoc is located within an identified dam inundation hazard area associated with the Bradbury Dam. There is potential to expose people and structures to associated dam inundation hazards. However, compliance with an existing Hazard Mitigation Plan would ensure that impacts remain Class III, *less than significant*.

2030 General Plan Buildout within City Limits

Of the nine major dams in the County, there is the greatest concern over failure of Bradbury Dam because floodwaters from the rupture of this dam could affect Cachuma Village, Solvang, Buellton, Lompoc City, Lompoc Valley and south Vandenberg AFB. The Dam Location and Inundation Map included in the Multi-Jurisdictional Hazard Mitigation Plan (Santa Barbara County, November 2006) identifies dam inundation perimeters within Santa Barbara County, including the City of Lompoc. As identified therein, much of the City of Lompoc, including areas near the Santa Ynez River and south from the Santa Ynez River to approximately Ocean Avenue, is located within a dam inundation area.

The Bradbury Dam has been constructed to withstand the maximum credible earthquake, based upon extensive geological and geotechnical studies. The dam is inspected regularly and is certified safe by the U.S. Department of Interior, Bureau of Reclamation. Buildout of the 2030 General Plan would not affect the potential for a failure of the Bradbury Dam. Nevertheless, the increased levels of human activity within the potential inundation area would expose additional people to this potential hazard.

The City of Lompoc has installed a reverse 911 system and designated evacuation routes as part of the Multi-Jurisdictional Hazard Mitigation Plan, in which the City of Lompoc is a participating jurisdiction (Santa Barbara County, November 2006). Compliance with this Hazard Mitigation Plan would ensure that impacts related to the potential for dam inundation remain less than significant.

H Street Corridor Infill Area. The H Street Corridor Infill Area abuts H Street/Highway 1 through much of the central portion of the City. As identified on the Dam Location and Inundation Map, the entire H Street Corridor Infill Area is within the identified dam inundation area. However, compliance with the Multi-Jurisdictional Hazard Mitigation Plan (Santa Barbara County, November 2006) would ensure that impacts related to the potential for dam inundation remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level



review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development of this 270-acre site would yield up to 2,184 new single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. The northern half of the Bailey Avenue Specific Plan Area is within the inundation area for the Bradbury Dam. However, compliance with the Multi-Jurisdictional Hazard Mitigation Plan (Santa Barbara County, November 2006) would ensure that impacts related to the potential for dam inundation remain less than significant.

Expansion Area B: River Area

Development that could occur in the River expansion area under the 2030 General Plan would include expansion of an existing RV campground by 126 new RV spaces. Nearly all of the River expansion area is within the inundation area for the Bradbury Dam. Any new development in this potential expansion area would occur within the inundation area. However, compliance with the Multi-Jurisdictional Hazard Mitigation Plan (Santa Barbara County, November 2006) and the City Flood Ordinance would ensure that impacts related to the potential for dam inundation remain less than significant.

Expansion Area C: Miguelito Canyon Area

Development that could occur in the Miguelito Canyon expansion area under the 2030 General Plan on this 165-acre site would include up to 25 rural density residences. No portion of the Miguelito Canyon area is within the inundation area for the Bradbury Dam. No new development would occur within the inundation area, and no impacts would result.

Expansion Area D: Wye Residential Area

Development that could occur in the Wye Residential expansion area under the 2030 General Plan on this 10-acre site would include up to 46 low density single-family units. The Wye Residential expansion area is just north of the northernmost dam inundation boundary, and is therefore entirely outside the inundation area for the Bradbury Dam. No new development would occur within the inundation area and no impacts would result.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to dam inundation hazards from buildout of the 2030 General Plan as well as development of the potential annexation areas have been addressed separately in the sections above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, compliance with the Multi-Jurisdictional Hazard Mitigation Plan (Santa



Barbara County, November 2006) would ensure that impacts related to the potential for dam inundation remain less than significant.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The 1997 General Plan does not include policies intended to address hazards related to dam inundation above and beyond those policies which address hazards related to flooding, listed above under Impact HWQ-1. However, the City has installed a reverse 911 system and designated evacuation routes as part of the Multi-Jurisdictional Hazard Mitigation Plan, in which the City of Lompoc is a participating jurisdiction (Santa Barbara County, November 2006). Compliance with this Hazard Mitigation Plan would ensure that impacts related to the potential for dam inundation remain less than significant.

Mitigation Measures. Compliance with the Multi-Jurisdictional Hazard Mitigation Plan would ensure that impacts related to the potential for dam inundation remain less than significant. Therefore, mitigation is not required.

Significance After Mitigation. Dam inundation hazards would be less than significant without mitigation.

Impact HWQ-3 **Development facilitated by the 2030 General Plan has the potential to increase the amount of impervious surface within the City. This could result in a minor decrease in percolation to the Lompoc Groundwater Basin. Compliance with the City's Stormwater Management Plan (SWMP), would reduce impacts to a Class III, *less than significant*, level.**

2030 General Plan Buildout within City Limits

Within the existing City Limits, including the H Street Corridor Infill area, most development that could be facilitated by the 2030 General Plan would occur in vacant and/or underutilized parcels throughout the City (refer to Figure 2-5 in Section 2.0, *Project Description*). However, based on the current regulations of the RWQCB reflected in the City's Stormwater Management Program (SWMP), effective October 17, 2008, future development and redevelopment projects within the City of Lompoc will be required to comply with the following requirements or with Central Coast Regional Water Quality Control Board approved requirements determined to be as effective as the following requirements:



- *Maintain an “Effective Impervious Area” of less than five (5) percent of the total project area. “Effective Impervious Area” is the portion of impervious area that drains directly to a receiving surface water body via a hardened storm drain conveyance without first draining to a pervious area. In other words, impervious surfaces tributary to pervious areas are not considered Effective Impervious Area.*
- *For projects that create and/or replace 5,000 square feet or more of impervious surface, the post-construction runoff hydrographs are required to match within one (1) percent the pre-construction runoff hydrographs.*
- *For projects whose disturbed project area exceeds two acres, pre-construction drainage density (miles of stream length per square mile of watershed) must be preserved for all drainage areas serving a first order stream or larger and post-project time of concentration must be equal or greater than pre-project time of concentration.*
- *The City must achieve an Effective Impervious Area of no more than three (3) to ten (10) percent of watershed area within its jurisdiction.*

In accordance with these requirements, future development facilitated by the 2030 General Plan within the existing City Limits could result in additional runoff from the impervious area constructed. This additional impervious area could result in an increase in the amount of runoff within the watershed, as well as a marginal decrease in percolation to the Lompoc Groundwater Basin. However, upon compliance with the terms of the City’s SWMP referenced above, impacts would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development of this 270-acre site would yield up to 2,184 new single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. This area is currently envisioned to include 24 acres of parks and 37 acres of open space, for a total of 61 acres of permeable surfaces. The remainder of the 270-acre site (including Ocean Avenue and the Union Pacific Railroad right-of-way) would be developed with structures and paving. The Bailey Avenue Specific Plan expansion area is currently used for agriculture, and is not developed with urban uses. A negligible portion of the project site is currently developed with impermeable surfaces.

As noted above, the City’s SWMP requires that future development projects meet specific requirements related to impervious surfaces and runoff. In accordance with these requirements, future development facilitated by the 2030 General Plan within the Bailey Avenue Specific Plan expansion area would result in a minimal increase in impervious area. This limited additional impervious area connected to storm drains could result in a marginal increase in the



amount of runoff within the watershed, as well as a marginal decrease in percolation to the Lompoc Groundwater Basin. However, compliance with the City's SWMP would ensure that impacts remain less than significant.

Expansion Area B: River Area

The River expansion area is primarily composed of open space and the 45-acre River Park, which is a linear park along the Santa Ynez River. The majority of this expansion area is therefore composed of pervious surfaces. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. A 30-foot setback from the outer dripline of riparian vegetation would be required to protect the waterway, pursuant to SWMP requirements. This level of development on a 446-acre site would not add a substantial amount of impervious surfaces. Impacts related to increased runoff from development within the River expansion area would therefore be less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is currently developed with scattered rural residences. Additional development that would be accommodated in this area under the 2030 General Plan would include up to 25 additional rural density residences. This level of development on the 587-acre expansion area would not be anticipated to add a substantial amount of impervious surfaces. As noted above, the City's SWMP requires that future development projects meet specific requirements related to impervious surfaces and runoff. In accordance with these requirements, future development facilitated by the 2030 General Plan within the Bailey Avenue Specific Plan expansion area would result in a minimal increase in impervious area. This limited additional impervious area connected to storm drains could result in a marginal increase in the amount of runoff within the watershed, as well as a marginal decrease in percolation to the Lompoc Groundwater Basin. However, compliance with the City's SWMP would ensure that impacts remain less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is currently undeveloped and therefore contains approximately 10 acres of pervious surfaces. Additional development that would be accommodated in this area under the 2030 General Plan would include up to 46 low density single-family units. This level of development on a 10-acre property would require a substantial portion of the site being developed with impervious surfaces, including roadways, driveways, and rooftops. However, as noted above, the City's SWMP requires that future development projects meet specific requirements related to impervious surfaces and runoff. In accordance with the requirements of the City's SWMP, future development facilitated by the 2030 General Plan within the Wye Residential expansion area would result in a minimal increase in impervious area. This limited additional impervious area connected to storm drains could



result in a marginal increase in the amount of runoff within the watershed, as well as a marginal decrease in percolation to the Lompoc Groundwater Basin. However, compliance with the City's SWMP would ensure that impacts remain less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to increased surface runoff from buildout of the 2030 General Plan as well as development of the potential annexation areas have been addressed separately in the sections above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, these impacts would be less than significant upon compliance with the City's SWMP.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

There are no policies within the 1997 Resource Management Element which address impervious surfaces or stormwater runoff. However, the following 2030 Land Use Element (LUE) policies encourage infill development and preserve open spaces, which limit the addition of new impervious surfaces to some extent:

LUE Policy 1.3 *The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.*

LUE Policy 1.7 *The City shall encourage infill development to meet City residential and commercial growth needs. The City designates the H Street Corridor Infill area as shown on Figure LU-2 as particularly suitable to infill development and shall prescribe specific design and zoning standards for this corridor. Additional information on the intent of the H Street Corridor Infill area is provided in Table LU-1.*

LUE Policy 5.1 *The City shall maintain Open Space designations for areas used for the preservation of scenic beauty, natural resources, or outdoor recreation; or the managed production of resources, including groundwater recharge; or the protection of public health & safety. Groundwater recharge areas shall be protected from incompatible uses that would substantially inhibit aquifer recharge or degrade groundwater quality.*



Mitigation Measures. Compliance with the City’s SWMP requirements would ensure that impacts related to increased runoff and decreased percolation would remain less than significant. Therefore, mitigation is not required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HWQ-4 Point and non-point sources of contamination could affect water quality in San Miguelito Creek, the Santa Ynez River, and groundwater in the City of Lompoc. However, compliance with existing regulations and implementation of General Plan policies and the City’s Stormwater Management Plan (SWMP) would result in Class III, *less than significant*, impacts.

2030 General Plan Buildout within City Limits

Discharge of pollutants from any point source is prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit issued by the Regional Water Quality Control Board. Generally, pollutants of greatest concern in regulation of point sources include nutrients (ammonia and nitrate), heavy metals, toxic chemicals, chlorine, and salts. The Lompoc Regional Wastewater Reclamation Plant is the only currently identified point source within the City of Lompoc.

Water quality impacts from potential future projects are directly related to specific site drainage patterns and stormwater runoff amounts. As noted in Impact HWQ-3 above, development within the City Limits in accordance with the 2030 General Plan and in compliance with the City’s SWMP would minimally increase the amount of impermeable surface compared to current conditions. The City requires that all storm water flowing from paved areas used for vehicular access or parking be filtered for trash, sediment, oil and grease. Any pollutants from impervious roadway surfaces that remain once the storm water is filtered could directly enter surface water bodies in and near the City.

Construction activities could also result in the pollution of natural watercourses or underground aquifers. The types of pollutant discharges that could occur as a result of construction include accidental spillage of fuel and lubricants, discharge of excess concrete, and an increase in sediment runoff.

Regulations under the federal Clean Water Act and the State require construction activity that disturbs greater than one acre, or that disturbs less than one acre but is part of a larger common plan of development, to comply with the NPDES State General Construction Permit. The Permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that contains specific actions, termed Best Management Practices (BMPs), to control the discharge of pollutants, including sediment, into local surface water drainages. A Notice of Intent (NOI) to perform work under the Permit must be filed with the State. In the State of California, Regional



Water Quality Control Boards administer the NPDES permit process for construction sites, with implementation coordinated with the local agencies under their Phase I and Phase II NPDES Municipal Permits (SWMP).

Increases in development intensity that could occur under the 2030 General Plan within the existing City Limits may incrementally increase pollutants in surface runoff. On the other hand, new development would be required to comply with current federal, state, and local requirements, which are more stringent than what was required at the time most existing development within the City was built. As such, redevelopment of these areas with new projects that incorporate current BMP requirements could actually improve water quality in area drainages. Overall, impacts are anticipated to be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area is currently used for agriculture, and is not developed with urban uses. Development of the 270-acre site that could occur under the 2030 General Plan would include up to 2,184 new single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. Existing agriculture operations may involve the application of pesticides and other chemicals. Storm runoff from these agricultural fields recharges groundwater and also discharges into the Santa Ynez River and local creeks. The replacement of agricultural land with urban uses could result in the reduction in discharge of agriculturally-related pollutants, including pesticide runoff, into the nearby surface water-bodies. New development would be required to comply with current federal, state, and local requirements related to point and non-point sources of water contamination. Impacts would therefore be less than significant.

Expansion Area B: River Area

The River expansion area is primarily composed of open space and the 45-acre Riverbend Park and 114 acre River Park, which is a linear park along the Santa Ynez River. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. This increase in development intensity may incrementally increase pollutants in surface runoff. However, new development would be required to comply with current federal, state, and local requirements related to water quality, which would ensure that impacts remain less than significant.



Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is currently developed with scattered rural residences. Additional development that would be accommodated in this area under the 2030 General Plan would include up to 25 additional rural density residences. This increase in development intensity may incrementally increase pollutants in surface runoff. However, new development would be required to comply with current federal, state, and local requirements related to water quality, which would ensure that impacts remain less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is currently undeveloped. Additional development that would be accommodated in this area under the 2030 General Plan would include up to 46 low density single-family units. This increase in development intensity may incrementally increase pollutants in surface runoff. However, new development would be required to comply with current federal, state, and local requirements related to water quality, which would ensure that impacts remain less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to water quality from buildout of the 2030 General Plan as well as development of the potential annexation areas have been addressed separately in the sections above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, compliance with current federal, state, and local requirements related to water quality would reduce any impacts to a less than significant level, and may actually result in beneficial impacts within portions of the City Limits.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The following General Plan Resource Management Element (RME) goal and policies would address impacts to water quality.

RME Goal 6 *Protect and improve water quality in the Lompoc groundwater basin.*

RME Policy 6.1 *The City shall encourage governmental agencies and Lompoc Valley farmers to minimize contamination of the Lompoc groundwater basin.*



RME Policy 6.2 *The City shall ensure that new development does not adversely affect water quality during and after construction.*

Mitigation Measures. Implementation of General Plan policies and compliance with local, state, and federal requirements relating to water quality would ensure that impacts remain less than significant. Therefore, mitigation is not required.

Significance After Mitigation. Impacts to water quality would be less than significant without mitigation.



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4.8 LAND USE and AGRICULTURE

This section analyzes the 2030 General Plan’s consistency with applicable local, regional, and state land use policies as well as potential impacts to agricultural resources. Consistency with the Santa Barbara County Air Pollution Control District’s 2007 Clean Air Plan (CAP) is discussed in Section 4.2, *Air Quality and Climate*. Land use compatibility conflicts associated with growth facilitated by the 2030 General Plan are discussed in sections 4.1, *Aesthetics*, 4.2, *Air Quality and Climate*, 4.6, *Hazards and Hazardous Materials*, and 4.9, *Noise*.

4.8.1 Setting

a. Introduction. The proposed 2030 Land Use Element update establishes a planned land use pattern and long-range policies to guide growth within the City of Lompoc’s corporate boundary and proposed expansion areas. These policies are specifically intended to preserve and enhance the quality of the community through appropriate land use planning.

The General Plan land use designations guide the general distribution, location, and extent of the various types of land uses in the City and expansion areas. The proposed land use designations would allow for the conversion of undeveloped or vacant land to urban uses. The plan also allows for buildout of existing City lands. Policies are included in the General Plan to preserve viable agriculture and prime agricultural lands. The physical arrangement of established communities would not be disrupted or divided. However, changes in land uses within the City and expansion areas would result from implementation of the General Plan. These changes in land use are discussed in Section 2.0, *Project Description*, and depicted in Figure 2-4.

b. Regulatory Agencies. Federal, state, and regional agencies with roles in establishing and implementing land use policy in the Lompoc area include the U.S. Air Force, the U.S. Army, the California Department of Parks and Recreation, the State Lands Commission, the Southern California Association of Governments, and the Santa Barbara County Local Agency Formation Commission (LAFCo). These agencies are discussed below.

Federal Government. Two federal agencies have regulatory authority over land use policy in the Lompoc area: the U.S. Air Force and the U.S. Army. The U.S. Air Force regulates land use on the Vandenberg Air Force Base, which is located north and west of the City of Lompoc. The U.S. Penitentiary and Federal Correctional Institution are located within the northwest portion of the City. These facilities and surrounding property are owned by the U.S. Army, which retains land use decision making authority in the area.

State of California. Two state agencies have regulatory authority over land use policy in the Lompoc area: the State Department of Parks and Recreation and the State Lands Commission.



The State Department of Parks and Recreation is responsible for regulating land use within La Purisima Mission State Historic Park, which is located northeast of the City of Lompoc. The State Lands Commission is responsible for regulating land use within the Burton Mesa Ecological Preserve, which is located north of the City.

Santa Barbara County Association of Governments (SBCAG). Lompoc is located within the planning area of the Santa Barbara County Association of Governments (SBCAG). SBCAG is a regional planning agency comprised of Santa Barbara County and all eight incorporated cities within the county. SBCAG distributes local, state, and federal transportation funds and acts as a forum for addressing regional and multi-jurisdictional issues. SBCAG's primary organizational and functional responsibilities include, but are not limited to:

***Regional Transportation Planning Agency (RTPA).** Designated by the Secretary of the California Business, Housing and Transportation Agency, SBCAG is responsible for the multi-modal transportation planning, programming, and fund allocation required by state statutes. This includes the annual allocation of Transportation Development Act (TDA) funds.*

***Airport Land Use Commission (ALUC).** SBCAG is designated as the Airport Land Use Commission (ALUC) and is responsible for protecting public health, safety, and welfare by ensuring that vacant lands in the vicinity of airports are planned and zoned for uses compatible with airport operations. To do this, SBCAG must determine that the adoption of local land use plans and policies will minimize the public's exposure to excessive noise and safety hazards.*

***Local Transportation Authority (LTA).** As the Local Transportation Authority (LTA), SBCAG is responsible for administering the ½ cent countywide sales tax.*

***Metropolitan Planning Organization (MPO).** SBCAG has been designated by the Governor as the agency responsible for all transportation planning and programming activities required under federal law. This includes the development of long range transportation plans and multi-year funding programs, and the selection and approval of transportation projects using federal funds.*

Santa Barbara County Local Agency Formation Commission (LAFCo). The Santa Barbara County LAFCo operates according to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (California Government Code §56000 et seq.). State law provides for LAFCos to be formed as independent agencies in each county in California. LAFCos implement state requirements and state and local policies relating to boundary changes for cities and most special districts, including spheres of influence, incorporations, annexations, reorganizations and other changes of organization. In this capacity, the Santa Barbara LAFCo is the boundary agency for cities and most special districts in Santa Barbara County. LAFCO



maintains review and permitting authority over City boundary change requests, including annexations for identified expansion areas.

c. Applicable Plans and Policies. Plans, regulations, and policies of the above agencies that are relevant to the draft 2030 General Plan are described below.

Regional Growth Forecast. SBCAG's Regional Growth Forecast 2007, adopted August 2008, provides a consistent set of population, employment, and land use forecasts for Santa Barbara County jurisdictions. The forecast is adopted by the SBCAG board and used in a variety of applications such as local General Plans, public service district forecasts, business development, transportation forecasts, and air quality planning. This forecast is based on the land use capacity of local general plans and takes input from all jurisdictions, the public, and the SBCAG board. The forecast is updated on a periodic basis as warranted by new demographic data, land use policies, and changes in growth assumptions.

Regional Transportation Plan (RTP). SBCAG's Final 2008 RTP, adopted September 18, 2008, is a long range transportation plan that looks ahead 20+ years and provides a vision for the future of the regional multi-modal transportation system. The RTP identifies major challenges as well as potential opportunities associated with growth, transportation finances, the future of airports in the region, and impending transportation system deficiencies that could result from growth that is anticipated in the region, and identifies improvements to address identified deficiencies.

Regional Housing Needs Assessment. The California Department of Housing and Community Development estimates the number of additional housing units needed to accommodate both existing and projected housing need for all income levels. This Regional Housing Needs Assessment (RHNA) projection is given to each Association of Governments in the state to accommodate their share of statewide housing need. For Santa Barbara County, SBCAG is charged with developing the distribution of that projection for each individual jurisdiction to include in their Housing Elements.

As described in the Project Description, the proposed 2030 Housing Element provides capacity for the development of new housing in accordance with the City's RHNA allocation. Lompoc's RHNA allocation for the 2007 to 2014 period, per the Santa Barbara County Association of Governments, is 516 new units. This total includes 209 units in the "very low" and "low" income categories and 308 units in the "moderate" and "above moderate" income categories.

d. Agricultural Land Use. The physical conditions within the Lompoc Valley make it one of the most versatile crop-growing regions in the state. Unlike any other coastal mountain range of the west coast of North America, the Santa Ynez Mountains run east to west. This transverse range creates valleys open to the Pacific Ocean, allowing the inland flow of fog and ocean breezes to keep the climate temperate. The central portion of the Lompoc Valley is predominantly flat



agricultural land approximately 100 feet above sea level. Additionally, soils within much of the valley possess features which provide very high fertility.

Soils. Agricultural classifications of each soil type found within the Lompoc General Plan area were analyzed based on their Capability Class and California Revised Storie Index grade. Capability Classes provide insight into the suitability of a soil for field crop uses based on factors that include texture, erosion, wetness, permeability, and fertility. The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California. The Storie Index assesses the productivity of a soil based on the degree of soil profile development, texture of the surface layer, slope and manageable features.

As defined in Government Code Section 51201 (California Land Conservation Act of 1965), Capability Class 1 and Class 2 soils and soils with a Storie Index from 80 to 100 (Grade 1/Excellent under the Revised rating) qualify as prime soils. Lompoc area soils and their ratings under both of these classification systems are shown in Table 4.8-1.

**Table 4.8-1
Lompoc Planning Area Soils and Agricultural Capability**

Soil	Land Capability Class*	CA Revised Storie Index	Prime?
Arnold sand, 5 to 15% slopes	4	4	No
Botella clay loam, 0 to 2% slopes	1	1	Yes
Botella clay loam, 0 to 2% slopes, eroded	1	1	Yes
Botella clay loam, 2 to 15% slopes, eroded	3	2	No
Botella clay loam, 2 to 9% slopes	2	1	Yes
Botella clay loam, wet, 0 to 2% slopes	2	3	Yes
Camarillo silty clay loam	3	3	No
Camarillo very fine sandy loam	2	2	Yes
Corralitos loamy sand, 0 to 2% slopes	3	2	No
Corralitos sand, 0 to 2% slopes	4	3	No
Corralitos sand, 2 to 15% slopes	4	3	No
Corralitos sand, 2 to 15% slopes, eroded	4	3	No
Crow Hill loam, 15 to 75% slopes, severely eroded	7	4	No
Crow Hill loam, 45 to 75% slopes	7	4	No
Elder sandy loam, 0 to 2% slopes	1	2	Yes
Elder sandy loam, 2 to 9% slopes, eroded	2	2	Yes
Gazos clay loam, 15 to 30% slopes	4	3	No
Gazos clay loam, 30 to 45% slopes	6	4	No
Gazos clay loam, 45 to 75% slopes	7	4	No
Gullied land	8	NR	No
Linne clay loam, 45 to 75% slopes	7	4	No
Lopez shaly clay loam, 15 to 75% slopes	7	6	No
Marina sand, 0 to 2% slopes	3	3	No



**Table 4.8-1
Lompoc Planning Area Soils and Agricultural Capability**

Soil	Land Capability Class*	CA Revised Storie Index	Prime?
Marina sand, 2 to 9% slopes	3	3	No
Marina sand, 9 to 30% slopes	4	3	No
Marina sand, 9 to 30% slopes, severely eroded	3	3	No
Metz loamy sand, 0 to 2% slopes	3	2	No
Metz loamy sand, 2 to 9% slopes	3	3	No
Metz loamy sand, overflow, 0 to 2% slopes	3	2	No
Mocho fine sandy loam	1	1	Yes
Mocho loam	1	1	Yes
Mocho loam, overflow	2	2	Yes
Mocho sandy loam, overflow	2	2	Yes
Mocho silty clay loam	1	1	Yes
Narlon loamy sand, 2 to 9% slopes	4	4	No
Narlon sand, hardpan variant, 0 to 2% slopes	4	5	No
Narlon sand, hardpan variant, 2 to 9% slopes	4	5	No
Riverwash	8	NR	No
Salinas silty clay loam, 0 to 2% slopes	1	1	Yes
San Andreas-Tierra complex, 9 to 45% slopes, severely eroded	6	3	No
Sandy alluvial land	7	NR	No
Sedimentary rock land	8	NR	No
Sorrento loam, 2 to 9% slopes	2	1	Yes
Sorrento sandy loam, 0 to 2% slopes	1	1	Yes
Sorrento sandy loam, 2 to 9% slopes	2	1	Yes
Tangair sand, 2 to 9% slopes	3	4	No
Terrace escarpments, loamy	6	NR	No
Terrace escarpments, sandy	7	NR	No
Tierra clay loam, 15 to 45% slopes	6	4	No
Tierra loam, 2 to 9% slopes	4	3	No
Tierra loam, 5 to 30% slopes, severely eroded	7	4	No
Tierra loam, 9 to 15% slopes	4	3	No
Tierra sandy loam, 15 to 30% slopes, eroded	4	3	No
Tierra sandy loam, 2 to 9% slopes	4	3	No
Tierra sandy loam, 9 to 15% slopes, eroded	4	2	No

* Irrigated Land Capability Class used as a reasonable worst case.

Source: Natural Resource Conservation Service, Soil Survey of Northern Santa Barbara Area, July 1972.

As shown in the above table, 16 of the 55 soils within the Lompoc General Plan area are considered prime based on their Land Capability Class, California Revised Storie Index, or both. These soils are depicted in Figure 4.8-1.

Farmland Mapping and Monitoring Program. The California Department of Conservation (DOC) identifies and designates important farmlands throughout the state as part of the

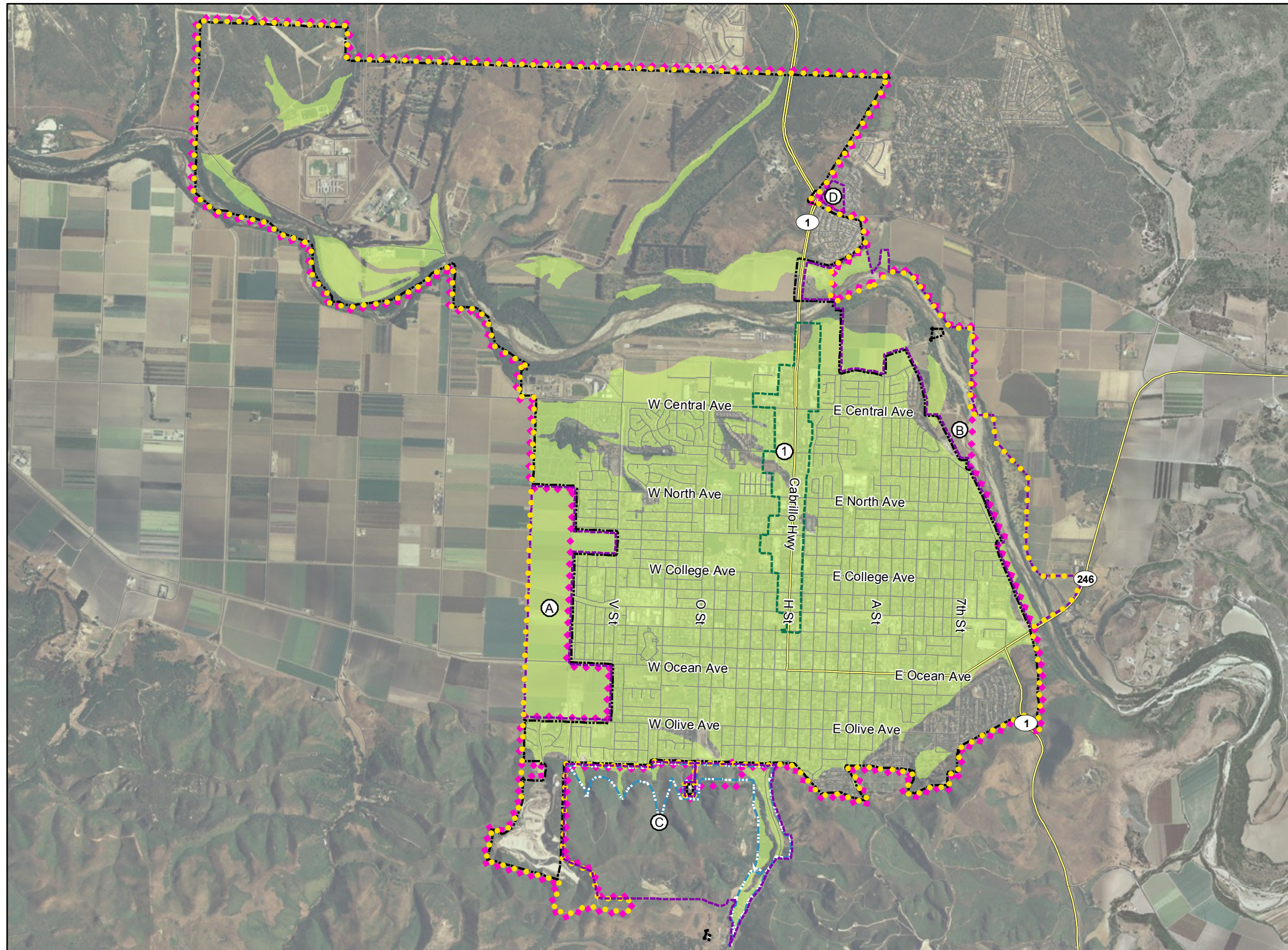


Farmland Mapping and Monitoring Program (FMMP). DOC important farmlands differ from soils classifications discussed above because the DOC important farmland designation is based on both soil quality and current land use, rather than soil quality alone. According to the DOC important farmland mapping, as shown in Figure 4.8-2, the City of Lompoc is composed of 3,890 acres of urban or built-up land, 2,822 acres of other land, 470 acres of prime farmland, 80 acres of farmland of statewide importance, 70 acres of unique farmland, 55 acres of farmland of local importance, and 69 acres of grazing land. Within the existing City Limits, the proposed H Street Corridor Infill area contains approximately 196 acres of Urban or built-up land, 21 acres of Other land and one acre of Prime farmland. FMMP designations for the four proposed expansion areas are listed in Table 4.8-2 below.

**Table 4.8-2
Proposed Expansion Areas Farmland Mapping and Monitoring Program**

Proposed Expansion Area	Designation	Acres
Bailey Avenue Specific Plan		
	Prime Farmland	259.1
	Unique Farmland	12.2
	<i>Total</i>	<i>271.3</i>
River Area		
	Prime Farmland	91.0
	Unique Farmland	1.5
	Grazing Land	0.1
	Urban or Built-Up Land	78.8
	Other Land	312.4
	<i>Total</i>	<i>483.8</i>
Miguelito Canyon		
	Prime Farmland	7.5
	Farmland of Local Importance	11.3
	Grazing Land	114.0
	Urban or Built-Up Land	23.6
	Other Land	8.4
	<i>Total</i>	<i>164.8</i>
Wye Residential		
	Urban or Built-Up Land	0.6
	Other Land	9.8
	<i>Total</i>	<i>10.4</i>



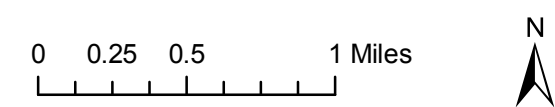


LEGEND

- Prime Soils
- H Street Corridor Infill Area
- Draft Annexation Areas (*Subject to LAFCO approval*)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

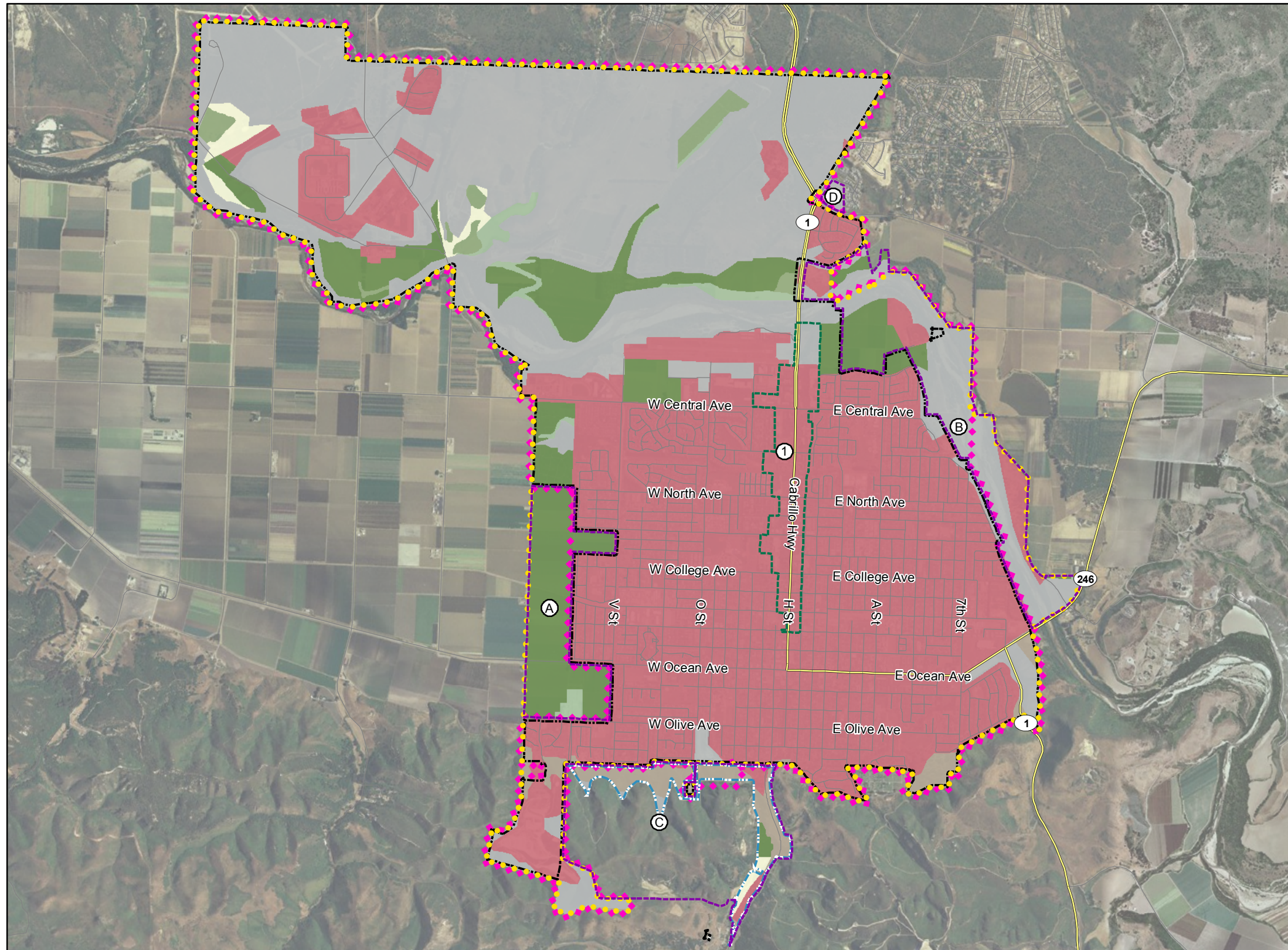
- Area ① H Street Corridor Infill
- Area ① Bailey Avenue Specific Plan
- Area ① River Area
- Area ① Miguelito Canyon
- Area ① Wye Residential



Base map source: City of Lompoc, 2008, U.S. Department of Agriculture, Natural Resources Conservation Service, 2004. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Prime Soils

Figure 4.8-1
 City of Lompoc



LEGEND

- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Farmland Designations

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Urban or Built-Up Land
- Other Land

Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area ① Bailey Avenue Specific Plan
- Area ② River Area
- Area ③ Miguelito Canyon
- Area ④ Wye Residential



Base map source: City of Lompoc, 2008, State of California Department of Conservation Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2006. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Farmland Mapping and Monitoring Program Map

Figure 4.8-2
 City of Lompoc

4.8.2 Impact Analysis

a. **Methodology and Significance Thresholds.** An impact is considered significant if physical changes that could be facilitated by buildout of the 2030 General Plan would result in one or more of the following conditions, which are based upon the environmental checklist in Appendix G of the CEQA Guidelines:

- *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect*
- *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use*
- *Conflict with existing zoning for agricultural use, or a Williamson Act contract*
- *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use*

It should be noted that the 2030 General Plan is a citywide plan intended to provide for the orderly development of the community through the year 2030. As such, it would not physically divide the community. In addition, no habitat conservation plan or natural community conservation plan applies to Lompoc. As a result, checklist items related to these conditions were excluded from the above list.

Land Use. The analysis of land use impacts is based upon a review of the 2030 General Plan Land Use Element to identify areas where development under 2030 General Plan may create land use compatibility conflicts. The land use analysis focuses on the potential for compatibility conflicts, while issues relating to changes in the City's visual character are discussed in Section 4.1, *Aesthetics*. Land use impacts would be potentially significant if the 2030 General Plan would place in close proximity uses that may be in conflict due to concerns about aesthetics, safety, or noise. These issues are further addressed in Sections 4.1, *Aesthetics*, 4.6, *Hazards and Hazardous Materials*, and 4.9, *Noise*, respectively, of this EIR.

Agricultural Land Conversion. For this EIR, the conversion of prime agricultural land to non-agricultural use or impairing the productivity of prime agricultural land is considered a significant impact. The conversion of feasibly farmed prime soils (defined as those soils with a Capability Class 1 or 2 and/or a California Revised Storie Index of Grade 1) to urban uses constitutes such an impact.



b. Project and Cumulative Impacts.

Impact LU-1 The 2030 General Plan would alter the present land use on sites throughout the City and may result in incompatibilities with adjacent existing and planned land uses, particularly where urban and agricultural uses would directly abut each other. However, the General Plan reduces land use conflicts through plan review and policies. Therefore, impacts that would occur from development would be Class III, *less than significant*.

2030 General Plan Buildout within City Limits

The 2030 General Plan would facilitate the development and redevelopment of lands within the Lompoc plan area. These areas include reuse of existing urbanized lands, infill development on vacant parcels, and new development on the urban fringe. As discussed in Section 4.1, *Aesthetics*, the reuse and intensification of already developed areas would reduce the pressure for development at the City's periphery. This reuse and intensification would similarly reduce potential land use conflicts, as relatively few land use changes are proposed within the City (refer to Figure 2-4 in Section 2.0, *Project Description*).

Within the City Limits, the primary change in land use would occur in the proposed H Street Corridor Infill area. Specific impacts that may occur in this area are discussed below.

H Street Corridor Infill Area. Development accommodated within the H Street Corridor Infill area would be infill redevelopment surrounded by existing development. However, there are areas where development would either be new (located on vacant properties), or the intensity would increase beyond existing conditions in this area. New commercial or industrial uses developed in close proximity to sensitive land uses, such as residences, may create noise, odors, or other incompatibility issues with adjacent existing uses. In some cases new residential uses could be developed adjacent to an existing use that has incompatible characteristics. Mixed-use development could also occur in the H Street Corridor Infill area, which would place a mix of uses on the same site. Residential uses on the same site as commercial uses can result in noise nuisances to residential uses because of the traffic, loading docks, mechanical equipment (such as generator, heating, ventilation and air conditioning (HVAC) units), deliveries, trash hauling activities, and customer and employee use of the facilities associated with commercial uses. These potential incompatibilities are addressed in Section 4.9, *Noise*.

The design of a project has a great influence on its impacts relative to differing uses. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of land use compatibility impacts would be coordinated through individual project-level environmental review. In addition, the proposed 2030 General Plan Land Use Element and



existing Zoning Ordinance requirements (discussed below) reduce impacts related to land use compatibility. Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area would accommodate development at the periphery of the City of Lompoc, in an area currently used for agriculture. Because this site is directly adjacent to additional agricultural land on the west, potential land use conflicts between proposed urban and existing agricultural land uses could occur. Potential conflicts are described below.

Impacts to Residential Uses. Residents living adjacent to agricultural lands often cite odor nuisance impacts, noise from farm equipment, vehicle conflicts, dust, and pesticide spraying as land use conflicts. Conflicts between farm vehicles and high-speed automobiles used by residents on adjacent roadways can lead to accidents. Pesticide spraying can result in health hazards, while odor and noise are nuisances that can affect the enjoyment of private dwellings. Increased dust from soils and farm equipment can be both a nuisance and a health hazard. These conflicts can also result in reduced property values along the interface with agricultural uses.

Impacts to Agricultural Uses. The placement of residential development adjacent to farmland can have several negative impacts on farm operations. Direct physical impacts include vandalism to farm equipment or fencing and theft of fruits and vegetables. Soil compaction from trespassers or equestrians can also damage crop potential. Decreased air quality from adjacent urban development can also result in impacts to adjacent farmland.

Placement of residences adjacent to cultivated agriculture can also have economic impacts to growers. Increased regulations and liability insurance to protect the farmer from adjacent urban uses cost time and money. Some farmers sensitive to nearby residences voluntarily limit their hours of operation and do not intensively use the portions of their property closest to urban uses, in effect establishing informal buffer zones on their own property. This has the effect of lowering crop yields, which can potentially affect the long-term economic viability of the agricultural operation. This could ultimately cause the loss of agricultural production due to cessation of operations if the economic impacts become severe enough.

The Bailey Avenue Specific Plan is anticipated to include a 200-foot wide open space setback along the entire western site boundary, thereby buffering future residences from agricultural



production to the west. This would partially limit land use compatibility impacts in this area. In addition, the proposed 2030 General Plan Land Use Element and existing Zoning Ordinance requirements (discussed below) would further reduce impacts related to land use compatibility. Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. The site is bordered by the existing City Limits and urban development to the west, open space to the south, and agricultural fields to the north and east. Because of the proximity of agricultural production to the east, compatibility conflicts similar to those discussed above could occur.

The proposed 2030 General Plan Land Use Element and existing Zoning Ordinance requirements (discussed below) reduce impacts related to land use compatibility. Adherence to these requirements would reduce any impacts to a less than significant level.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 rural density residences in an area currently composed of open space and scattered residences. Although portions of the expansion area are located near limited agricultural uses, the portion of the expansion area within the updated Urban Limit Line that could potentially be developed with rural density residential uses is bordered by the existing City Limits and urban development to the north and open space to the east, west and south. Because this portion of the expansion area does not abut agricultural uses and because existing land uses in the vicinity are similar to those that would occur under the 2030 General Plan, land use compatibility conflicts would be less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area would accommodate 46 low density single-family units. The site is currently undeveloped and is bordered by single-family residences to the south and east and a church to the north. Open space borders the site to the west, across Harris Grade Road. Because the site does not abut agricultural uses and because existing land uses in the vicinity are similar to those that would occur under the 2030 General Plan, land use compatibility impacts would be less than significant. Compatibility impacts related to air quality and noise are discussed in Sections 4.2, *Air Quality and Climate*, and 4.9, *Noise*, respectively.



Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to land use compatibility have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes potential incompatibility issues within the proposed H Street Corridor Infill area, as well as conflicts between existing agriculture and proposed urban uses in the Bailey Avenue Specific Plan area and River expansion area. Proposed policies in the 2030 Land Use Element and existing requirements in the Lompoc Zoning Ordinance (identified below) would reduce impacts in these areas.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future projects' contribution to cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The following proposed 2030 General Plan Land Use Element (LUE) Policies would reduce land use compatibility impacts.

LUE Policy 1.3 *The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.*

LUE Policy 2.2 *The City shall protect residential neighborhoods from encroachment by adverse or incompatible non-residential uses (for example, intensive agriculture or industry) and impacts associated with those non-residential uses, including impacts to neighborhood character.*

LUE Policy 2.3 *The City shall require provision of permanent buffer or transitional areas as part of new residential development adjacent to areas designated for commercial or industrial uses, except where mixed-use development may be appropriate.*

LUE Policy 7.2 *The City shall work with Santa Barbara County to protect agricultural areas from theft and vandalism.*

LUE Policy 7.6 *The City shall require provision of permanent buffer areas as part of new residential development adjacent to areas designated for agriculture. Such buffer areas are intended to provide a separation of uses and limit*



interference with agricultural activities while still providing for public safety.

In addition, mixed use development, as would be accommodated in the proposed H Street Corridor Infill area, would be subject to the following requirements (Title 2, Article 9B of the Lompoc Zoning Ordinance).

Section 17.056.080 Design Standards.

- 1. The design shall provide for internal compatibility between the residential and non-residential uses on the site.*
- 2. The design shall ensure that the residential units are of a residential character, and that appropriate privacy between residential units and other uses on the site is provided.*
- 3. Site planning and building design shall provide for convenient pedestrian access from the public street into the nonresidential portion of the project, through courtyards, plaza, walkways, or similar features.*
- 4. The proposed use of each live/work unit is to provide a bona fide retail commercial or professional service in addition to the residential use thereof. No residential use shall be allowed on the ground floor of a multi story building.*
- 5. Areas for the collection and storage of refuse and recyclable materials shall be located on the site in locations that are convenient for both the residential and non residential uses.*
- 6. At the pedestrian level, at least 50 percent of the total ground floor building frontage of any new or reconstructed building facing the public right of way shall have the following: windows with clear un-tinted glass and recessed entries.*

Mitigation Measures. Compliance with 2030 General Plan Policies and the existing Zoning Ordinance would ensure that impacts related to land use compatibility remain less than significant. No additional mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact LU-2 The 2030 General Plan proposes annexation of four unincorporated areas adjacent to the City. The proposed expansion areas could conflict with some provisions of the Santa Barbara County LAFCo's *Standards for Annexation to Cities*. However, LAFCo must make the final determination of consistency.

2030 General Plan Buildout within City Limits

The intensification of land use anticipated to occur within the City Limits would not result in impacts related to LAFCo guidelines.



Expansion Areas

The State of California has the exclusive power to regulate boundary changes, which means that no local government has the right to change its own boundary without state approval. The Legislature has prescribed a “uniform process” for boundary changes for both cities and special districts that is now embodied in the Cortese–Knox–Hertzberg Local Government Reorganization Act of 2000 (California Government Code Section 56000 et seq.). This Act delegates the Legislature’s boundary powers to local agency formation commissions (LAFCo).

The Santa Barbara LAFCo is responsible for reviewing and approving proposed jurisdictional boundary changes in Santa Barbara County, including the annexation of territory to cities and most special districts. In addition, LAFCos must review and approve contractual service agreements, conduct service reviews, and determine spheres of influence for each city and district.

LAFCo’s *Standards for Annexation to Cities*, as well as their *Policies Encouraging Orderly Urban Development and Preservation of Open Space* and *Policies Encouraging Conservation of Prime Agricultural Lands and Open Space Areas* are listed below, followed by a discussion of their applicability to the proposed expansion areas.

Standards for Annexation to Cities: Factors Favorable to Approval

- 1. Proposal would eliminate islands, corridors, or other distortion of existing boundaries.*
- 2. Proposed area is urban in character or urban development is imminent, requiring municipal or urban-type services.*
- 3. Proposed area can be provided all urban services by agency as shown by agency service plan and proposals would enhance the efficient provision of urban services.*
- 4. Proposal is consistent with the adopted spheres of influence and adopted general plans.*
- 5. Request is by an agency for annexation of its publicly-owned property, used for public purposes.*

Standards for Annexation to Cities: Factors Unfavorable to Approval

- 1. Proposal would create islands, corridors or peninsulas of city or district area or would otherwise cause or further the distortion of existing boundaries.*
- 2. The proposal would result in a premature intrusion of urbanization into a predominantly agricultural or rural area.*
- 3. For reasons of topography, distance, natural boundaries, or like considerations, the extension of services would be financially infeasible, or another means of supplying services by acceptable alternatives is preferable.*
- 4. Annexation would encourage a type of development in an area which due to terrain, isolation, or other economic or social reason, such development is not in the public interest.*



5. *The proposal appears to be motivated by inter-agency rivalry, land speculation, or other motives not in the public interest.*
6. *Boundaries of proposed annexation do not include logical service area or are otherwise improperly drawn.*
7. *The proposal is inconsistent with adopted spheres of influence and adopted general plans.*

Policies Encouraging Orderly Urban Development and Preservation of Open Space

1. *The Commission encourages well planned, orderly, and efficient urban development patterns for all developing areas. Also, the county, cities, and those districts providing urban services, are encouraged to develop and implement plans and policies which will provided for well-planned, orderly and efficient urban development patterns, with consideration of preserving permanent open space lands within those urban patterns.*
2. *Development of existing vacant non open space, and nonprime agricultural land within an agency's boundaries is encouraged prior to further annexation and development. However, where open land adjacent to the agencies are of low agricultural, scenic, or biological value, annexation of those lands may be considered over development of prime agricultural land already existing within an agency's jurisdiction.*
3. *Proposals to annex undeveloped or agricultural parcels to cities or districts providing urban services shall demonstrate that urban development is imminent for all or a substantial portion of the proposal area; that urban development will be contiguous with existing or proposed development; and that a planned, orderly, and efficient urban development pattern will result. Proposals resulting in a leapfrog, non-contiguous urban pattern will be discouraged.*
4. *Consideration shall be given to permitting sufficient vacant land within each city and/or agency in order to encourage economic development, reduce the cost of housing, and allow timing options for physical and orderly development.*

Policies Encouraging Conservation of Prime Agricultural Lands and Open Space Areas

1. *Proposals which would conflict with the goals of maintaining the physical and economic integrity of open space lands, agricultural lands, or agricultural preserve areas in open space uses, as indicated on the city or county general plan, shall be discouraged.*
2. *Annexation and development of existing vacant non-open space lands, and nonprime agricultural land within an agency's sphere of influence is encouraged to occur prior to development outside of an existing sphere of influence.*
3. *A sphere of influence revision or update for an agency providing urban services where the revision includes prior agricultural land shall be discouraged. Development shall be guided towards areas containing nonprime agricultural lands, unless such action will promote disorderly, inefficient development of the community or area.*
4. *Loss of agricultural lands should not be a primary issues for annexation where city and county general plans both indicate that urban development is appropriate and where there is consistency with the agency's sphere of influence. However, the loss of any*



prime agricultural soils should be balanced against other LAFCo policies and a LAFCo goal of conserving such lands.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Buildout of the Bailey Avenue Specific Plan expansion area would involve development on a currently undeveloped site located on the western boundary of the City. As noted in Section 2.0, *Project Description*, vacant parcels throughout the City are sufficient to meet Lompoc's Regional Housing Needs Authority (RHNA) allocation for the 2007 to 2014 period. Expansion into the Bailey Avenue Specific Plan area is therefore not necessary to fully meet the City's allocation. However, the Bailey Avenue Specific Plan expansion area is physically contiguous with the existing City boundaries and is therefore generally consistent with the above policies related to logical boundaries. In addition, this expansion area is within the existing City Urban Limit Line and may be considered a logical extension of the urban community, as it would create a straight western boundary to the City. The presence of existing urban development to the north, south and east also demonstrates this logical extension.

Although the Bailey Avenue Specific Plan expansion area is composed of agricultural fields with prime soils and prime farmland (refer to Impact LU-3 below), a Specific Plan for this area is called for in the current General Plan. The site is therefore envisioned for urban development. Additionally, because development would occur in accordance with a Specific Plan prepared for the property, the development would be well-planned, orderly and efficient.

Upon development, the expansion area would be economically connected to the rest of the City and would therefore be considered generally consistent with these policies. As discussed in Sections 4.11 and 4.14 of this EIR, the City expects to be able to provide necessary services to all of the expansion areas, including but not limited to water, sewer, police, and fire service.

Based on the above analysis, expansion into the Bailey Avenue Specific Plan area may be consistent with the above policies. However, a final determination of consistency with LAFCo policies must be made by the Santa Barbara LAFCo.

Expansion Area B: River Area

The River expansion area is located east of the eastern boundary of the City, bisected by the Santa Ynez River, and is currently developed with the 45-acre River Park and a recreational vehicle (RV) campground with 35 campsites. Buildout of this area under the 2030 General Plan would involve expansion of the existing RV campground by 126 full hookup campsites. As



discussed under Impact LU-3 below, impacts related to agricultural conversion on this site would be less than significant.

As noted previously, expansion beyond the existing City Limits is not necessary to meet the City's RHNA allocation. However, the River expansion area is physically contiguous with the existing City boundaries and is therefore generally consistent with the above policies related to logical boundaries. In addition, this expansion area is within the existing City Urban Limit Line and, due to the presence of an existing RV campground and other park facilities, may be viewed as a logical continuation of the existing development.

Upon development, the expansion area would be economically connected to the rest of the City and would therefore be considered generally consistent with these policies. As discussed in Sections 4.11 and 4.14 of this EIR, the City expects to be able to provide necessary services to all of the expansion areas, including but not limited to water, sewer, police, and fire service.

Based on the above analysis, expansion into the River expansion area may be consistent with the above policies. However, a final determination of consistency with LAFCo policies must be made by the Santa Barbara LAFCo.

Expansion Area C: Miguelito Canyon Area

Buildout of the Miguelito Canyon expansion area would involve development of up to 25 rural density residences south of the southern boundary of the City. As discussed under Impact LU-3 below, impacts related to agricultural conversion on this site would be less than significant.

As noted previously, expansion beyond the existing City Limits is not necessary to meet the City's RHNA allocation. However, the Miguelito Canyon expansion area is physically contiguous with the existing City boundaries and is therefore generally consistent with the above policies. Although the Urban Limit Line would only extend into canyons and along Miguelito Canyon Road, the entire area would be annexed, thereby prohibiting the creation of an annexed corridor or peninsula.

Upon development, the expansion area would be economically connected to the rest of the City and would therefore be considered generally consistent with these policies. As discussed in Sections 4.11 and 4.14 of this EIR, the City expects to be able to provide necessary services to all of the expansion areas, including but not limited to water, sewer, police, and fire service.

Based on the above analysis, expansion into the Miguelito Canyon expansion area may be consistent with the above policies. However, a final determination of consistency with LAFCo policies must be made by the Santa Barbara LAFCo.



Expansion Area D: Wye Residential Area

Buildout of the Wye Residential expansion area would involve development of up to 46 low density single-family units northeast of the northeastern boundary of the City. As discussed under Impact LU-3 below, impacts related to agricultural conversion on this site would be less than significant.

As noted previously, expansion beyond the existing City Limits is not necessary to meet the City's RHNA allocation. However, the Wye Residential expansion area is physically contiguous with the existing City boundaries and is therefore generally consistent with the above policies. In addition, this expansion area may be considered a logical extension of the urban community, as it is surrounded by existing urban development to the north, south and east.

Upon development, the expansion area would be economically connected to the rest of the City and would therefore be considered generally consistent with these policies. As discussed in Sections 4.11 and 4.14 of this EIR, the City expects to be able to provide necessary services to all of the expansion areas, including but not limited to water, sewer, police, and fire service.

Based on the above analysis, expansion into the Wye Residential expansion area may be consistent with the above policies. However, a final determination of consistency with LAFCo policies must be made by the Santa Barbara LAFCo.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to consistency with LAFCo policies, including their Standards for Annexation to Cities, have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes potential consistency issues related to expansion into the Bailey Avenue Specific Plan, River, Miguelito Canyon, and Wye Residential expansion areas. Proposed policies in the 2030 Land Use Element (identified below) would reduce impacts to the extent feasible, since they promote a compact urban form and cooperation with the Santa Barbara LAFCo. However, as noted in the paragraphs above, a final determination of consistency with LAFCo policies must be made by the Santa Barbara LAFCo.

General Plan Policies which Reduce Impacts

The following proposed 2030 General Plan Land Use Element (LUE) Goals and Policies would also reduce impacts related to LAFCo policy inconsistencies.



- LUE Goal 1** *Maintain a compact urban form and growth pattern which provides adequate space to meet housing, employment, business, and public service needs.*
- LUE Policy 1.2** *The City shall maintain a compact urban form by delineating an Urban Limit Line which establishes the ultimate edge of urban development within the City. Refer to Table LU-1 for additional information on the Urban Limit Line.*
- LUE Policy 1.3** *The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.*
- LUE Policy 1.4** *The City shall encourage Santa Barbara County and the Local Agency Formation Commission to plan urbanization within municipalities in order to protect prime agricultural land outside the Urban Limit Line and to efficiently utilize public infrastructure.*
- LUE Policy 1.5** *The City's Sphere of Influence is depicted on the Land Use Element Map. The Sphere of Influence delineates the probable ultimate physical boundaries and service area of the City. Refer to Table LU-1 for additional information on the Sphere of Influence.*
- LUE Policy 1.6** *Areas identified by the City for potential annexation and their land use designations are depicted on Figure LU-2. These lands include:*
- *Expansion Area A: the Bailey Area Specific Plan Area*
 - *Expansion Area B: the River Area*
 - *Expansion Area C: the Miguelito Canyon Area*
 - *Expansion Area D: the Wye Residential Area*
- LUE Policy 1.7** *The City shall encourage infill development to meet City residential and commercial growth needs. The City designates the H Street Corridor Infill area as shown on Figure LU-2 as particularly suitable to infill development and shall prescribe specific design and zoning standards for this corridor. Additional information on the intent of the H Street Corridor Infill area is provided in Table LU-1.*

Mitigation Measures. No mitigation measures are appropriate, as a final determination of consistency with LAFCo policies must be made by the Santa Barbara County LAFCo.



Significance After Mitigation. If LAFCo finds that the General Plan is inconsistent with LAFCo policies, this information will be used to determine whether any of the proposed expansion areas should be added to the City's corporate boundaries.

Impact LU-3 Future development in accordance with the 2030 General Plan would occur in areas that contain prime agriculture soils and/or important farmland. Buildout within the City Limits and the Wye Residential expansion area would result in Class III, *less than significant*, impacts to agricultural conversion. However, the Bailey Avenue Specific Plan expansion area is currently used for agriculture, and both the River and Miguelito Canyon expansion areas contain prime soils which could be feasibly farmed. Buildout of these three Expansion Areas would therefore result in Class I, *significant and unavoidable* impacts related to agricultural conversion.

2030 General Plan Buildout within City Limits

As shown in Figure 4.8-1, prime soils occur south of the Santa Ynez River. In total, approximately 3,610 acres of prime soils are located within the existing City Limits, including 258 acres in the H Street Corridor Infill area. However, none of the areas within the existing City Limits are currently used for agricultural production or designated for agricultural land use, nor are any portions of the City under Williamson Act Contract (Department of Conservation, Williamson Act Program, July 2008). Although some farming occurs on Penitentiary and Federal Correctional Institution property north of the Santa Ynez River, land use in this area is regulated by the U.S. Army and no land use changes are proposed for this area as part of the 2030 General Plan.

Development and re-development in areas containing prime soils would not convert these soils to non-agricultural use because none of these areas are used for agriculture. Although a small area along the City's western boundary, north of the proposed Bailey Avenue Specific Plan expansion area, is composed of prime farmland, this area is currently being developed and will therefore be re-designated as urban or built-up land by the Farmland Mapping and Monitoring Program in the future. The other areas designated as prime farmland within the north-central portion of the City are located on Lompoc airport property and would not be impacted by the 2030 General Plan (refer to Figure 4.8-2).

Overall, impacts related to agricultural lands conversion within the City Limits would be less than significant.

H Street Corridor Infill Area. As shown in Figure 4.8-2, the H Street Corridor Infill Area is composed entirely of urban or built-up land and other land, and is designated by the City for urban land use. Despite containing approximately 258 acres of prime soils, development and



redevelopment in this area would not convert these prime soils to non-agriculture use. Impacts would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

It is anticipated that development in this area could include 2,184 single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. The site is currently used for agricultural production. In addition, the Bodger seed facility is located in the southern portion of the expansion area, south of Ocean Avenue.

As shown in Figure 4.8-1, the entire site is composed of prime soils (approximately 270 acres). In addition, as shown in Figure 4.8-2 and listed in Table 4.8-2, the site contains approximately 260 acres of Prime farmland and 12 acres of unique farmland. The northern half of this expansion area is currently under Williamson Act Contract. However, a notice of non-renewal has been filed for the northernmost parcel, which comprises approximately half of the land under contract (Department of Conservation, Williamson Act Program, July 2008).

Development of this site in accordance with the 2030 General Plan would result in conversion of important farmland to non-agricultural use. In addition, development in the southern portion of the site would eliminate the active seed facility in this area, which may conflict with General Plan Policy 7.5 of the Land Use Element to protect and enhance the flower industry. Impacts are therefore potentially significant.

Expansion Area B: River Area

The River expansion area is currently developed with the 45-acre River Park, which includes a recreational vehicle (RV) campground with 35 campsites and a small human-made fishing pond. The remainder of the site is in open space. Additional development that could occur in this area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites.

As shown in Figure 4.8-1, the site is composed of approximately 111 acres of prime soils. In addition, as shown in Figure 4.8-2 and listed in Table 4.8-2, the site contains 91 acres of prime farmland and 1.5 acres of unique farmland. The site is not currently used for agricultural production and is not currently under Williamson Act Contract. However, as noted in Section 4.3, *Biological Resources*, the River expansion area contains some fallow agricultural land. This and undeveloped (open space) portions of the expansion area could be feasibly farmed in the



future. Because this area contains prime soils which could be feasibly farmed, development of non-agricultural uses would constitute a potentially significant impact.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 rural density residences in an area currently composed of open space and scattered residences. The area is not used for agricultural production and is not currently under Williamson Act Contract. However, as shown in Figure 4.8-1, the portions of the site within the proposed Urban Limit Line expansion area contain approximately 65 acres of prime soils. In addition, as shown in Figure 4.8-2 and listed in Table 4.8-2, the site contains approximately 7.5 acres of prime farmland and 11 acres of farmland of local importance. Prime soils are located primarily in the flatter canyons of this expansion area, portions of which could potentially be farmed in the future. Development of non-agricultural uses in these areas would therefore constitute a potentially significant impact.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area would accommodate 46 low density single-family units. The site is currently undeveloped and is bordered by single-family residences to the south and east and a church to the north. Open space borders the site to the west, across Harris Grade Road. The area is not used for agricultural production and is not under a Williamson Act Contract.

As shown in Figure 4.8-1, the site does not contain any prime soils. In addition, as shown in Figure 4.8-2 and listed in Table 4.8-2, the site does not contain any important farmland. Impacts related to agricultural conversion on this site would therefore be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to agricultural resources from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, this includes potentially significant impacts from development of the Bailey Avenue Specific Plan, River and Miguelito Canyon expansion areas and less than significant impacts from buildout within the existing City Limits and the Wye Residential expansion area.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.



General Plan Policies which Reduce Impacts

The following proposed 2030 General Plan Land Use Element (LUE) Goals and Policies would limit impacts related to agricultural lands conversion.

- LUE Goal 1** *Maintain a compact urban form and growth pattern which provides adequate space to meet housing, employment, business, and public service needs.*
- LUE Policy 1.2** *The City shall maintain a compact urban form by delineating an Urban Limit Line which establishes the ultimate edge of urban development within the City. Refer to Table LU-1 for additional information on the Urban Limit Line.*
- LUE Policy 1.3** *The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.*
- LUE Policy 1.4** *The City shall encourage Santa Barbara County and the Local Agency Formation Commission to plan urbanization within municipalities in order to protect prime agricultural land outside the Urban Limit Line and to efficiently utilize public infrastructure.*
- LUE Policy 5.2** *The City shall protect prime agricultural lands east of the City and west of Bailey Avenue.*
- LUE Policy 5.3** *To help preserve agriculture on a regional basis, the City shall encourage Santa Barbara County to protect the most productive agricultural soils (Class 1 & 2) in the Lompoc Valley and surrounding areas.*
- LUE Goal 7** *Protect and encourage agriculture and agricultural-support businesses.*
- LUE Policy 7.1** *The City shall assist agricultural-support businesses to expand and/or relocate in the Lompoc Valley.*
- LUE Policy 7.2** *The City shall work with Santa Barbara County to protect agricultural areas from theft and vandalism.*
- LUE Policy 7.3** *The City shall encourage agricultural education programs conducted by local farming organizations.*



- LUE Policy 7.4** *The City shall encourage the use of sustainable agricultural practices, including organic farming.*
- LUE Policy 7.5** *The City shall protect and enhance the flower industry, as well as other specialty crops that are unique to the region.*
- LUE Policy 7.6** *The City shall require provision of permanent buffer areas as part of new residential development adjacent to areas designated for agriculture. Such buffer areas are intended to provide a separation of uses and limit interference with agricultural activities while still providing for public safety. (This policy also pertains to Goals #5 and #6.)*

Mitigation Measures. No mitigation is required for buildout within the existing City Limits or the proposed Wye Residential Expansion area. The following mitigation measure is required for buildout of the proposed Bailey Avenue Specific Plan, River or Miguelito Canyon expansion areas.

- LU-3 Purchase of Agricultural Conservation Easements (PACE) Program.** The City shall include a new Implementation Measure in the 2030 Conservation/Open Space Element, as follows.

The City shall implement a program that facilitates the establishment and purchase of on- or off-site Agricultural Conservation Easements for prime farmland and/or important farmland converted within the expansion areas, at a ratio of 1:1 (acreage conserved: acreage impacted). A coordinator at the City shall oversee and monitor the program, which will involve property owners, developers, the City, and potentially a conservation organization such as The Land Trust for Santa Barbara County. Implementation of a PACE program shall be coordinated with similar efforts of Santa Barbara County.

Significance After Mitigation. Impacts within the existing City Limits or the proposed Wye Residential expansion area would remain less than significant. Impacts within the Bailey Avenue Specific Plan, River and Miguelito Canyon expansion areas would be reduced to the extent feasible; however this mitigation measure does not necessarily guarantee a net increase in farmland, and therefore impacts would remain significant and unavoidable.



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4.9 NOISE

This section analyzes the impacts associated with exposure to noise. Impacts relating to noise from traffic, commercial operations, and other uses are addressed.

4.9.1 Setting

a. Overview of Sound Measurement. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz). In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, Leq is summed over a one-hour period.

The sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Decibels cannot be added arithmetically, but rather are added on a logarithmic basis. Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dB. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be judged as twice as loud. In general, a 3 dB change in community noise levels is noticeable, while 1 to 2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40 to 50 dBA, while those along arterial streets are in the 50 to 60+ dBA range. Normal conversational levels are in the 60 to 65 dBA range and ambient noise levels greater than that can interrupt conversations.

Noise levels typically attenuate at a rate of 6 dB per doubling of distance from point sources such as industrial machinery (Harris, 1979). For example, a person standing 25 feet from an industrial machine may experience noise levels of 75 dBA, while a person standing 50 feet from the same noise source would experience noise levels of 69 dBA, and a person standing 100 feet from the source would experience noise levels of 63 dBA. Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dB per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dB per doubling of distance (Harris, 1979).

The actual time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. The Day-Night average level (Ldn) recognizes this characteristic by weighting the hourly Leqs over a 24-hour



period. The weighting involves the addition of 10 dBA to actual nighttime (10 PM to 7 AM) noise levels, accounting for the greater amount of disturbance associated with noise during that time period.

The City’s current (1997) General Plan Noise Element establishes noise standards for the range of uses present in and around Lompoc. These standards are depicted in Table 4.9-1 below, and are used to determine whether proposed new development in the City requires mitigation in order to avoid potential land use conflicts. Land use categories where a quiet environment is particularly desirable include residences, hotels/motels, professional offices, hospitals, schools, churches, and libraries. As shown in Table 4.9-1, these uses correspond to a maximum normally acceptable exterior noise level of 60 dBA CNEL.

**Table 4.9-1
 1997 General Plan Noise Element Interior and Exterior Noise Standards**

Land Use Categories		CNEL	
Categories	Uses	Interior ¹	Exterior ²
Residential	Single Family, Duplex, Multiple Family, Mobile Home	45 ³	60 ⁴
Commercial & Industrial	Retail, Restaurant	55	65
	Motel	45	60 ⁴
	Professional Offices, Movie Theater, Auditorium	45	65
	Manufacturing, Utilities, Warehousing, Agriculture	65	75
Community Facility	Hospital, School, Nursing Home, Church, Library, Civic Offices, Parks	45	65
Open Space	Passive Outdoor Recreation	n/a	60 ⁴

¹ Interior areas exclude bathrooms, closets, and corridors.

² Exterior areas are limited to the following: private yards or patios of residential uses; restaurant patios; motel recreation areas; office, theater, or hospital patios or assembly areas; school playgrounds; nursing home, library, or civic office assembly areas; and park picnic areas.

³ If achievement of the interior noise standards requires that windows and doors remain closed, air conditioning or mechanical ventilation is required.

⁴ In areas affected by aircraft noise, the standard is 65 CNEL with the stipulation that the noise level exclusive of the aircraft-generated noise cannot exceed 60 CNEL.

b. Sensitive Receptors. Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Residences, hotels/motels, and open space uses are considered most sensitive to noise intrusion under the Lompoc General Plan, and therefore have more stringent noise exposure targets than most commercial or agricultural uses that are not susceptible to impacts such as sleep disturbance (refer to Table 4.9-1). Noise sensitive residential areas are located throughout Lompoc. For the most part, noise sensitive uses are located in quiet areas lacking major noise sources. However, residences located adjacent to major roadways such as Highway 1 and Highway 246 may experience noise levels exceeding City standards.



c. Current Noise Levels in Lompoc. Existing noise sources in the City of Lompoc include roadway noise, commercial and industrial operations, agricultural production, the Union Pacific Railroad, the Lompoc Airport, and Vandenberg Air Force Base (VAFB).

Roadway Noise. Roadway traffic is the primary source of noise in the City. Noise generated by roadways is dependent on the speed and volume of vehicles that use roadways. H Street/ Highway 1 carries the most traffic through the area, while Purisima Road (west of H Street/ Highway 1) and Ocean Avenue/Highway 246 are also major noise contributors in the City. As Table 4.9-2 shows, the existing 60 dBA CNEL contour from H Street/Highway 1 ranges from 141 to 224 feet from the roadway centerline, while the existing 60 dBA CNEL contour from Purisima Road (west of H Street/Highway 1) is 286 feet from the roadway centerline. The existing 60 dBA CNEL contour from Ocean Avenue/Highway 246 ranges from 108 to 147 feet from the roadway centerline. Table 4.9-2 provides more detailed roadway noise information for these and other roadways in the City.

**Table 4.9-2
Existing Traffic Noise Levels**

Roadway Segment	Traffic (ADT)	Distance to CNEL Contour from Centerline (feet)		
		70 dB	65 dB	60 dB
Purisima Road				
West of H Street/Highway 1	19,500	62	133	286
East of H Street/Highway 1	6,900	24	66	143
H Street/Highway 1				
North of Purisima Road	8,800	31	78	168
North of Central Avenue	27,700	47	104	224
North Avenue to College Avenue	17,600	30	77	166
Ocean Avenue to Olive Avenue	13,900	24	66	141
Central Avenue				
Bailey Avenue to V Street	6,000	38	90	195
V Street to O Street	8,200	29	74	160
O Street to L Street	13,800	48	105	227
H Street/Highway 1 to D Street	13,000	46	101	218
Ocean Avenue/Highway 246				
O Street to H Street/Highway 1	12,100	21	60	129
H Street/Highway 1 to D Street	9,300	RW	50	108
A Street to 7 th Street	14,800	37	88	189
V Street				
Olive Avenue to Ocean Avenue	3,000	RW	RW	51
Ocean Avenue to Laurel Avenue	4,900	RW	27	71
North Avenue to Central Avenue	5,500	RW	30	76
North Avenue				
V Street to O Street	3,200	RW	RW	53
H Street/Highway 1 to D Street	6,100	RW	33	82
A Street to 7 th Street	2,900	RW	RW	50

RW: Noise contour falls within roadway right-of-way.

Source: Traffic volumes from Fehr and Peers (March 2009)



Commercial and Industrial Operations. Industrial and commercial operations can be substantial sources of noise, depending on the type and hours of operation. Existing or planned commercial/industrial operations may result in noise impacts when they are adjacent to noise sensitive land uses. Noise generation within an industrial or commercial facility or in close proximity to many types of agricultural equipment is controlled indirectly by Federal and State employee health and safety regulations (e.g., OSHA and Cal-OSHA), but exterior noise emissions from such operations have the potential to exceed locally acceptable standards at nearby noise-sensitive land uses. Typical commercial and industrial noise sources include loading dock operations, parking lot activity, on-site equipment (including heating and air conditioning), and heavy truck idling.

Commercial uses generate operational noise, including noise generated by vehicles using commercial facilities. Operation of commercial and retail uses often generate noise associated with mechanical equipment (such as generators, heating, ventilation and air conditioning (HVAC) units), deliveries, trash hauling activities, and customer and employee use of the facilities. The highest concentrations of commercial uses in the City are located along the Ocean Avenue/Highway 246 and H Street/Highway 1 corridors. In some areas, residential uses are located immediately adjacent to commercial uses. Other stationary noise sources of concern typically include generators, pumps, air compressors, outdoor speakers, motors, heavy equipment and similar machinery. These are often associated with trucking companies, tire shops, auto mechanic shops, metal shops, shopping centers, drive-up windows, car washes, loading docks, and athletic fields.

Agricultural Operations. Agricultural operations surround the City on the eastern, western, and southern borders. Agricultural operations produce noise associated with equipment such as wind machines, diesel engines, aerial application aircrafts (crop dusters), and tractors. In some locations, agricultural operations are located immediately adjacent to residential uses within City Limits. Santa Barbara County has a Right-to-Farm Ordinance (Chapter 3, Article V, Section 3-23), the purpose of which is to protect agricultural lands from conflicts with nonagricultural land uses that may result in financial hardships to agricultural operations or the termination of their operation. The County's Right-to-Farm Ordinance states that no agricultural activity, operation, or facility shall be deemed or become a nuisance due to any changed condition in the locality, after the agricultural use has been in operation for at least three years.

Other Sources of Noise. Noise from the Lompoc Airport or the VAFB is dependent upon approach and take-off flight patterns, as well as the distance between the sensitive uses and the airports. Noise generated by the Union Pacific Railroad (UPRR) is limited to a few trips per week that occur on this section of track since it primarily serves as a cargo rail that delivers to and from VAFB. The actual timing and volume of trains that use the tracks is confidential; therefore actual noise levels cannot be estimated with any certainty. Sound walls or other barriers between the tracks and future residential development near the railroad can help abate noise issues.



d. Regulatory Setting. As required by Section 65302 of the Government Code of California, desirable noise levels are embodied within the Noise Element of General Plans. Division 28 of the California Health and Safety Code requires that the State Office of Noise Control within the Department of Health Services develop model elements and model noise ordinances for consideration by local jurisdictions in developing noise standards.

Table 4.9-1 outlines the existing noise standards for the City of Lompoc, which are based upon the California Office of Planning and Research (OPR) Noise Element Guidelines. The objective of noise standards is to provide the community with a means of judging the noise environment that it deems to be generally acceptable. The existing Noise Element also contains policies aimed at maintaining an acceptable noise environment in the City.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. An impact is considered significant if physical changes that could be facilitated by buildout of the 2030 General Plan would result in one or more of the following conditions, which are based upon the environmental checklist in Appendix G of the CEQA Guidelines:

- *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies*
- *Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels*
- *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project*
- *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project*
- *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels*

It should be noted that no private airstrips are located within the City or proposed annexation areas. Therefore, no impacts related to noise generated from private airstrips would result for the General Plan Update. As a result, this checklist item was excluded from the above list.

Traffic noise modeling was conducted using a simplified version of the FHWA Traffic Noise Model (TNM). Noise contours were created for the purposes of evaluating whether a given increase in noise is “substantial.” For the purposes of this evaluation, a



“substantial” increase in traffic noise is defined by the Federal Interagency Committee on Noise (FICON) recommendations. These definitions are shown in Table 4.9-3.

**Table 4.9-3
Significance of Changes in Operational
Roadway Noise Exposure**

Post-Project Noise Level (CNEL)	Significant Impact
< 60 dB	+ 5.0 dB or more
60 - 65 dB	+ 3.0 dB or more
> 65 dB	+ 1.5 dB or more

b. Project and Cumulative Impacts.

Impact N-1 Construction of individual projects facilitated by the 2030 General Plan could produce noise levels ranging from 75 to 95 dBA at 50 feet from the source. Such noise could cause temporary disturbance to nearby receptors. Impacts would be Class III, *less than significant*.

2030 General Plan Buildout within City Limits

Noise from individual construction projects that could be facilitated under the 2030 General Plan would create temporary noise level increases on and adjacent to individual construction sites. Since there are currently no specific plans or time scales for individual development projects, it is not possible to determine exact noise levels, locations, or time period for construction. However, in general, the grading phase of project construction tends to create the highest noise levels because of the operation of heavy equipment. Noise levels associated with heavy equipment typically range between 75 to 95 dBA at 50 feet from the source, as shown in Table 4.9-4 (EPA, 1971). Continuous operation of this equipment during a nine-hour workday can cause high noise levels above pre-project ambient levels. Construction noise would therefore be a short-term impact for any individual project within the existing City Limits. However, compliance with the City of Lompoc Noise Ordinance (discussed below) would ensure that impacts remain less than significant.



**Table 4.9-4
 Typical Noise Levels at Construction Sites**

Construction Phase	Average Noise Level at 50 Feet	
	Minimum Required Equipment On-Site	All Pertinent Equipment On-Site
Clearing	84 dBA	84 dBA
Excavation	78 dBA	88 dBA
Foundation/Conditioning	88 dBA	88 dBA
Laying Subbase, Paving	78 dBA	79 dBA
Finishing and Cleanup	84 dBA	84 dBA

Source: Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the U.S. Environmental Protection Agency, 1971.

H Street Corridor Infill Area. Development facilitated by the 2030 General Plan within the H Street Corridor Infill area would expose nearby noise-sensitive land uses to temporary noise during construction. This is particularly true given the relatively dense urban development in this area, as demolition and redevelopment may occur in close proximity to existing sensitive receptors. Construction noise would constitute a short-term impact for future development within the H Street Corridor Infill area. Compliance with the City of Lompoc Noise Ordinance (discussed below) would ensure that these short-term impacts remain less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development facilitated by the 2030 General Plan within the Bailey Avenue Specific Plan expansion area would expose nearby noise-sensitive land uses to temporary noise during construction. Nearby noise-sensitive land uses include single-family residences to the north, east and south of the expansion area, within the existing City Limits. The main sources of noise would be the heavy machinery used in grading, excavation and clearing the site, and truck trips to and from the site. This construction noise would constitute a short-term impact for development within the Bailey Avenue Specific Plan expansion area, and compliance with the City of Lompoc Noise Ordinance (discussed below) would ensure that these short-term impacts remain less than significant.



Expansion Area B: River Area

Development facilitated by the 2030 General Plan within the River expansion area would expose nearby noise-sensitive land uses to temporary noise during construction. Nearby noise-sensitive land uses include an existing on-site RV campground. The main sources of noise would be the heavy machinery used in grading, excavation and clearing the site, and truck trips to and from the site. This construction noise would constitute a short-term impact for development within the River expansion area. Compliance with the City of Lompoc Noise Ordinance (discussed below) would ensure that these short-term impacts remain less than significant.

Expansion Area C: Miguelito Canyon Area

Development facilitated by the 2030 General Plan within the Miguelito Canyon expansion area would expose nearby noise-sensitive land uses to temporary noise during construction. Nearby noise-sensitive land uses include existing scattered residences throughout the expansion area. The main sources of noise would be the heavy machinery used in grading, excavation and clearing the site, and truck trips to and from the site. This construction noise would constitute a short-term impact for development within the Miguelito Canyon expansion area. However, compliance with the City of Lompoc Noise Ordinance (discussed below) would ensure that impacts remain less than significant.

Expansion Area D: Wye Residential Area

Development facilitated by the 2030 General Plan within the Wye Residential expansion area would expose nearby noise-sensitive land uses to temporary noise during construction. Nearby noise-sensitive land uses include single-family residences to the south and east and a church to the north. The main sources of noise would be the heavy machinery used in grading, excavation and clearing the site, and truck trips to and from the site. This construction noise would constitute a short-term impact for development within the Wye Residential expansion area. However, compliance with the City of Lompoc Noise Ordinance (discussed below) would ensure that impacts remain less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four identified expansion areas. Construction-related noise impacts under buildout of the 2030 General Plan as well as development of the potential annexation areas have been addressed separately in the sections above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, although short-term impacts would occur for development within the existing City Limits and within the four identified expansion areas, compliance with the City of Lompoc Noise Ordinance (discussed below) would ensure that impacts remain less than significant.



Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future projects' contribution to cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

The Lompoc Noise Ordinance (Section 8.08 of the Lompoc Municipal Code) contains the following standards which would reduce impacts associated with construction noise.

8.08.030(E) *Construction of Buildings and Projects. It shall be unlawful for any person within a residential zone, as defined in Chapter 17.004, or within a radius of 500 feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hose, or any other construction type device, between the hours of 9:00 p.m. of one day and 7:00 a.m. of the next day, in such a manner that a reasonable person of normal sensitivity residing in the area is caused discomfort or annoyance unless beforehand a permit therefor has been duly obtained from the Fire Marshal/Building Official. No permit shall be required to perform emergency work which is hereby defined to mean work necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from an imminent exposure to danger or work by private or public utilities when restoring utility service.*

The following policies from the 1997 Noise Element may also apply to construction activities:

- NE Policy 1.2** *The City shall place a priority upon control of noise at the noise source.*
- NE Policy 1.5** *The City shall coordinate with Federal, State, and local agencies to minimize noise exposure within the City.*
- NE Policy 1.6** *The City shall use noise reduction as one criterion in equipment purchasing policies.*

Mitigation Measures. None required as impacts would be less than significant.

Significance After Mitigation. Compliance with the City Noise Ordinance would ensure that impacts remain less than significant without mitigation.



Impact N-2 Development facilitated by the 2030 General Plan would increase traffic and associated noise levels along area roadways in and around Lompoc, exposing existing land uses to increased noise. With maximum development facilitated by the General Plan, local roadways may experience a noise level increase that exceeds Federal Interagency Committee on Noise (FICON) thresholds. However, implementation of General Plan policies would reduce impacts to a Class III, *less than significant*, level.

2030 General Plan Buildout

Development facilitated by the 2030 General Plan and associated regional traffic growth would increase noise along area roadways over the life of the General Plan. Table 4.9-5 compares calculated noise levels along major roadways in Lompoc under existing conditions to those that could occur with traffic levels associated with buildout under the 2030 General Plan, including buildout of areas within the existing City Limits as well as development of all four identified expansion areas. In order to provide a point of comparison for existing and future noise conditions, noise levels were calculated at a distance of 50 feet from the roadway centerline for all roadways. As such, the noise levels shown in the table would essentially reflect noise at the edge of the roadway. Noise further than 50 feet from the roadway centerline would be lower than shown in the table.

**Table 4.9-5
 Comparison of Calculated Existing and Future Noise Levels along Major Roadways**

Roadway Segment	Existing		2030 General Plan Buildout		Noise Level Increase (dB)
	ADT	Noise Level (dBA CNEL)	ADT	Noise Level (dBA CNEL)	
Purisima Road					
West of H Street/Highway 1	19,500	71.4	23,700	72.2	0.8
East of H Street/Highway 1	6,900	66.8	16,200	70.6	3.8*
H Street/Highway 1					
North of Purisima Road	8,800	67.9	13,200	69.7	1.8*
North of Central Avenue	27,700	69.8	32,100	70.4	0.6
North Avenue to College Ave.	17,600	67.8	18,700	68.1	0.3
Ocean Avenue to Olive Avenue	13,900	66.8	29,600	70.1	3.3*
Central Avenue					
Bailey Avenue to V Street	6,000	68.9	6,500	69.2	0.3
V Street to O Street	8,200	67.6	13,700	69.8	2.2*
O Street to L Street	13,800	69.9	18,700	71.2	1.3
H Street/Highway 1 to D Street	13,000	69.6	14,200	70.0	0.4
Ocean Avenue/Highway 246					
O Street to H Street/Highway 1	12,100	66.2	22,600	68.9	2.7*
H Street/Highway 1 to D Street	9,300	65.0	15,100	67.1	2.1*
A Street to 7 th Street	14,800	68.7	26,600	71.2	2.5*



**Table 4.9-5
 Comparison of Calculated Existing and Future Noise Levels along Major Roadways**

Roadway Segment	Existing		2030 General Plan Buildout		Noise Level Increase (dB)
	ADT	Noise Level (dBA CNEL)	ADT	Noise Level (dBA CNEL)	
V Street					
Olive Avenue to Ocean Avenue	3,000	60.1	8,300	64.5	4.4*
Ocean Avenue to Laurel Avenue	4,900	62.2	11,000	65.8	3.6*
North Avenue to Central Avenue	5,500	62.7	11,100	65.8	3.1*
North Avenue					
V Street to O Street	3,200	60.4	7,100	63.9	3.5*
H Street/Highway 1 to D Street	6,100	63.2	9,400	65.1	1.9*
A Street to 7 th Street	2,900	60.0	4,100	61.5	1.5

Source: See Appendix G for noise data and noise modeling worksheets.

** Impacts exceed FICON criteria levels.*

As Table 4.9–5 indicates, traffic associated with buildout under the 2030 General Plan would increase noise along all studied roadways. The predicted noise level increase would range from 0.3 dB along H Street/Highway 1 between North and College Avenues and along Central Avenue between Bailey Avenue and V Street, to 4.4 dB along V Street between Olive and Ocean Avenues. Noise levels along the roadway edges exceed the normally acceptable range for residential and other sensitive uses along all of the major roadways in the area. In addition, 12 of the 19 modeled roadway segments would experience a noise level increase that exceeds the FICON thresholds described in Section 4.9.2(a) (a 1.5 dB increase when the post-project noise level exceeds 65 dBA CNEL or a 3.0 dB increase when post-project noise level is between 60 and 65 dBA CNEL). This includes Purisima Road east of H Street/Highway 1; H Street/Highway 1 north of Purisima Road and between Ocean Avenue and Olive Avenue; Central Avenue between V Street and O Street; all three studied segments of Ocean Avenue/Highway 246; all three studied segments of V Street; and North Avenue from V Street to O Street and between H Street/Highway 1 and D Street.

It should be noted, however, that these increases assume maximum development under the 2030 General Plan (including development of every remaining vacant property in Lompoc, redevelopment of the H Street Corridor Infill area, and buildout of all four identified expansion areas), which is not likely to occur. In addition, implementation of General Plan policies (discussed below) would ensure that noise impacts are considered and individual development projects and transportation improvements incorporate appropriate noise attenuation techniques. As necessary, the City may consider a range of traffic noise attenuation techniques, potentially including the use of sound barriers. In addition, as noted in numerous Circulation Element policies, the City will continue to emphasize vehicle trip reduction techniques to address traffic issues, with the added benefit that the use of such techniques would also reduce vehicular noise. With implementation of General Plan policies, increases in roadway noise would be reduced to a less than significant level.



Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Traffic-related noise impacts from full buildout of the 2030 General Plan have been addressed in the discussion above. As noted therein, impacts would be potentially significant along three distinct roadway segments upon buildout of the 2030 General Plan. However, impacts would be mitigated through implementation of applicable General Plan policies (discussed below). Impacts would therefore remain Class III, *less than significant*.

General Plan Policies which Reduce Impacts

The following policies included in the 1997 Noise Element (NE) would ensure that noise impacts are considered as individual development projects and transportation improvements incorporate appropriate noise attenuation techniques:

- NE Policy 1.1*** *The City shall require each land use to maintain noise levels at their property line in compliance with City standards.*

- NE Policy 1.2*** *The City shall place a priority upon control of noise at the noise source.*

- NE Policy 1.3*** *The City shall periodically update the Noise Ordinance to minimize noise exposure within the City. The Noise Ordinance update and acoustical studies shall use the Community Noise Equivalent Level (CNEL) methodology for quantification of noise exposure.*

- NE Policy 1.5*** *The City shall coordinate with Federal, State, and local agencies to minimize noise exposure within the City.*

- NE Policy 1.6*** *The City shall use noise reduction as one criterion in equipment purchasing policies.*

- NE Policy 2.1*** *The City shall use the noise standards presented in table entitled "Interior and Exterior Noise Standards" in determining land use designations and maximum noise levels allowable for new developments.*

In addition, as noted in the Circulation Element (CE) of the 2030 General Plan, the City will continue to emphasize vehicle trip reduction techniques to address traffic issues, with the added benefit that the use of such techniques would also reduce vehicular noise. The following policies included in the 2030 Circulation Element target reductions in vehicle miles traveled (VMT) through circulation design factors and compliance with applicable laws and regulations. Reduced VMT would directly contribute to a reduction in noise levels along area roadways:



- CE Policy 3.1** *The City shall provide and maintain a safe and convenient circulation system that encourages walking and that seeks to provide a continuous network of sidewalks and separated pedestrian paths connecting housing areas with major activity centers such as shopping areas, schools, and recreation.*
- CE Policy 3.2** *The City shall provide and maintain a safe and convenient circulation system that encourages bicycle travel.*
- CE Policy 3.3** *The City shall encourage programs and strategies including site design features that provide for ridesharing and transit use.*
- CE Policy 3.5** *The City shall encourage regional transportation services to accommodate the needs of commuters and ridesharing.*
- CE Policy 3.6** *The City shall facilitate the provision of lockers and secure enclosed long term parking areas for bicycles at appropriate places throughout the City and at multi-modal stations to extend the range of the bicycle commuter.*
- CE Policy 3.7** *The City shall continue to support transit including the COLT bus system and shall work cooperatively with appropriate jurisdictions and agencies to encourage the augmentation of roadway and transit facilities, which address local and regional travel needs.*
- CE Policy 3.8** *The City shall require, during the development review process, the dedication of land and/or construction of appropriate facilities to ensure a safe and efficient public transportation system.*
- CE Policy 3.9** *The City should encourage efforts by local employers to offer telecommuting and other work schedule modifications which reduce vehicular use.*
- CE Policy 3.12** *The City shall encourage the inclusion of facilities that promote alternative modes of transportation, including bicycle lanes and connections, pedestrian and hiking trails, park and ride lots, and facilities for public transit into new development as well as existing development.*
- CE Policy 3.13** *The City supports safe and effective connectivity between adjacent neighborhoods for new development and encourages measures that increase connectivity for existing neighborhoods, where necessary and appropriate.*



Mitigation Measures. General Plan Noise Element goals and policies outlined above address the prevention and reduction of unwanted vehicle noise. Mitigation beyond the General Plan policies is not required.

Significance After Mitigation. Impacts relating to 2030 General Plan–induced increases in traffic and associated noise levels would be less than significant without mitigation.

Impact N-3 **Development facilitated by the 2030 General Plan could place residences and other noise–sensitive land uses in areas exposed to noise levels exceeding City standards. Although implementation of General Plan policies would reduce traffic–related noise impacts to a Class III, *less than significant*, level, nuisance noise associated with mixed–use developments would be Class II, *significant but mitigable*.**

The 2030 General Plan would facilitate the development of new residential and other noise–sensitive uses that could be exposed to noise levels exceeding the City standards. Potential sources of noise exposure include: (1) traffic on the Highways and arterial roadways; and (2) commercial/business activity on sites that are adjacent to or near noise–sensitive uses. However, for most areas, the primary generator of noise that could affect noise–sensitive uses would be roadway traffic. Table 4.9–6 depicts the roadway noise contours that are anticipated to occur under buildout of the 2030 General Plan, including buildout within the existing City Limits and within all four identified expansion areas.

**Table 4.9-6
 Predicted Traffic Noise with Maximum Development under the 2030 General Plan**

Roadway Segment	Traffic (ADT)	Distance to CNEL Contour from Centerline (feet)		
		70 dB	65 dB	60 dB
Purisima Road				
West of H Street/Highway 1	23,700	70	151	326
East of H Street/Highway 1	16,200	54	117	253
H Street/Highway 1				
North of Purisima Road	13,200	46	102	220
North of Central Avenue	32,100	53	115	247
North Avenue to College Avenue	18,700	32	80	172
Ocean Avenue to Olive Avenue	29,600	50	109	234
Central Avenue				
Bailey Avenue to V Street	6,500	42	95	205
V Street to O Street	13,700	48	105	226
O Street to L Street	18,700	32	80	172
H Street/Highway 1 to D Street	14,200	50	107	231
Ocean Avenue/Highway 246				
O Street to H Street/Highway 1	22,600	39	91	196
H Street/Highway 1 to D Street	15,100	26	69	149



**Table 4.9-6
 Predicted Traffic Noise with Maximum Development under the 2030 General Plan**

Roadway Segment	Traffic (ADT)	Distance to CNEL Contour from Centerline (feet)		
		70 dB	65 dB	60 dB
A Street to 7 th Street	26,600	60	130	280
V Street				
Olive Avenue to Ocean Avenue	8,300	RW	45	100
Ocean Avenue to Laurel Avenue	11,000	19	56	121
North Avenue to Central Avenue	11,100	19	57	122
North Avenue				
V Street to O Street	7,100	RW	38	90
H Street/Highway 1 to D Street	9,400	RW	51	109
A Street to 7 th Street	4,100	RW	22	63

Contour distances assume level land with no barriers or obstructions. In reality, varied topography, in combination with the presence of buildings and other barriers, will reduce the distance from the noise source to the dB contours in many instances. In other words, the noise levels presented in this table are “conservative” estimates that potentially overstate the actual noise level in many locations.

RW: Noise contour falls within roadway right-of-way.

Source: Traffic volumes from Fehr and Peers (March 2009). See Appendix G for noise data and noise modeling worksheets.

2030 General Plan Buildout within City Limits

As shown in Table 4.9–6, new sensitive land uses constructed in accordance with the 2030 General Plan within the existing City Limits could be exposed to noise levels exceeding 60 dBA CNEL. Specifically, at 2030 General Plan buildout, the 60 dBA contour would extend outward from the centerline of Central Avenue in the range of 172 to 231 feet, from Ocean Avenue/Highway 246 in the range of 149 to 280 feet, from V Street in the range of 100 to 122 feet, and from North Avenue in the range of 63 to 109 feet. The proposed 2030 General Plan would facilitate the development of residential and other sensitive land uses within these distances throughout the City Limits, thereby exposing future residents to noise exceeding City standards (refer to Table 4.9–1). In addition, new residences could also be exposed to noise generated by adjacent commercial activity that exceeds the normally acceptable range.

Although development facilitated by the 2030 General Plan within the existing City Limits could place residences and other noise–sensitive land uses in areas exposed to noise levels exceeding City standards, implementation of General Plan Noise Element policies would ensure that projects proposed in areas exceeding City noise standards would be evaluated and that appropriate sound attenuation techniques would be implemented on a case–by–case basis. Depending on what is proposed and the location and source of noise, sound attenuation techniques may include site design to shield noise–sensitive uses from noise, special building standards to reduce interior noise, or the use of barriers to reduce exterior noise. Adherence to applicable General Plan policies (described below) would reduce the potential for traffic–related



noise impacts to a less than significant level. Nuisance noise associated with mixed-use developments would require mitigation, as discussed under *H Street Corridor Infill Area* below.

H Street Corridor Infill Area. As shown in Table 4.9-6, roadway segments within the proposed H Street Corridor Infill area may exceed City noise standards at distances that would impact sensitive land uses constructed in this area. Specifically, at 2030 General Plan buildout, the 60 dBA contour would extend outward from the centerline of H Street in the range of 172 to 247 feet and from Central Avenue between H Street and D Street at a distance of 231 feet. The H Street Corridor Infill area could be developed with up to 333 multi-family units, many of which could be developed within these distances, thereby exposing future residences to noise exceeding City standards. In addition, much of the development accommodated along the H Street Corridor would be infill development surrounded by existing residential and commercial development. Residential units within mixed-use developments or adjacent to commercial uses could be exposed to noise generated by commercial activity that exceeds the normally acceptable range. This would include noise associated with deliveries, loading dock operations, mechanical equipment, and parking lot activities.

Although development facilitated by the 2030 General Plan within the H Street Corridor Infill area could place residences and other noise-sensitive land uses in areas exposed to noise levels exceeding City standards, as discussed above, implementation of General Plan Noise Element policies would reduce the potential for traffic-related noise impacts to a less than significant level. Mitigation measures outlined below would reduce impacts resulting from commercial operations in mixed-use developments to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As shown in Table 4.9-6, roadway segments in the vicinity of the Bailey Avenue Specific Plan expansion area may exceed City noise standards at distances that would impact sensitive land uses constructed in this area. Specifically, at 2030 General Plan buildout, the 60 dBA contour would extend outward from the centerline of V Street between Olive and Ocean Avenue at a distance of 100 feet. This roadway abuts the eastern edge of the southern portion of the expansion area. In accordance with the proposed 2030 General Plan, the Bailey Avenue Specific Plan expansion area could accommodate 2,184 single family residences and 534 multi-family residences, as well as 228,700 square feet of commercial space. Should residential units be constructed adjacent to this or other roadway segments with large traffic volumes, they could be exposed to noise exceeding City standards.

Although development facilitated by the 2030 General Plan within the Bailey Avenue Specific Plan expansion area could place residences in areas exposed to noise levels exceeding City standards, as discussed above, implementation of General Plan Noise Element policies would reduce the potential for traffic-related noise impacts to a less than significant level.



Expansion Area B: River Area

Highway 246 runs along the southern boundary of the expansion area, where the development of 126 full hookup RV campsites would be expected to occur. Traffic noise from this roadway may therefore impact future development within the River expansion area. However, as discussed previously, implementation of General Plan Noise Element policies would reduce the potential for traffic-related noise impacts to a less than significant level.

Expansion Area C: Miguelito Canyon Area

High volume roadway segments are not located in close proximity to the Miguelito Canyon expansion area. As shown on Figure 4.13-4 in Section 4.13, *Transportation and Circulation*, Cumulative plus General Plan traffic volumes on San Miguelito Road, which abuts the expansion area to the east, are relatively low (2,200 average daily trips). In addition, local roadways that abut the expansion area to the north would not be expected to carry sufficient traffic to generate noise exceeding City standards. Development in accordance with the 2030 General Plan in this area, which would include up to 25 rural density residences, would therefore not place noise-sensitive land uses in areas exposed to unacceptable traffic noise. Impacts would be less than significant.

Expansion Area D: Wye Residential Area

As shown in Table 4.9-6, roadway segments in the vicinity of the Wye Residential expansion area may exceed City noise standards at distances which would impact sensitive land uses constructed in this area. Specifically, at 2030 General Plan buildout, the 60 dBA contour would extend outward from the centerline Purisima Road in the range of 253 to 326 feet and from H Street north of Purisima Road at a distance of 220 feet. These roadways abut the southern and eastern edges of the expansion area, respectively. In accordance with the proposed 2030 General Plan, the Wye Residential expansion area could be developed with up to 46 low density single-family units, many of which could be located within these distances, thereby exposing future residents to noise exceeding City standards.

Although development facilitated by the 2030 General Plan within the Wye Residential expansion area could place residences in areas exposed to noise levels exceeding City standards, as discussed above, implementation of General Plan Noise Element policies would reduce the potential for traffic-related noise impacts to a less than significant level.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four identified expansion areas. Exposure of new sensitive receptors to noise levels exceeding City standards have been addressed in the discussion above. The combination of these impacts reflects the cumulative impacts of the



proposed General Plan Update. As noted above, the proposed 2030 General Plan would facilitate the development of residential and other sensitive land uses within areas exceeding City noise standards. However, traffic-related impacts would be mitigated through implementation of applicable General Plan policies (discussed below and listed under Impact N-2 above) and nuisance noise associated with mixed-use developments would be mitigated through implementation of mitigation measures N-3(a) through N-3(c).

General Plan Policies which Reduce Impacts

The Noise Element of the 1997 General Plan includes policies specifically intended to ensure that no land use is exposed to noise levels in excess of City standards. These policies include Noise Policies 1.1 through 1.6, as well as Noise Policy 2.1 (refer to Impact N-2). In addition, the Circulation Element includes policies which target reductions in VMT through circulation design factors and compliance with applicable laws and regulations. Reducing VMT would directly contribute to a reduction in noise levels along area roadways. These policies include Circulation Policies 3.1 through 3.3, 3.5 through 3.9, 3.12, and 3.13. These policies are listed under Impact N-2 above.

The Lompoc Noise Ordinance (Section 8.08 of the Lompoc Municipal Code) additionally contains the following standards which would reduce impacts associated with development of new noise sensitive land uses adjacent to commercial activity.

8.08.030(G). ***Loading and Unloading.** It shall be unlawful for any person within the City to create loud or excessive noise in connection with loading or unloading any vehicle or the opening and destruction of bales, boxes, crates, and containers that causes annoyance or discomfort to a reasonable person of normal sensitivity in any residential zone.*

Mitigation Measures. Implementation of General Plan policies discussed above would reduce impacts associated with the exposure of new noise-sensitive land uses to traffic noise to a less than significant level. The following mitigation measures are required to reduce internal noise impacts associated with mixed use developments.

N-3(a) **Truck Delivery Limitations.** The following policy shall be added to the 2030 General Plan Noise Element:

Truck deliveries to commercial uses on mixed-use development sites shall be limited to between the hours of 8:00 AM and 6:00 PM on weekdays and Saturdays. No deliveries shall occur on Sundays.

N-3(b) **Common Wall Insulation.** The following policy shall be added to the 2030 General Plan Noise Element:



Common walls between horizontal (side-by-side) and vertical (stacked) mixed use commercial/residential development shall be noise-insulated to provide attenuation of indoor noise levels.

N-3(c) Sound Barriers for External Equipment. The following policy shall be added to the 2030 General Plan Noise Element:

External noise-generating equipment associated with commercial uses (e.g., HVAC units, etc.) that are located in mixed use developments and/or adjacent to residential uses shall be shielded or enclosed with solid sound barriers.

Significance After Mitigation. Impacts relating to the placement of new noise-sensitive land uses in areas exposed to traffic noise levels exceeding City standards would be less than significant without mitigation. Implementation of the mitigation measures described above would reduce nuisance noise from commercial land uses on sensitive receptors to a Class II, *significant but mitigable*, level.

Impact N-4 Future development in accordance with the 2030 General Plan would be exposed to noise generated by aircraft flying overhead. However, compliance with existing Airport Land Use Plan (ALUP) regulations and coordination with the Airport Land Use Commission (ALUC) would reduce impacts to a Class III, *less than significant*, level.

2030 General Plan Buildout within City Limits

The Lompoc Airport is located immediately north of the Santa Ynez River and the Vandenberg Air Force Base (VAFB) is located northwest of the City. The Santa Barbara County Airport Land Use Plan (ALUP) depicts noise contours associated with these two airports (Santa Barbara County Association of Governments [SBCAG], 1993). Noise contour mapping included in the ALUP shows that the 60 and 65 dBA CNEL contours associated with the Lompoc Airport are restricted to areas north of existing City development, while comparable noise contours associated with the VAFB cover much of the western and southern portions of the City. Development in accordance with the 2030 General Plan within the existing City Limits may therefore be exposed to noise levels exceeding City standards as a result of VAFB operations.

However, the ALUP restricts sensitive land uses from being constructed in airport noise zones. Specifically, institutional land uses such as schools and hospitals are not permitted within 65 dBA CNEL airport noise contours, and multi-family and single family residential uses are only permitted within 65 dBA CNEL and 60 dBA CNEL contours, respectively, when project-specific acoustical analysis can show that structures have been designed to limit intruding noise to not more than 45 dBA in any habitable room.



Development within the Lompoc City Limits that falls within VAFB 60 dBA CNEL noise contours will continue to be subject to ALUC review to ensure that future land uses are compatible with airport-related land use and noise restrictions. Compliance with existing regulations, including coordination with the ALUC, would ensure that future development under the 2030 General Plan would not result in significant airport-related noise impacts.

H Street Corridor Infill Area. The H Street Corridor Infill area is located outside of the 60 dBA CNEL noise contour for both the Lompoc Airport and VAFB, as shown in noise contour maps included in the Santa Barbara County ALUP. Although the northernmost parcels in this infill area are within the City's Airport Overlay Zone (refer to Figure 2-2 in Section 2.0, *Project Description*), these parcels will be subject to existing land use and zoning restrictions, and may be subject to ALUC review and approval (Lompoc Zoning Ordinance, 2002). Compliance with existing regulations, including coordination with the ALUC, would ensure that future development in the H Street Corridor Infill area would not result in significant airport-related noise impacts.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area is located within the 60 dBA CNEL noise contour associated with the VAFB (ALUP, 2003). However, as noted previously, the ALUP restricts sensitive land uses from being constructed in airport noise zones. Specifically, single family residential uses are only permitted within 60 dBA CNEL noise contours when project-specific acoustical analysis can show that structures have been designed to limit intruding noise to not more than 45 dBA in any habitable room. Development within the Bailey Avenue Specific Plan expansion area will be subject to ALUC review to ensure that future land uses are compatible with airport-related land use and noise restrictions. Compliance with existing regulations, including coordination with the ALUC, would ensure that future development under the 2030 General Plan would not result in significant airport-related noise impacts.

Expansion Area B: River Area

The River expansion area is located outside of the 60 dBA CNEL noise contour for both the Lompoc Airport and VAFB, as shown in noise contour maps included in the Santa Barbara County ALUP. Airport-related noise impacts within the River expansion area would therefore be less than significant.



Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is located within the 60 dBA CNEL noise contour associated with the VAFB (ALUP, 2003). However, as noted previously, the ALUP restricts sensitive land uses from being constructed in airport noise zones. Specifically, single family residential uses are only permitted within 60 dBA CNEL noise contours when project-specific acoustical analysis can show that structures have been designed to limit intruding noise to not more than 45 dBA in any habitable room. Development within the Miguelito Canyon expansion area will be subject to ALUC review to ensure that future land uses are compatible with airport-related land use and noise restrictions. Compliance with existing regulations, including coordination with the ALUC, would ensure that future development under the 2030 General Plan would not result in significant airport-related noise impacts.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is located outside of the 60 dBA CNEL noise contour for both the Lompoc Airport and VAFB, as shown in noise contour maps included in the Santa Barbara County ALUP. Airport-related noise impacts within the Wye Residential expansion area would therefore be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four identified expansion areas. Airport-related noise impacts from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, development within the City Limits or proposed expansion areas that falls within 60 dBA CNEL noise contours associated with the Lompoc or VAFB airports would be subject to ALUC review for consistency with the ALUP during the environmental and permitting process. ALUC review and compliance with existing regulations would ensure that impacts remain less than significant.

General Plan Policies which Reduce Impacts

The 1997 General Plan Noise Element (NE) includes the following policy related to airport noise:

NE Policy 2.3 *The City shall minimize noise exposure in the vicinity of the Lompoc Airport by maintaining consistency with the Santa Barbara County Airport Land Use Plan, as amended.*

Mitigation Measures. Beyond compliance with existing policies, including ALUC review, no mitigation measures are required.



Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact N-5 Future development in accordance with the 2030 General Plan could place sensitive receptors in the vicinity of the Union Pacific Railroad (UPRR), thereby exposing future residents to noise levels exceeding City Standards. Although railroad operations could produce periodic noise levels greater than 60 dBA, the 24-hour CNEL noise levels from this noise source would not exceed the City CNEL threshold of 60 dBA. This is a Class III, *less than significant*, impact.

2030 General Plan Buildout within City Limits

The UPRR line crosses the City in an east-west direction. Noise generated by the UPRR is limited to a few trips per week that occur on this section of track since it primarily serves as a cargo rail that delivers to and from VAFB. The actual timing and volume of trains that use the tracks is confidential; therefore actual noise levels cannot be estimated with any certainty. Nevertheless, it is reasonable to assume that railroad operations may temporarily result in noise levels exceeding 60 dBA near the railroad tracks. However, the City regulates noise over a 24-hour period (CNEL, refer to Table 4.9-1). Because of the infrequent use of this UPRR line, 24-hour noise levels would not exceed the 60 dBA CNEL standard. Therefore, impacts are less than significant.

H Street Corridor Infill Area. The H Street Corridor Infill area is not located in the vicinity of the UPRR line. In addition, as discussed above, 24-hour noise levels from the UPRR would not exceed the City's 60 dBA CNEL standard for sensitive uses. Impacts would therefore be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

The Bailey Avenue Specific Plan area is bisected (east to west) by the UPRR. However, as discussed above, 24-hour noise levels from the UPRR would not exceed the City's 60 dBA CNEL standard for sensitive uses. Impacts would therefore be less than significant.

Expansion Area B: River Area

The River expansion area is not located in the vicinity of the UPRR line. In addition, as discussed above, 24-hour noise levels from the UPRR would not exceed the City's 60 dBA CNEL standard for sensitive uses. Impacts would therefore be less than significant.



Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is located adjacent to a UPRR line that runs along San Miguelito Road, and serves the Celite Corporation mining operation. However, as discussed above, 24-hour noise levels from the UPRR would not exceed the City's 60 dBA CNEL standard for sensitive uses. Impacts would therefore be less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is not located in the vicinity of the UPRR line. In addition, as discussed above, 24-hour noise levels from the UPRR would not exceed the City's 60 dBA CNEL standard for sensitive uses. Impacts would therefore be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Railroad-related noise impacts from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, development within the City Limits or proposed expansion areas that falls in the vicinity of existing UPRR lines would not be exposed to noise levels exceeding the City's 60 dBA CNEL standard as a result of railroad operations, due to the infrequent use of this UPRR line. Impacts would therefore be less than significant.

General Plan Policies which Reduce Impacts

The 1997 General Plan Noise Element (NE) does not include policies related to railroad noise.

Mitigation Measures. None required as impacts would be less than significant.

Significance After Mitigation. Impacts would be less than significant without mitigation.



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4.10 POPULATION and HOUSING

This section analyzes the City of Lompoc 2030 General Plan's potential environmental impacts related to population and housing.

4.10.1 Setting

a. Population, Housing, and Employment. Historically, the population of Lompoc has experienced periods of rapid growth. From the late 1950's through the mid 1980's, growth was primarily generated by employment at Vandenberg Air Force Base (VAFB). The most recent episode of rapid population growth in conjunction with Vandenberg AFB occurred from 1978 to the mid 1980's when plans were underway for space shuttle launches from the base. However, after the Challenger disaster in 1986, plans for shuttle launches from Vandenberg AFB were discontinued. Consequently, employment at Vandenberg AFB was not as dominant a factor in the City's growth rate as it had been prior to 1986. Beginning in the late 1980's, employment growth in the Santa Barbara-Goleta area combined with lower housing costs in Lompoc was the primary trigger for population growth in the City. In 2000, the City's population was 41,103 (California Department of Finance, 2008). As of January 1, 2008, the City's population stands at 42,957 residents (California Department of Finance, 2008), or an increase of approximately 4.5 percent compared to 2000.

According to the California Department of Finance, Lompoc's 42,957 residents reside in 14,140 dwelling units (as of January 2008). This includes 8,544 single-family dwelling units, 4,656 units within multi-family buildings, and 940 mobile homes. Table 4.10-1 illustrates the population and housing estimates for Lompoc in comparison to Santa Barbara County as a whole.

**Table 4.10-1
2008 Population, Housing, Persons/Household Estimates**

	Lompoc	Santa Barbara County
Population ¹	42,957	428,655
Housing ¹	14,140	154,452
Persons per Household ²	2.88	2.80

¹ California Department of Finance, E-5 City/County Population and Housing Estimates, 2008.

² U.S. Census, Department of Commerce, 2000.



Employment in the Lompoc area contributes to the demand for housing in the City. Lompoc houses those employed within the community as well as approximately seven percent of Vandenberg AFB personnel. As of 2005, employment in the City was estimated at approximately 13,621 jobs by SBCAG (Regional Growth Forecast 2007, August 2008).

The SBCAG population, housing, and job forecasts for the City of Lompoc and Santa Barbara County are shown in Table 4.10-2.

**Table 4.10-2
 SBCAG Population, Household, and Employment Forecasts for
 the City of Lompoc and Santa Barbara County**

	2005	2010	2015	2020	2025	2030	2035	2040
<i>City of Lompoc</i>								
Population	41,800	43,300	44,400	45,700	46,900	48,200	49,500	50,700
Households	13,446	13,770	14,097	14,424	14,751	15,078	15,405	15,732
Employment	13,621	15,023	15,864	16,742	17,453	17,955	18,458	18,960
<i>Santa Barbara County</i>								
Population	417,500	430,200	444,900	459,600	473,400	481,400	487,000	492,800
Households	143,138	147,961	152,849	157,648	161,981	164,422	165,970	167,542
Employment	188,051	200,001	209,001	216,001	225,001	233,001	241,001	249,001

Source: SBCAG, 2007 Regional Growth Forecast, August 2008.

The SBCAG jobs/housing ratio forecasts for the City of Lompoc and Santa Barbara County are shown in Table 4.10-3.

**Table 4.10-3
 SBCAG Jobs Housing Ratio for
 the City of Lompoc and Santa Barbara County**

	2005	2010	2015	2020	2025	2030	2035	2040
City of Lompoc	1.03	1.11	1.13	1.16	1.17	1.17	1.17	1.18
Santa Barbara County	1.32	1.36	1.37	1.37	1.39	1.42	1.45	1.49

Source: SBCAG, 2007 Regional Growth Forecast, August 2008.

b. Regulatory Setting. The following section summarizes regulations that pertain to population, housing, and employment.



Regional Housing Needs Assessment (RHNA). The California Department of Housing and Community Development estimates the number of additional housing units needed to accommodate both existing and projected housing need for all income levels. This Regional Housing Needs Assessment (RHNA) projection is given to each Association of Governments in the state to accommodate their share of statewide housing need. For Santa Barbara County, SBCAG is charged with developing the distribution of that projection for each individual jurisdiction to include in their Housing Elements.

Lompoc’s RHNA allocation for the 2007 to 2014 period, per the Santa Barbara County Association of Governments, is 516 new units. This total includes 209 units in the “very low” and “low” income categories and 308 units in the “moderate” and “above moderate” income categories.

Santa Barbara County Association of Governments (SBCAG). As discussed in Section 4.8, *Land Use and Agriculture*, the City of Lompoc is located within the planning area of the Santa Barbara County Association of Governments (SBCAG). SBCAG is a regional planning agency comprised of Santa Barbara County and all eight (8) incorporated cities within the county. SBCAG distributes local, state, and federal transportation funds and acts as a forum for addressing regional and multi-jurisdictional issues.

State Housing Element Statutes. State housing element statutes (Government Code Sections 65580–65589.9) mandate that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law recognizes that in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, State housing policy rests largely upon the effective implementation of local general plans and in particular, housing elements. Additionally, Government Code §65588 dictates that the housing elements must be updated at least once every five years.

4.10.2 Impact Analysis

a. Methodology and Significance Thresholds. Impacts relating to population and housing are considered significant if implementation of the 2030 General Plan would:

- *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere*
- *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere*



- *Induce substantial population growth either directly or indirectly*
- *Create an imbalance of jobs and housing in the City*

For purposes of analysis, “substantial” population growth is defined as growth exceeding SBCAG or Santa Barbara County Air Pollution Control District (SBCAPCD) population forecasts for the City. “Substantial” displacement would occur if allowed land uses would displace more residences than would be accommodated through growth anticipated under by the General Plan.

b. Project and Cumulative Impacts.

Impact PH-1 **Implementation of the 2030 General Plan would not result in the displacement of substantial numbers of people or housing. Rather, the 2030 General Plan would facilitate the development of new housing in accordance with state and local housing requirements. Impacts would be Class III, *less than significant*.**

2030 General Plan Buildout within City Limits

The 2030 General Plan would facilitate the development and redevelopment of lands within the Lompoc plan area. These areas include reuse of existing urbanized lands, infill development on vacant parcels, and new development on the urban fringe. In some instances, such infill development could occur in areas of the City that are currently developed with residential uses. As a result, displacement of existing residences could potentially occur over the life of the 2030 General Plan. However, even if such displacement occurs, any new development would be expected to more than replace existing residences.

H Street Corridor Infill Area. Much of the infill redevelopment within the existing City Limits is anticipated to occur within the H Street Corridor Infill area. Portions of this area are currently developed with residential uses and, as a result, redevelopment along the H Street Corridor could displace existing residences. However, as noted above, any new development would be expected to more than replace existing residences. Impacts would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.



The Bailey Avenue Specific Plan area is currently vacant. Development of this site would therefore not displace existing residents. Rather, development in this area could include up to 2,184 single family residential units and 534 multiple-family residential units, thereby providing additional housing opportunities in the City of Lompoc. No displacement impacts would result.

Expansion Area B: River Area

The River expansion area is currently developed with the 45-acre River Park and recreational vehicle (RV) campground with 35 campsites. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. Expansion of the existing RV campground would not displace existing housing or residents. No displacement impacts would result.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area is currently developed with scattered rural residences. Additional development that could occur under the 2030 General Plan would include up to 25 additional rural density residences. It is not anticipated that development of new residences would require the removal of existing residences. As a result, development of the Miguelito Canyon expansion area would not displace people or housing and would in fact provide additional housing opportunities. No displacement impacts would result.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area is currently vacant. Development of this site would therefore not displace existing residents. Rather, development in this area could include up to 46 low density single-family units, thereby providing additional housing opportunities in the City of Lompoc. No displacement impacts would result.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to displacement have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts from buildout within the existing City Limits as well as buildout of all four proposed expansion areas would be less than significant. Cumulatively, the 2030 General Plan would create more housing opportunities than would be displaced.



General Plan Policies which Reduce Impacts

The following proposed 2030 General Plan Land Use Element (LUE) and Housing Element (HE) Policies promote the creation of new housing.

- LUE Policy 1.6** *Areas identified by the City for potential annexation and their land use designations are depicted on Figure LU-2. These lands include:*
- *Expansion Area A: the Bailey Avenue Specific Plan Area*
 - *Expansion Area B: the River Area*
 - *Expansion Area C: the Miguelito Canyon Area*
 - *Expansion Area D: the Wye Residential Area*
- LUE Policy 1.7** *The City shall encourage infill development to meet City residential and commercial growth needs. The City designates the H Street Corridor Infill area as shown on Figure LU-2 as particularly suitable to infill development and shall prescribe specific design and zoning standards for this corridor. Additional information on the intent of the H Street Corridor Infill area is provided in Table LU-1.*
- LUE Goal 2** *Protect and enhance the quality of life of Lompoc residents through the creation and maintenance of affordable, attractive, and well-served residential and mixed-use neighborhoods.*
- LUE Policy 3.1** *The City shall ensure that a sufficient and balanced supply of land continues to be available for residential, commercial, and industrial uses, with priority given to under-developed and vacant land within the City boundaries.*
- HE Goal 1** *Provide a choice of housing opportunities for all economic segments of the community.*
- HE Policy 1.1** *The City shall encourage housing development which provides varied housing types, sizes, and tenure opportunities.*
- HE Policy 1.2** *The City shall encourage the dispersion of rental and ownership housing units for target income groups throughout the City.*
- HE Policy 1.3** *The City shall assure that housing units are preserved/reserved for target income groups in publicly assisted developments.*
- HE Policy 1.5** *The City shall develop incentives which expand housing opportunities for target income groups and special needs population.*



HE Policy 1.21 *The City shall encourage and facilitate the use of vacant and underdeveloped lands and the use of local, state, and federal monies to help in the development and rehabilitation of long-term affordable housing.*

HE Goal 2 *Restore, protect, and improve the condition of existing housing and neighborhoods.*

HE Policy 2.5 *The City shall encourage the preservation of existing residential dwellings in non-residentially zoned areas when all of the following conditions are met:*

- ❖ *dwellings have continually been used for residential purposes;*
- ❖ *dwellings have received regular maintenance and contain no serious defects which could result in health or safety hazards to residents; and*
- ❖ *dwellings can provide necessary amenities and a suitable living environment.*

Mitigation Measures. No significant impacts relating to the displacement of people or housing would occur. Therefore, mitigation is not required.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact PH-2 **Additional population anticipated under the 2030 General Plan would exceed current SBCAG population forecasts for 2030. Because population forecasts are based on the General Plan, this inconsistency would be addressed in future updated population projections and impacts would remain Class III, *less than significant*.**

2030 General Plan Buildout within City Limits

SBCAG's Regional Growth Forecast 2007 (August 2008) presents forecasts of population and employment between 2005 and 2040 for Santa Barbara County and its eight incorporated cities, including the City of Lompoc. As shown in Table 4.10-2, SBCAG forecasts the City of Lompoc to have a population of 48,200 residents in 2030.

Maximum development facilitated by the 2030 General Plan within the existing City Limits (including the H Street Corridor Infill area) would add an estimated 8,173 residents (2,838 dwelling units x 2.88 people/dwelling unit). This would bring the citywide population to 51,130. This estimate exceeds SBCAG's 2030 growth forecast for the City (48,200 in 2030) by 2,930 people. It should be noted, however, the maximum buildout estimate assumes not only



that every remaining vacant property in Lompoc would be developed by 2030, but that the H Street Corridor Infill area would completely redevelop over the same time frame.

Although buildout population would be inconsistent with regional planning forecasts, population growth itself does not constitute an environmental impact. Physical effects of 2030 General Plan Buildout are addressed throughout Section 4.0 of this EIR. In addition, SBCAG and SBCAPCD population estimates are periodically updated based on General Plan Updates, at which time any inconsistencies between regional planning documents and the population growth anticipated under the 2030 General Plan would be rectified. This would be a less than significant impact.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development of the Bailey Avenue Specific Plan would add an estimated 7,827 residents (2,718 dwelling units x 2.88 people/dwelling unit), thus increasing the City's population to 50,784. This estimate exceeds SBCAG's 2030 growth forecast for the City (48,200 in 2030) by 2,584 people. As noted under *2030 General Plan Buildout Within City Limits* above, SBCAG and SBCAPCD population estimates are periodically updated based on General Plan Updates, at which time any inconsistencies between regional planning documents and the population growth anticipated under the 2030 General Plan would be rectified. This would be a less than significant impact.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. For the purpose of this analysis, it is assumed that these RV campsites would accommodate long-term residents. Therefore, as a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to an additional 362 residents. This would increase the City's population to 43,319. This estimate would not exceed SBCAG's 2030 growth forecast for Lompoc (48,200 in 2030). Impacts would therefore be less than significant.

Expansion Area C: Miguelito Canyon Area

Development of the Miguelito Canyon expansion area would add an estimated 72 residents (25 dwelling units x 2.88 people/dwelling unit), thus increasing the City's population to 43,029.



This estimate does not exceed SBCAG's 2030 growth forecast for Lompoc (48,200 in 2030). Therefore, impacts would be less than significant.

Expansion Area D: Wye Residential Area

Development of the Wye Residential expansion area would add an estimated 132 residents (46 dwelling units x 2.88 people/dwelling unit), thus increasing the City's population to 43,089. This estimate does not exceed SBCAG's 2030 growth forecast for Lompoc (48,200 in 2030). Therefore, impacts would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to population growth have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, buildout within the existing City Limits (including the H Street Corridor Infill area) and within the four (4) identified expansion areas would add a total of 5,753 new units to the City of Lompoc. Based on an average household size of 2.88 persons per unit (U.S. Census, 2000), a cumulative total of 16,568 residents could be added to the City of Lompoc as a result of the 2030 General Plan. This would bring the citywide population to 59,525, which would exceed SBCAG's 2030 growth forecast for the City by 11,325 people (or 23.5%).

This maximum buildout estimate assumes not only that every remaining vacant or underdeveloped property in Lompoc would be developed by 2030, but that the H Street Corridor Infill area would completely redevelop over the same time frame. Moreover, this estimate includes development of the annexation areas, which are currently outside the City and therefore not considered as part of SBCAG's forecasts.

Although buildout population would be inconsistent with regional planning forecasts, population growth itself does not constitute an environmental impact. Physical effects of 2030 General Plan Buildout are addressed throughout Section 4.0 of this EIR. In addition, SBCAG and SBCAPCD population estimates are periodically updated based on General Plan Updates, at which time any inconsistencies between regional planning documents and the population growth anticipated under the 2030 General Plan would be rectified. This would be a less than significant impact.

General Plan Policies which Reduce Impacts

The 2030 General Plan Land Use Element (LUE) includes the following policies which would somewhat limit future growth in Lompoc:



- LUE Policy 4.1** *The City shall ensure that a sufficient supply of land continues to be available for community facility and institutional uses.*
- LUE Policy 4.2** *The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development.*
- LUE Policy 4.6** *To ensure that requested annexations do not negatively impact City fiscal health, such requests shall be accompanied by a study that analyzes the fiscal impact to the City presented by the annexation. The City should not approve annexation requests unless it can be demonstrated: 1) that the annexation promotes orderly development commensurate with available resources; 2) that the annexation proposal would result in a positive relationship between city facility and service costs and the revenues generated subsequent to the annexation, and 3) that the annexation substantially furthers the City needs for new or expanded parks, open space areas, and/or other public facilities.*

Mitigation Measures. Full buildout of the 2030 General Plan would exceed SBCAG population forecasts by approximately 23.5 percent. However, regional planning documents would be updated to ensure consistency with General Plan buildout. In addition, no mitigation is required, as population growth itself does not constitute an environmental impact.

Significance after Mitigation. Impacts would be less than significant without mitigation.

- Impact PH-3** **Development facilitated by the 2030 General Plan would add both jobs and housing, which would affect the jobs/housing balance. The Land Use Plan and objectives and policies included in the General Plan encourage a mix of commercial and residential uses and districts. Therefore, impacts relating to jobs/housing balance are Class III, *less than significant.***

2030 General Plan Buildout within City Limits

According to the Santa Barbara County Association of Governments (SBCAG), a jobs/housing ratio within the range of 0.75 to 1.25 evidences a job-housing balance. The current jobs/housing ratio in Lompoc is 1.03, which is within the identified range (SBCAG *Regional Growth Forecast 2005-2040*, Appendix 4 Table 28).

Maximum development facilitated by the 2030 General Plan within the existing City Limits (including the H Street Corridor Infill area) would add an estimated 2,838 dwelling units and 1,502,734 square feet of non-residential space to the City of Lompoc. Using a standard factor



of one employee per 500 square feet, this non-residential development would create approximately 3,005 new jobs. When added to the 2005 population and employment figures from SBCAG (refer to Table 4.10-2), development within the existing City Limits would result in a jobs/housing ratio of 1.02, which is within the acceptable range identified by SBCAG. Impacts related to the jobs-housing balance would therefore be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development in the Bailey Avenue Specific Plan expansion area would include up to 2,184 single family residential units, 534 multiple-family residential units, and 228,700 square feet of commercial space. Using a standard factor of one employee per 500 square feet, this commercial development would create approximately 457 new jobs. When added to the 2005 population and employment figures from SBCAG (Table 4.10-2), buildout of the Bailey Avenue Specific Plan expansion area would result in a jobs/housing ratio of 0.87, which is within the acceptable range identified by SBCAG. Impacts related to the jobs-housing balance would therefore be less than significant.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. Development in this expansion area would therefore result in additional housing but would not provide new, permanent job opportunities. However, when added to the 2005 population and employment figures from SBCAG (Table 4.10-2), buildout of the River expansion area would result in a jobs/housing ratio of 1.00, which is within the acceptable range identified by SBCAG. Impacts related to the jobs-housing balance would therefore be less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 rural density residences in an area currently composed of open space and scattered residences. Development in this expansion area would therefore result in additional housing but would not provide new, permanent job opportunities. However, when added to the 2005 population and employment figures from SBCAG (Table 4.10-2), buildout of the Miguelito Canyon expansion area would result in a jobs/housing ratio of 1.01, which is within the acceptable range identified by SBCAG. Impacts related to the jobs-housing balance would therefore be less than significant.



Expansion Area D: Wye Residential Area

The Wye Residential expansion area would accommodate 46 low density single-family units. Development in this expansion area would therefore result in additional housing but would not provide new, permanent job opportunities. However, when added to the 2005 population and employment figures from SBCAG (refer to Table 4.10-2), buildout of the Wye Residential expansion area would result in a jobs/housing ratio of 1.01, which is within the acceptable range identified by SBCAG. Impacts related to the jobs-housing balance would therefore be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the identified expansion areas. Impacts related to the jobs/housing balance have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, impacts from buildout within the existing City Limits as well as buildout of all four (4) proposed expansion areas would be less than significant. Cumulatively, the 2030 General Plan would add 5,753 new units and 1,731,434 square feet of non-residential development. Using a standard factor of one employee per 500 square feet, this non-residential development would create approximately 3,462 new jobs. When added to the 2005 population and employment figures from SBCAG (refer to Table 4.10-2), cumulative development under the 2030 General Plan would result in a jobs/housing ratio of 0.89, which is within the acceptable range identified by SBCAG. Cumulative impacts related to the jobs-housing balance would therefore be less than significant.

General Plan Policies which Reduce Impacts

The 2030 General Plan Land Use Element (LUE) and Housing Element (HE) include the following goals and policies which promote a jobs/housing balance:

- LUE Goal 3*** *Encourage economic development by providing and maintaining opportunities for a diversity of commercial and industrial enterprises to meet the goods, services, and employment needs of Lompoc City and Valley residents, as well as to attain a balance of employment and housing within the Lompoc Valley.*
- LUE Policy 3.1*** *The City shall ensure that a sufficient and balanced supply of land continues to be available for residential, commercial, and industrial uses, with priority given to under-developed and vacant land within the City boundaries.*



- LUE Policy 3.2** *The City shall encourage mixed-use development in appropriate areas to provide opportunities for a jobs and housing balance at the community and neighborhood level. The H Street Corridor Infill Area is designated as an area appropriate for mixed-use development and redevelopment.*
- LUE Policy 3.3** *The City shall protect existing commercially- and industrially-designated lands to ensure adequate space for non-residential development, to attract new business and employment centers, and to help achieve a jobs to housing balance in the City.*
- LUE Policy 3.4** *The City shall continue to offer incentives for new development that provides a substantial benefit to the community, such as the provision of higher-paying jobs, generation of increased transient occupancy taxes, and/or promotion of Lompoc as a visitor destination. Incentives may include City assistance with or pursuit of Community Development Block Grant and Redevelopment Agency funds.*
- LUE Policy 3.5** *The City shall encourage development and redevelopment of the H Street Corridor Infill Area and Old Town Specific Plan Area to revitalize these areas and provide a diverse and vibrant focal point for business. New commercial and mixed use development should be encouraged, and such new development should incorporate site design and layout that provides an inviting pedestrian-oriented environment in keeping with the Urban Design Element, Old Town Specific Plan, and the H Street Corridor Infill Overlay standards, as applicable, to encourage similar development in these areas. Strategies to revitalize these areas may include the use of redevelopment funds for infrastructure improvements and upgrades to encourage infill development of vacant or underutilized lots.*
- LUE Policy 3.6** *The unique character of Old Town should be retained, and the City, in its review of expansion and redevelopment of properties within and near Old Town, should encourage projects that further efforts in making Old Town a destination, one that provides services for residents and visitors alike and that supports unique, independent businesses.*
- LUE Policy 3.7** *The City should review and comment on proposals for new commercial or residential development outside of, but in close proximity to, the City limits if such development would have a negative impact on the City's fiscal health.*
- HE Goal 1** *Provide a choice of housing opportunities for all economic segments of the community.*



***HE Policy 1.1** The City shall encourage housing development which provides varied housing types, sizes, and tenure opportunities.*

***HE Policy 1.2** The City shall encourage the dispersion of rental and ownership housing units for target income groups throughout the City.*

***HE Policy 1.5** The City shall develop incentives which expand housing opportunities for target income groups and special needs population.*

Mitigation Measures. Impacts related to the jobs/housing balance would be less than significant. Therefore, mitigation is not required.

Significance after Mitigation. Impacts would be less than significant without mitigation.



4.11 PUBLIC SERVICES

This section assesses potential impacts to public services, including fire and police protection, public schools, libraries, and hospital services. Wildland fire hazards are addressed in Section 4.6, *Hazards and Hazardous Materials*. Impacts to water and wastewater infrastructure and solid waste collection and disposal are discussed in Section 4.13, *Utilities and Service Systems*. Impacts to parks and recreation are discussed in Section 4.12, *Recreation*.

4.11.1 Setting

a. Fire Protection Services. Fire protection services in the City of Lompoc are provided by the Lompoc Fire Department. The Department operates two (2) fire stations with eight (8) budgeted firefighters and a minimum staffing of seven (7) firefighters on duty between the two stations. Station #1, which is also the administrative headquarters, is located at 115 South G Street and houses two (2) engines. Station #2 is located at 1100 North D Street and houses two (2) triple combination pumper engines. Figure 4.11-1 shows the locations of the fire stations within Lompoc. The entire Department's staffing consists of 26 personnel, including one (1) Fire Chief, one (1) Office Staff Assistant, three (3) Battalion Chiefs, six (6) Captains, six (6) Engineers, and nine (9) Fire Fighters (Personal Communication, Chief Stan Hart, Lompoc Fire Department, 2008).

Currently, the Lompoc Fire Department serves 42,957 residents within City limits (California Department of Finance, 2008). This results in a Fire Department service ratio of one (1) firefighter for every 1,789 people, or 0.56 firefighters per 1,000 residents. The Lompoc Fire Department has established a First-Unit Response Time of five (5) minutes for four (4) personnel to be on-scene, and a nine-minute Initial Full Assignment Response Time criterion for 14 personnel to be on scene. The average response time is approximately 3.5 minutes (Hart, 2008). The five (5) minute response zone is shown in Figure 4.11-2.

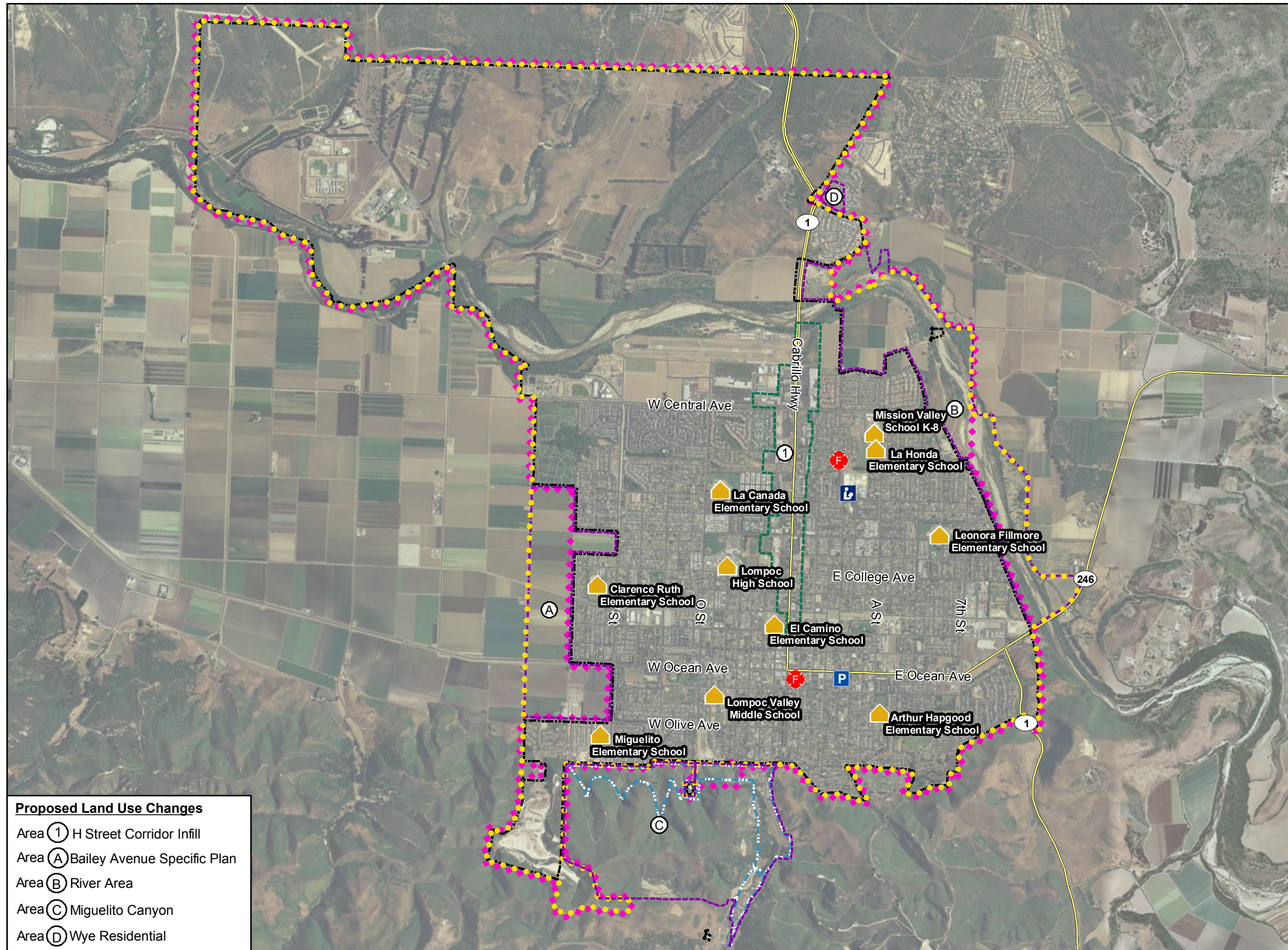
The Fire Department responds to approximately 3,000 calls per year (Hart, 2008). In the event that additional firefighter support is needed, the Department has a mutual aid agreement with both the Santa Barbara County Fire Department and the Vandenberg Air Force Base (VAFB) Fire Department to meet that demand. Estimated response time for engines from VAFB Fire Department to Lompoc is approximately 10 to 15 minutes (Hart, 2008).

All new development is required to pay fire impact mitigation fees. Any new development located outside of the five (5) minute response zone, as shown on Figure 4.11-2, requires additional fire protection measures and consultation with the Fire Department. Impact mitigation fees are used to purchase new equipment and/or hire additional fire fighters. Property taxes also provide funding for Lompoc Fire Department personnel.



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LEGEND

Public Service Facility Type

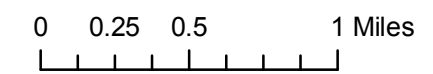
- Fire Station
- Library
- Police Station
- School

Additional Overlays

- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

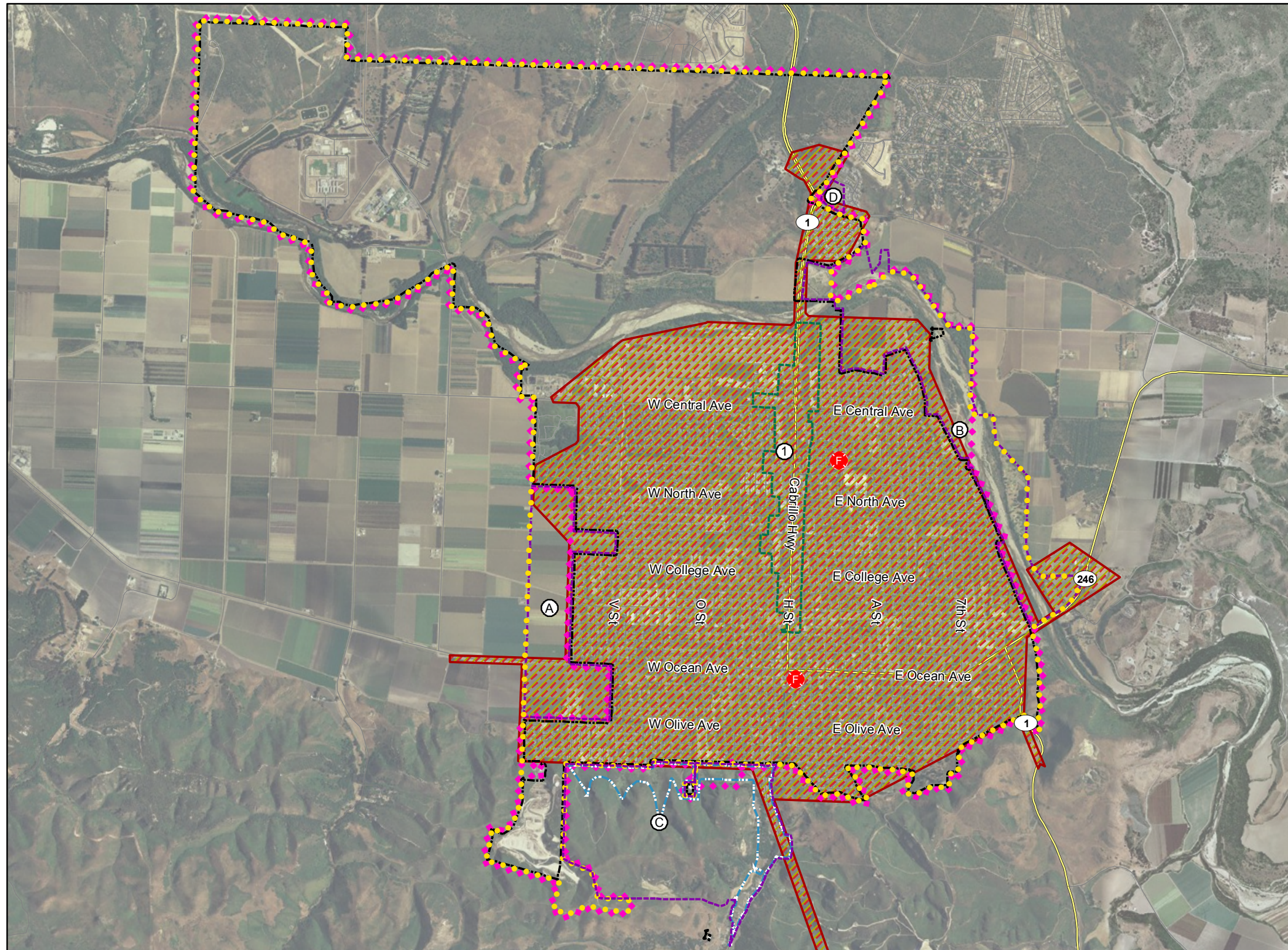
- Area ① H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential



Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Location of Lompoc
 Public Service Facilities

Figure 4.11-1
 City of Lompoc



LEGEND

- Fire Station
- Five Minute Fire Response Zone
- Additional Overlays**
- H Street Corridor Infill Area
- Draft Annexation Areas *(Subject to LAFCO approval)*
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

- Proposed Land Use Changes**
- Area ① H Street Corridor Infill
 - Area (A) Bailey Avenue Specific Plan
 - Area (B) River Area
 - Area (C) Miguelito Canyon
 - Area (D) Wye Residential



Base map source: City of Lompoc, 2008, City of Lompoc Fire Department, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Five Minute Fire Response Zone

Figure 4.11-2

b. Police Protection Services. Law enforcement services within the City of Lompoc are provided by the Lompoc Police Department, located at 107 Civic Center Plaza. The Department has its own dispatch center and handles emergency (i.e., 911) telephone calls, non-emergency telephone calls, and dispatches police, fire, and ambulance service. Figure 4.11-1 shows the location of the Lompoc Police Station. The Department has 51 full-time sworn police officers, 23 full time non-sworn staff, and 24 part time employees (Lompoc Police Department Annual Report, 2008). The police officers are supported by the following full-time employees: two civilian supervisors, eight (8) Dispatchers, five (5) Jailers, three (3) Community Service Officers, and five (5) Office Staff Assistants.

The department maintains a service ratio goal of 1.5 officers per 1,000 residents. Based on an existing population of 42,957, the current ratio of full time sworn officers to population within the City is 1 officer per 843 residents, or 1.19 officers per 1,000 residents. The current service ratio is therefore deficient.

The Lompoc Police Department is a full-service law enforcement agency and has primary responsibility for all traffic, enforcement, criminal investigation, and crime prevention services for the City of Lompoc. The Lompoc Police Department accomplishes their mission through the deployment of patrol officers, K-9 officers, traffic (motorcycle) officers, school resource officers, detectives, narcotics investigators and game officers. The Lompoc Police Department maintains a fully equipped and trained SWAT team as well as very active explorer post, police volunteers, and police activities league.

The Lompoc Police Department operates a Type I jail facility for booking and confinement of persons arrested and held for arraignment.

c. Public Schools. The Lompoc Unified School District (LUSD) provides educational facilities to the entire Lompoc Valley. The District encompasses a large area, which includes the City of Lompoc, Vandenberg Village, Mesa Oaks, Mission Hills, Vandenberg Air Force Base, and the surrounding rural areas, serving approximately 10,551 students (California Department of Education, 2008). Within the City of Lompoc, the LUSD maintains six (6) elementary schools (kindergarten through fifth grade), two (2) middle schools (sixth through eighth grade) and one (1) high school (ninth through twelfth grade). Enrollment at these schools for the 2007-2008 school year was 6,184 students. Figure 4.11-1 shows the locations of school facilities within the City that are operated by the LUSD.

The LUSD has indicated that the entire district has seen a steady decline in enrollment rates for approximately the last four (4) years (LUSD Business Department, 2008). Table 4.11-1 shows a breakdown of the current enrollment levels and the capacities of schools within the City. As shown therein, all schools within the City of Lompoc currently maintain surplus enrollment capacity.



**Table 4.11-1
 2007-2008 Lompoc School Enrollment and Capacity**

School	Student Enrollment	School Capacity	Utilization
<i>Elementary</i>			
Arthur Hapgood	413	742	56%
Clarence Ruth	581	699	83%
La Canada	684	731	93%
La Honda	424	822	51%
Leonora Fillmore	601	645	93%
Miguelito	532	594	90%
<i>Middle</i>			
El Camino	418	531	79%
Lompoc Valley	985	1439	68%
<i>High</i>			
Lompoc	1,546	1936	80%
District Total	6,184	8,139	76%

Source: Student Enrollment data was provided by <http://www.ed-data.k12.ca.us>. Existing school capacity information was provided by Lompoc Unified School District.

d. Community Library. Public library service in the City of Lompoc is provided by the Lompoc Public Library, located at 501 E. North Avenue. The Lompoc Public Library System includes the Lompoc Public Library on E. North Avenue, and branches in Vandenberg Village and Buellton. Both branches are located outside the city limits of Lompoc and do not receive City of Lompoc funding. The Lompoc Library houses 90,376 print and audiovisual materials in 19,710 square feet of space, with seating for 140. The National Library standard of 0.6 square feet of library space per capita is the accepted guideline for evaluation of facility size (Molly Gerald, Library Director, personal communication, 2008). Using this standard, the Lompoc Library facility is inadequate for the current population of 42,957; an additional 6,064 square feet is needed. It should be noted that the Charlotte's Web Children's Library is planned to be located at 211 S. I Street. This project is currently in the design development phase, and therefore is not factored into the above calculations for existing facilities.

In fiscal year 2007–2008, 8,803 residents attended 388 Lompoc Library programs, including cultural programs and literacy program events for adults, and summer reading and storytime programs for children and teens. The Library circulated 214,527 items to 29,500 registered library card holders. The Library currently offers 17 public access Internet computers and is a wi-fi facility. Library services are maintained by a staff of 7 full-time employees, supported by 26 part-time staff and 81 volunteers.



e. Hospital Services. Hospital services within the City of Lompoc are provided by the Lompoc Valley Medical Center (formerly the Lompoc Healthcare District), located at 508 East Hickory Avenue. The Lompoc Valley Medical Center was created in 1946 by the Santa Barbara County Board of Supervisors as the first operating healthcare district in California. The Center is fully licensed by the State of California Department of Health Services and is composed of over 104 licensed physicians. The center includes a 60-bed, general acute care hospital and a 110-bed skilled nursing facility. These facilities provide a variety of quality inpatient and outpatient services, health promotion and maintenance programs, as well as geriatric long-term care for District residents.

A new hospital is under construction on an 8.1-acre parcel on the north site of Ocean Avenue between 7th and 12th Streets which is projected to open in December 2009. The hospital facility will be approximately 111,000 square feet and will replace the Lompoc Valley Medical Center. The replacement of the Lompoc Valley Medical Center will comply with changes in seismic design criteria for California hospitals, as well as the requirements of Senate Bill 1953, which requires retro-fitting or replacing of existing hospital facilities. The new hospital facility will contain surgical, emergency, radiological, respiratory, and pharmaceutical services in addition to patient rooms devoted to general recovery, ICU/CCU, and OBGYN. Outpatient and support services will include physical and occupational therapy, clinical laboratory, kitchen/dining, and administrative offices. The facility is designed to support 295 employees, which is approximately the same number of staff and employees that support the existing hospital. The number of licensed beds will remain at 60, which can serve a population of approximately 60,000 (Jim Raggio, Chief Executive Officer, Lompoc Valley Medical Center, Personal Communication, December 2008). The hospital strives to maintain a service ratio of one (1) bed per 1,000 residents (Raggio, 2008). The hospital currently provides 1.4 beds per 1,000 residents.

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds.

Fire Protection Service. Information on current service demands and available staff and equipment was provided by Chief Stan Hart of the Lompoc Fire Department. The Lompoc Fire Department does not have an adopted service ratio, but rather seeks to maintain a five (5) minute response time for all emergency calls. Should new development facilitated by the 2030 General Plan be located outside the five (5) minute response zone, significant impacts could result if such development would require new or expanded fire protection facilities.

Police Protection Service. Information on current service demands and available staff and equipment was provided by Chief Timothy L. Dabney of the Lompoc Police Department. The Police Department's goal is to provide 1.5 officers per 1,000 residents. Should development facilitated by the 2030 General Plan decrease this service ratio such that it would require the construction of new or expanded facilities, significant impacts could result.



Public Schools. Information on current school facilities was provided by the Business Department at the LUSD and the Education Data Partnership (www.ed-data.k12.ca.us). Specifically, information pertaining to current school enrollments was collected from the Education Data Partnership. Student generation rates, provided by the LUSD as contained within the most recent developer impact fee report, were used to estimate potential future enrollments as a result of the population increase associated with the 2030 General Plan Update (Developer Fee Justification Study, Lompoc Unified School District, February 1996). The student generation rates used by the following analysis are 0.266 students per household for kindergarten through fifth grade, 0.141 students per household for sixth through eighth grade, and 0.129 students per household for ninth through twelfth grade.

Impacts would be significant if development facilitated by the 2030 General Plan would cause student enrollment to increase such that new or expanded school facilities would be required, the construction of which could cause environmental impacts.

Libraries. Information on library services was provided by the Library Director at Lompoc Library. The library does not have adopted thresholds of significance; however, the library uses the National Library Standard to estimate the square footage needed to serve a given population. Should the 2030 General Plan increase the City population such that libraries services are inadequate, creating the need for new or expanded facilities, significant impacts could result.

Hospital Services. The Lompoc Valley Medical Center uses a standard of one (1) hospital bed per 1,000 residents (Jim Raggio, Chief Executive Officer, Lompoc Valley Medical Center, 2008). This standard would apply to the new facility that is expected to open in December 2009. Should development facilitated by the 2030 General Plan increase the population of Lompoc such that hospital services are inadequate, creating the need for new or expanded hospital facilities, significant impacts could result.

b. Project and Cumulative Impacts.

Impact PS-1 **Development facilitated by the 2030 General Plan would introduce new development into areas outside the Fire Department's five (5) minute response zone. However, review of subsequent development by the Fire Department pursuant to existing City development review practices, the required provision of emergency access and payment of impact mitigation fees would reduce potential impacts to Class III, *less than significant*, levels.**



2030 General Plan Buildout within City Limits

Development facilitated by the 2030 General Plan within City Limits would be primarily located within the five (5) minute fire response zone (Figure 4.11-2). The exceptions are the two (2) commercially zoned parcels north of Central Avenue and east of Highway 1 that are partially outside of the five (5) minute response zone. The Lompoc Fire Department has indicated that any new development within City Limits but outside or partially outside the five (5) minute response zone would be required to provide adequate emergency access to the satisfaction of the Fire Department (Chief Stan Hart, Lompoc Fire Department, 2008). Upon the provision of emergency access, the Fire Department would amend their Five (5) minute Response Zone Map (as shown in Figure 4.11-2) to include these areas within the response zone. Because emergency access would be required by the Lompoc Fire Department as a condition of approval, and because all areas within City Limits are currently or would be within the five (5) minute response zone, new or expanded fire facilities would not be needed to provide adequate fire protection service to these areas. In addition, new development would be required to pay impact mitigation fees as set forth by the City of Lompoc. Payment of impact mitigation fees would result in funding equivalent to the provision of additional fire fighters and/or equipment for the Fire Department. Therefore, impacts related to fire protection services and the need for new or expanded facilities would be less than significant.

H Street Corridor Infill Area. The H Street Corridor Infill Area is located entirely within the five (5) minute fire response zone (Figure 4.11-2). In addition, future development in this area would be required to pay impact mitigation fees as set forth by the City of Lompoc. Payment of impact mitigation fees would result in funding equivalent to the provision of additional fire fighters and/or equipment for the Fire Department. Impacts related to fire protection services and the need for new or expanded facilities would therefore be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

As shown on Figure 4.11-2, the Bailey Avenue Specific Plan area is partially within the five (5) minute fire response zone. Although the expansion area is not fully within the zone, the Lompoc Fire Department has stated that, upon annexation, the Specific Plan area would be required to develop emergency access to the satisfaction of the Fire Department (Hart, 2008). Once emergency access is provided, the Fire Department would amend their Five (5) minute Response Zone Map (as shown in Figure 4.11-2) to include the Bailey Avenue Specific Plan expansion area. Because emergency access would be required by the Lompoc Fire Department as a condition of approval, and because the Specific Plan area would be within the five (5) minute response zone once emergency access is provided, new or expanded facilities would not



be needed to provide adequate fire protection service to this area. In addition, new development would be required to pay impact mitigations fees as set forth by the City of Lompoc. Payment of impact mitigation fees would result in funding equivalent to the provision of additional fire fighters and/or equipment for the Fire Department. Therefore, impacts related to fire protection services and the need for new or expanded facilities would be less than significant.

Expansion Area B: River Area

The River expansion area is located east of the eastern boundary of the City, bisected by the Santa Ynez River. The majority of this area is located outside of the five (5) minute response zone (refer to Figure 4.11-2). However, additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. This development is anticipated to occur in the southern portion of the expansion area, which is currently located within the five (5) minute response zone. In addition, the Lompoc Fire Department has stated that this area currently has adequate emergency access (Hart, 2008). Because the developable portion of the River expansion area is within the five (5) minute response zone and currently has adequate emergency access, new or expanded fire facilities would not be needed to provide adequate fire protection service to this area. In addition, new development would be required to pay impact mitigations fees as set forth by the City of Lompoc. Payment of impact mitigation fees would result in funding equivalent to the provision of additional fire fighters and/or equipment for the Fire Department. Therefore, impacts related to fire protection services and the need for new or expanded facilities would be less than significant.

Expansion Area C: Miguelito Canyon Area

As shown on Figure 4.11-2, the Miguelito Canyon expansion area is currently located outside of the five (5) minute fire response zone. However, the Fire Department has stated that, upon annexation, any development within this area would be required to provide adequate emergency access (Hart, 2008). Once emergency access is provided, the Fire Department has indicated that responding to emergency calls in this area within five (5) minutes would be feasible (Hart, 2008), particularly due to the proximity of Station #1, located at 115 South G Street approximately one mile northeast of the expansion area. Because development in the Miguelito Canyon expansion area would be accessible within five (5) minutes, the Department would amend their Five (5) minute Response Zone Map (as shown in Figure 4.11-2) to include the expansion area. New or expanded fire facilities would therefore not be needed to provide adequate fire protection service to this area. In addition, new development would be required to pay impact mitigations fees as set forth by the City of Lompoc. Payment of impact mitigation fees would result in funding equivalent to the provision of additional fire fighters and/or equipment for the Fire Department. Therefore, impacts related to fire protection services and the need for new or expanded facilities would be less than significant.



Expansion Area D: Wye Residential Area

As shown on Figure 4.11-2, the Wye Residential expansion area is currently located outside of the five (5) minute fire response zone. According to the Fire Department, this site is excluded from the current zone because of inadequate emergency access (Hart, 2008). However, upon annexation to the City, any development within this area would be required to provide emergency access in accordance with Lompoc Fire Department requirements (Hart, 2008). Once emergency access is provided, the Fire Department would amend their Five (5) minute Response Zone Map (as shown in Figure 4.11-2) to include the Wye Residential expansion area. Because any development within Wye Residential area would be required to provide emergency access as a condition of approval, and because the expansion area would be within the five (5) minute response zone once emergency access is provided, new or expanded fire facilities would not be needed to provide adequate fire protection service to this area. In addition, new development would be required to pay impact mitigations fees as set forth by the City of Lompoc. Payment of impact mitigation fees would result in funding equivalent to the provision of additional fire fighters and/or equipment for the Fire Department. Therefore, impacts related to fire protection services and the need for new or expanded facilities would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four (4) identified expansion areas. Impacts related to fire protection services from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, all development that could be facilitated by the 2030 General Plan would be within the existing five (5) minute fire response zone or added to the zone once the site is developed and emergency access is provided. Per the requirements of the Fire Department, all future development would be within the five (5) minute response zone. Therefore, new or expanded fire facilities, the construction of which could cause environmental impacts, would not be needed to serve such development. In addition, new development would be required to pay impact mitigations fees as set forth by the City of Lompoc. Payment of impact mitigation fees would result in funding equivalent to the provision of additional fire fighters and/or equipment for the Fire Department. Therefore, cumulative impacts related to fire protection services and the need for new or expanded facilities would be less than significant.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts to fire protection services.



***PSE Policy 4.1** The Fire Department shall strive to provide on scene response within five (5) minutes to all emergency incidents within the City.*

***PSE Policy 4.3** The City shall encourage public education regarding fire prevention, safety and first aid medical procedures.*

***PSE Policy 5.1** The Fire Department shall strive to provide on scene response within five (5) minutes at 90 percent of all structural fires within the City.*

***PSE Policy 5.2** The City shall continue to participate in an automatic aid agreement with Santa Barbara County and in mutual aid agreements with Vandenberg Air Force Base and the State of California.*

***PSE Policy 5.3** The Fire Department shall review all development projects for fire safety requirements.*

Mitigation Measures. No mitigation measures are required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact PS-2 The 2030 General Plan Update would allow some increases in building heights for future development, which may inhibit adequate fire protection to such buildings. However, the installation of sprinkler systems and standpipes, as required by the Lompoc Fire Department, would reduce impacts to Class III, *less than significant*, levels.

2030 General Plan Buildout within City Limits

Development facilitated by the 2030 General Plan would not exceed 75 feet in height except potentially within the H Street Corridor Infill Area (discussed below). Therefore, no height-related fire hazard impacts would result.

H Street Corridor Infill Area. Development accommodated within the H Street Corridor Infill area would be infill redevelopment surrounded by existing development. However, there are areas where development would either be new (located on vacant properties), or the intensity would increase beyond existing conditions in this area. This could include increased height, as well as larger overall scale and massing. As a reasonable worst-case scenario for the purposes of environmental evaluation, it is assumed that building heights could reach or exceed 75 feet in height.

Currently, the Fire Department has the capacity to reach buildings up to 75 feet in the event of a fire. As such, buildings in excess of 75 feet could not be adequately served in the event of a



fire. However, new development with heights exceeding 75 feet would be required to adhere to standard requirements set forth by the California Building Code (CBC) and additional project-specific requirements of the Lompoc Fire Department for such development. The Lompoc Fire Department would require, among other conditions, that any development in excess of 75 feet to have standpipes and automatic sprinkler systems integrated into the building design¹ (Chief Stan Hart, Lompoc Fire Department, January 21, 2009). The Fire Department has indicated that the provision of these design features would ensure that adequate fire projection can be provided to buildings in excess of 75 feet (Hart, 2009). In addition, new development would be required to comply with any additional fire safety measures set forth by the CBC, including providing adequate water pressure and water for fire flows. Therefore, the requirements of CBC and the Lompoc Fire Department would reduce impacts related to fire hazards to a less than significant level.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. However, the Bailey Avenue Specific Plan is not expected to permit buildings in excess of 75 feet. Therefore, no height-related fire hazard impacts would result.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. Such development would not include buildings in excess of 75 feet. Therefore, no height-related fire hazard impacts would result.

Expansion Area C: Miguelito Canyon Area

Future development within the Miguelito Canyon expansion area would not include buildings in excess of 75 feet. Therefore, no height-related fire hazard impacts would result.

Expansion Area D: Wye Residential Area

Future development within the Wye Residential expansion area would not exceed 75 feet in height. Therefore, no height-related fire hazard impacts would result.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four identified expansion areas. Cumulative buildout would not result in cumulative impacts because buildings in excess of 75 feet would only be

¹ Standpipes are rigid vertical pipes on each floor of a multistory building to which fire hoses can be connected.



potentially permitted in the H-Street Corridor Infill area. In addition, development of buildings in excess of 75 feet within the H-Street corridor would not diminish the fire protection available to other areas throughout the City or expansion areas. Therefore, cumulative impacts related to building height and fire protection would be less than significant.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts to fire protection services.

***PSE Policy 5.3** The Fire Department shall review all development projects for fire safety requirements.*

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact PS-3 Development facilitated by the 2030 General Plan would increase demand for police protection service, which would further exacerbate existing service ratio deficiencies and therefore require new or expanded police facilities. However, payment of impact mitigation fees would reduce impacts to Class III, *less than significant*, levels.

2030 General Plan Buildout within City Limits

Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 dwelling units. Based on the citywide average of 2.88 persons per dwelling unit (U.S. Census, 2000), this development would be expected to generate 8,173 residents. This population increase would require 12 additional police officers (based on 1.5 officers per 1,000 residents) and diminish the existing service ratio deficiency of 1.19 officers per 1,000 residents to 1 officer per 1,000 residents.

Currently, the police station does not have the capacity to support any new police officers (Chief Timothy L. Dabney, Lompoc Police Department, November 14, 2008). The Police Department has planned a facility expansion, which would provide an additional 10,000 square feet office space; however, this expansion would relieve already crowded office conditions and would not support additional police officers demanded by buildout within the City Limits (Dabney, 2008). Therefore, the population increase facilitated by the 2030 General Plan would require new or expanded facilities to support additional police officers, the construction of which could potentially cause environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future police



facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the City Limits would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional police officers and/or new or expanded facilities. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area would accommodate up to 2,184 new single family residential units and 534 multiple-family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate up to an additional 7,827 residents. This population increase would require 11 additional police officers and further diminish the existing service ratio deficiency of 1.19 officers per 1,000 residents to 0.99 officers per 1,000 residents. As discussed above, the police station does not have the capacity to support any new police officers (Dabney, 2008). This increase in population would therefore require new or expanded facilities to support additional police officers, the construction of which could cause environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future police facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the Bailey Avenue Specific Plan expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional police officers and/or new or expanded facilities. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area B: River Area

Development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground with 126 full hookup RV campsites. For this analysis, it is assumed that these RV campsites would accommodate long-term residents. As a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to an additional 362 residents. This population increase would require 0.5 additional police officers and further diminish the currently inadequate service ratio of 1.19



officers per 1,000 residents to 1.18 officers per 1,000 residents. As discussed above, the police station does not have the capacity to support new police officers (Dabney, 2008). Therefore, this increase in population would require new or expanded facilities to support additional police officers, the construction of which could cause environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future police facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the River expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional police officers and/or new or expanded facilities. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area C: Miguelito Canyon Area

Based on the citywide average of 2.88 persons per dwelling unit, development of the Miguelito Canyon expansion area with up to 25 rural density residences would be expected to generate an additional 72 residents. This population increase would require 0.1 additional police officers and further diminish the currently inadequate service ratio of 1.19 officers per 1,000 residents to 1.185 officers per 1,000 residents. As discussed above, the police station does not have the capacity to support any new police officers (Dabney, 2008). Therefore, this increase in population would require new or expanded facilities to support additional police officers, the construction of which could cause environmental impacts. In addition, future development in the Miguelito Canyon Area would require installation of radio communications facilities to provide protection services. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future police facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the Miguelito Canyon expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional police officers and/or new or expanded facilities. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area D: Wye Residential Area

Based on the citywide average of 2.88 persons per dwelling unit, development of the Wye Residential expansion area with up to 46 low density residences would be expected to generate an additional 132 residents. This population increase would require 0.2 additional police officers and further diminish the currently inadequate service ratio of 1.19 officers per 1,000 residents to 1.184 officers per 1,000 residents. As discussed above, the police station does not



have the capacity to support any new police officers (Dabney, 2008). Therefore, this increase in population would require new or expanded facilities to support additional police officers, the construction of which could cause environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future police facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the Wye Residential expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional police officers and/or new or expanded facilities. Upon compliance with these existing requirements, impacts would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four (4) identified expansion areas. Impacts related to police services from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. Upon 2030 General Plan buildout, the cumulative population increase would be approximately 16,568, resulting in a total City population of 59,525. This population increase would require 24 additional police officers and further diminish the currently inadequate service ratio of 1.19 officers per 1,000 residents to 0.86 officers per 1,000 residents. Currently, the police station does not have the capacity to support any new police officers (Dabney, 2008). Therefore, this increase in population would require new or expanded facilities to support additional police officers, the construction of which could cause environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future police facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

All future development in accordance with the 2030 General Plan Update would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional police officers and/or new or expanded facilities. Upon payment of required fees, cumulative impacts would be less than significant.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts to police protection services.

PSE Goal 7 Ensure a high level of public safety to the community.



- PSE Policy 7.1** *The Police Department shall seek to maintain a three minute average response time for all emergency service calls within the City limits.*
- PSE Policy 7.2** *The Police Department will undertake special efforts to deal with high crime rates in key areas, including commercial, industrial, and higher density residential areas.*
- PSE Policy 7.3** *The Police Department shall coordinate with other law enforcement agencies to assure communication and shall participate in mutual aid agreements to provide personnel and resources when required.*
- PSE Policy 7.4** *The Police Department shall foster and maintain a partnership with the community and deliver its services in a community-based manner.*
- PSE Goal 8** *Develop continuing systems for the prevention of crime.*
- PSE Policy 8.1** *The Police Department will work with citizens and community organizations to develop crime prevention programs addressing issues such as substance abuse and illegal gang-related activities.*
- PSE Policy 8.2** *The Police Department shall review development projects for prevention of crime, vandalism, and traffic problems.*

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

- Impact PS-4** **Buildout under the 2030 General Plan would increase student enrollment beyond current capacity. However, the payment of State-mandated school impact fees is deemed adequate mitigation by the State of California. Therefore, impacts to schools would be Class III, less than significant.**

2030 General Plan Buildout within City Limits

Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 additional residential units. Based on student generation rates of 0.266 students per household for kindergarten through fifth grade, 0.141 students per household for sixth through eighth grade, and 0.129 students per household for ninth through twelfth grade, these new residences could generate approximately 754 elementary school students, 400 middle school students and 366 high school students. Currently, the LUSD has the capacity to accommodate up to 998 elementary school students,



567 middle school students, and 1,955 high school students within City Limits. As such, the development facilitated by the General Plan within the City Limits would not contribute to an exceedance in school capacity that would require new or expanded facilities. However, the LUSD has indicated that due to declining enrollment rates, the district has planned to close El Camino Middle School. The closure of El Camino middle school would decrease available middle school capacity by 531 students, which would result in an available middle school capacity for an additional 36 students. Because development facilitated by the General Plan within City Limits could generate up to 400 additional middle school students, the General Plan would result in an exceedance of operating capacity at local middle schools.

Although development facilitated by the 2030 General Plan within City Limits would increase student enrollment and create an exceedance of operating capacity at local elementary schools, Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998) states that payment of statutory fees "...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, pursuant to compliance with CGC §65994(h), impacts relating to school capacity would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area would accommodate up to 2,718 additional residential units. Based on student generation rates discussed above, these new residences could generate approximately 722 elementary school students, 383 middle school students and 350 high school students. Currently, the LUSD has the capacity to accommodate up to 998 elementary school students, 567 middle school students and 1,955 high school students at schools within City Limits. As such, the development under the Bailey Avenue Specific Plan would not contribute to an exceedance in school capacity that would require new or expanded facilities. However, the LUSD has indicated that due to declining enrollment rates, the district has planned to close El Camino Middle School. The closure of El Camino middle school would decrease available middle school capacity by 531 students, which would result in an available middle school capacity for an additional 36 students. Because development facilitated by the Bailey Avenue Specific Plan could generate up to 383 additional middle school students, the Specific Plan would result in an exceedance of operating capacity at local middle schools. However, as discussed above, payment of State-mandated impact mitigation fees would reduce any potential impacts to a less than significant level.



Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. For the purpose of this analysis, it is assumed that these RV campsites would accommodate long-term residents, as a worst case scenario. Based on student generation rates discussed above, these new residences could therefore generate approximately 33 elementary school students, 17 middle school students and 16 high school students. Currently, the LUSD has the capacity to accommodate up to 998 elementary school students, 567 middle school students and 1,955 high school students within City Limits. As such, the development within the River expansion area would not contribute to an exceedance in school capacity that would require new or expanded facilities. As discussed above, the closure of El Camino Middle School would decrease available middle school capacity by 531 students, which would result in an available middle school capacity for an additional 36 students. The River expansion could generate up to 17 middle school students, which would not exceed the available capacity of local schools after the closure of El Camino Middle School. Nevertheless, future development would be required to pay school impact fees during the permitting process. Impacts would be less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 rural density residences. Based on student generation rates discussed above, these new residences could generate approximately six (6) elementary school students, three (3) middle school students and three (3) high school students. Currently, the LUSD has the capacity to accommodate up to 998 elementary school students, 567 middle school students and 1,955 high school students within City Limits. As such, the development within the Miguelito Canyon expansion area would not contribute to an exceedance in school capacity such that it would require new or expanded facilities. As discussed above, the closure of El Camino Middle School would decrease available middle school capacity by 531 students, which would result in an available middle school capacity for an additional 36 students. The Miguelito Canyon expansion area could generate up to three (3) middle school students, which would not exceed the available capacity of local schools after the closure of El Camino Middle School. Nevertheless, future development would be required to pay school impact fees during the permitting process. Impacts would be less than significant.

Expansion Area D: Wye Residential Area

The Wye Residential expansion area would accommodate up to 46 low density single-family units. Based on student generation rates discussed above, these new residences could generate approximately 12 elementary school students, six (6) middle school students and five (5) high school students. Currently, the LUSD has the capacity to accommodate up to 998 elementary school students, 567 middle school students and 1,955 high school students within City Limits. As such, the development within the Wye Residential area would not contribute to an



exceedance in school capacity such that it would require new or expanded facilities. As discussed above, the closure of El Camino Middle School would decrease available middle school capacity by 531 students, which would result in an available middle school capacity for an additional 36 students. The Wye Residential expansion area could generate up to six (6) middle school students, which would not exceed the available capacity of local schools after the closure of El Camino Middle School. Nevertheless, future development would be required to pay school impact fees during the permitting process. Impacts would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four (4) identified expansion areas. Impacts related to public schools from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. Upon 2030 General Plan buildout, up to 5,753 residential units could be developed. This development could generate 1,530 elementary school students, 811 middle school students and 742 high school students. Currently, the LUSD has the capacity to accommodate up to 998 elementary school students, 567 middle school students and 1,955 high school students within City Limits. As a result, cumulative buildout of the 2030 General Plan would cause the LUSD to exceed current student capacity in elementary and middle schools, which would create the need for new or expanded school facilities. Additionally, the closure of El Camino Middle School would decrease available middle school capacity by 531 students. This would further exacerbate overcrowding at local middle schools and create the need for new or expanded school facilities.

Although development facilitated by the 2030 General would increase student enrollment and cause LUSD to exceed operating capacity at local elementary and middle schools, Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998) states that payment of statutory fees "...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, pursuant to compliance with CGC §65994(h), cumulative impacts relating to school capacity would be less than significant.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts to school facilities.

PSE Policy 10.3 *The City shall assist Lompoc Unified School District to ensure mitigation of impacts upon school facilities from new development within the City.*



PSE Policy 10.4 *The City shall cooperate with Lompoc Unified School District to obtain funds from other sources to provide high quality public educational facilities.*

PSE Goal 11 *Maximize the integration of school facilities within the fabric of the community.*

PSE Policy 11.1 *The City shall assist the Lompoc Unified School District to identify suitable future uses for any school sites determined to be no longer suitable by the District.*

PSE Policy 11.2 *When new residential developments have a significant impact on school facilities, the City shall take steps to assure that developers coordinate with the Lompoc Unified School District to provide timely and proper submittal of required development impact fees.*

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. With payment of required school fees, impacts would be less than significant without mitigation.

Impact PS-5 **The Lompoc Public Library is currently undersized by 6,064 square feet. The increase in population associated with development facilitated by the 2030 General Plan will substantially increase the deficit of the facility's size. However, payment of required library impact mitigation fees would reduce potential impacts. Therefore, impacts related to City library system would be Class III, *less than significant*.**

2030 General Plan Buildout within City Limits

Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 dwelling units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate up to an additional 8,173 residents. This population increase would bring the total population of the City of Lompoc to approximately 51,130 persons. Based on the National Library planning ratio of 0.6 square feet of library per capita, General Plan buildout within the existing City Limits would require an additional 10,968 square feet of library space, or 4,903.8 square feet above existing deficiencies, to serve the total population. The demand for additional library space would create the need for new or expanded library facilities, the construction of which could cause adverse environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of



future library facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the City Limits would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional library space. Upon compliance with these existing requirements, impacts to library services would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area would accommodate up to 2,184 new single family residential units and 534 multiple-family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate up to an additional 7,827 residents. This population increase would bring the total population of the City of Lompoc to approximately 50,784 persons. Based on the National Library planning ratio of 0.6 square feet of library per capita, buildout of the Bailey Avenue Specific Plan would require an additional 10,760.4 square feet of library space, or 4,696.2 square feet above existing deficiencies, to serve this population. The demand for additional library space would create the need for new or expanded library facilities, the construction of which could cause adverse environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future library facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the Bailey Avenue Specific Plan expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional library space. Upon compliance with these existing requirements, impacts to library services would be less than significant.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. For the purpose of this analysis, it is assumed that these RV campsites would accommodate long-term residents. Therefore, as a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to 362 additional residents. This population increase



would bring the total population of the City of Lompoc to approximately 43,319 persons. Based on the National Library planning ratio of 0.6 square feet of library per capita, buildout of the River expansion area would require an additional 6,281.4 square feet of library space, or 217.2 square feet above existing deficiencies, to serve this population. The demand for additional library space would create the need for new or expanded library facilities, the construction of which could cause adverse environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future library facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the River expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional library space. Upon compliance with these existing requirements, impacts to library services would be less than significant.

Expansion Area C: Miguelito Canyon Area

The Miguelito Canyon expansion area would accommodate up to 25 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate up to an additional 72 residents. This population increase would bring the total population of the City of Lompoc to approximately 43,029 persons. Based on the National Library planning ratio of 0.6 square feet of library per capita, buildout of the Miguelito Canyon expansion area would require an additional 6,107.4 square feet of library space, or 43.2 square feet above existing deficiencies, to serve this population. The demand for additional library space would create the need for new or expanded library facilities, the construction of which could cause adverse environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future library facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the Miguelito Canyon expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional library space. Upon compliance with these existing requirements, impacts to library services would be less than significant.

Expansion Area D: Wye Residential Area

Development within Wye Residential expansion area would accommodate up to 46 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate up to an additional 132 residents. This population increase would bring the total population of the City of Lompoc to approximately 43,089



persons. Based on the National Library planning ratio of 0.6 square feet of library per capita, buildout of the Wye Residential expansion area would require an additional 6,143.4 square feet of library space, or 79.2 square feet above existing deficiencies, to serve this population. The demand for additional library space would create the need for new or expanded library facilities, the construction of which could cause adverse environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future library facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

Future development within the Wye Residential expansion area would be required to pay impact fees. Payment of impact fees would result in funding equivalent to the provision of additional library space. Upon compliance with these existing requirements, impacts to library services would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four identified expansion areas. Impacts related to library services from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. Upon 2030 General Plan buildout, the cumulative population increase would be approximately 16,568, resulting in a total City population of 59,525. Based on the National Library planning ratio of 0.6 square feet of library per capita, General Plan buildout within existing City Limits and all four expansion areas would require an additional 16,005 square feet of space, or 9,940.8 square feet above existing deficiencies, to serve this population. The demand for additional library space would create the need for new or expanded library facilities, the construction of which could cause adverse environmental impacts. Since the location or design of these facilities has not been determined, impacts associated with their construction would be too speculative to evaluate at this time. Environmental impacts associated with construction of future library facilities would be evaluated in a separate environmental document prepared pursuant to the California Environmental Quality Act (CEQA).

As discussed above, payment of impact fees would result in funding equivalent to the provision of additional library space. Upon compliance with these existing requirements, impacts would be less than significant.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts to library services.



- PSE Policy 6.1** *The City shall assist the Library Board of Trustees in making improvements to the City of Lompoc library system and expansion of the facilities to maintain the system's quality and capacity.*
- PSE Policy 6.2** *The City shall assist the Library Board of Trustees in providing sufficient capacity in the City of Lompoc library system prior to approval of new development projects.*
- PSE Policy 6.3** *The City shall cooperate with the Library Board of Trustees to ensure that improvements to the City of Lompoc library system necessitated by new development within the City are proportionately financed by the project sponsor.*
- PSE Policy 6.5** *The City shall continue to work with the County of Santa Barbara and the Library Board of Trustees in providing regional library facilities and services which serve all segments of the population.*

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

- Impact PS-6** **Development facilitated by the 2030 General Plan would increase demand for hospital services; however, the Lompoc Valley Medical Center has the capacity to accommodate the increased demand. Therefore, impacts would be Class III, *less than significant.***

2030 General Plan Buildout within City Limits

Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 dwelling units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 8,173 residents. This population increase would bring the total population of the City of Lompoc to approximately 51,130 persons. Based on a ratio of one (1) hospital bed per 1,000 persons, this increased population would require a total of 51 hospital beds. With a total of 60 beds, the Lompoc Valley Medical Center would have a nine (9) bed surplus upon buildout within the existing City Limits. Therefore, buildout of the 2030 General Plan within the existing City Limits would not impact hospital services such that new or expanded facilities would be needed.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level



review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development within the Bailey Avenue Specific Plan expansion area would accommodate up to 2,184 new single family residential units and 534 multiple-family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 7,827 residents. This population increase would bring the total population of the City of Lompoc to approximately 50,785 persons. Based on a ratio of one (1) hospital bed per 1,000 persons, this increased population would require a total of 50 hospital beds. With a total of 60 beds, the Lompoc Valley Medical Center would have a ten bed surplus upon buildout of the Specific Plan area. Therefore, development within the Bailey Avenue Specific Plan expansion area would not impact hospital services such that new or expanded facilities would be needed.

Expansion Area B: River Area

Development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground with 126 full hookup RV campsites. For this analysis, it is assumed that these RV campsites would accommodate long-term residents. As a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to an additional 362 residents. This population increase would bring the total population of the City of Lompoc to approximately 43,319 persons. Based on a ratio of one (1) hospital bed per 1,000 persons, this increased population would require a total of 43 hospital beds. With a total of 60 beds, the Lompoc Valley Medical Center would have a 17 bed surplus upon buildout of the River expansion area. Therefore, the River expansion area would not impact hospital services such that new or expanded facilities would be needed.

Expansion Area C: Miguelito Canyon Area

Development within Miguelito Canyon area would accommodate up to 25 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 72 residents. This population increase would bring the total population of the City of Lompoc to approximately 43,029 persons. Based on a ratio of one (1) hospital bed per 1,000 persons, this increased population would require a total of 43 hospital beds. With a total of 60 beds, the Lompoc Valley Medical Center would have a 17 bed surplus upon buildout of the Miguelito Canyon expansion area. Therefore, the Miguelito Canyon area would not impact hospital services such that new or expanded facilities would be needed.



Expansion Area D: Wye Residential Area

Development within the Wye Residential expansion area would accommodate up to 46 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, development of the Wye Residential expansion area with up to 46 low density residences would be expected to generate an additional 132 residents. This population increase would bring the total population of the City of Lompoc to approximately 43,089 persons. Based on a ratio of one (1) hospital bed per 1,000 persons, this increased population would require a total of 43 hospital beds. With a total of 60 beds, the Lompoc Valley Medical Center would have a 17 bed surplus upon buildout of the Wye Residential expansion area. Therefore, the Wye Residential area would not impact hospital services such that new or expanded facilities would be needed.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries (including the H Street Corridor Infill area), as well as buildout of the four (4) identified expansion areas. Impacts related to hospital services from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. Upon 2030 General Plan buildout, the cumulative population increase would be approximately 16,568, resulting in a total City population of 59,525. Based on a ratio of one (1) hospital bed per 1,000 persons, this increased population would require a total of 59 hospital beds. With a total of 60 beds, the Lompoc Valley Medical Center would have a one (1) bed surplus upon buildout of the General Plan. Therefore, this increase in population would not impact hospital services such that new or expanded facilities would be needed.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan does not include policies which would reduce impacts to hospital services.

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.



4.12 RECREATION

This section analyzes the City of Lompoc 2030 General Plan's potential impacts with respect to recreational resources within the City. Parks and open space are discussed in this section.

4.12.1 Setting

a. Existing Parks and Recreation Facilities. The City of Lompoc owns and operates 21 public parks and recreation facilities (parkland) which total 447 acres, as shown in Figure 4.12-1. Although the City owns and operates these parks, approximately 227 acres of this parkland is located outside of but immediately adjacent to the existing City Limits. The parkland outside City Limits includes River Park, Riverbend Park and an unnamed open space area located between River Park and Riverbend Park. Parkland within the City Limits totals 220 acres. This total includes 2.5 acres at Lompoc Valley Middle School, and 0.32 acres at the Civic Auditorium which are available under a Joint-Use Agreement between the City and the Lompoc Unified School District (LUSD).

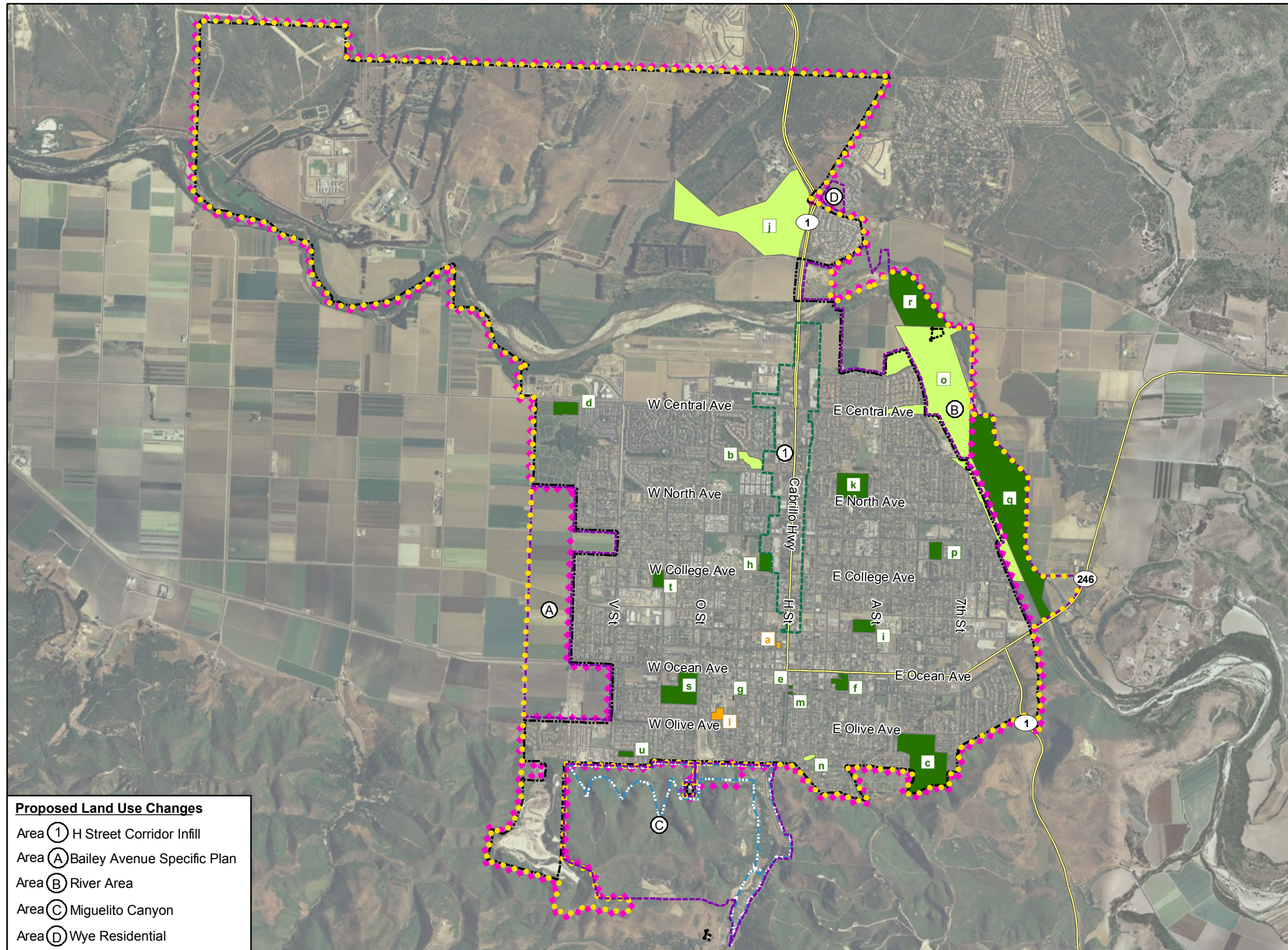
Of the 447 total acres, 28 acres are designated as neighborhood parks, 192 acres are designated as community parks, and 227 acres are designated as regional parks. Approximately 197 of these acres are also designated as open space. These open space areas are open to the public for passive recreation, which generally includes hiking and/or biking trails. An inventory of existing and planned public parks and recreational areas in and surrounding Lompoc is provided in Table 4.12-1. The City has planned to construct three additional parks, which would be owned and operated by the City of Lompoc, totaling 12.8 acres. These parks are either currently under construction or expected to be completed before the end of 2009.

Additional parkland in and around Lompoc, but not operated by the City, are also available to Lompoc residents. These include: Jalama Beach County Park (24 miles south of Lompoc), Ocean Beach County Park (13 miles west of Lompoc), Miguelito County Park (three miles south of Lompoc), and La Purisima Mission State Historic Park (located northeast of Lompoc), as well as the Endeavour Center (located on Vandenberg Air Force Base), and private facilities such as La Purisima Golf Course (located east of Lompoc) and multiple homeowner association-operated play areas, sports fields, and pools throughout the City.



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Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential

LEGEND

Parkland by Type

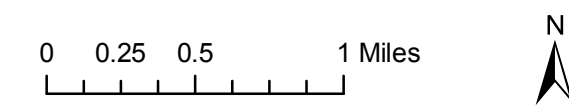
- Turf Area
- Open Space
- Other

Additional Overlays

- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Map ID	Name	Acreage
a	Anderson Recreation Center	0.30
b	Barton Park	5.11
c	Beattie Park	42.90
d	Briar Creek Park	4.00
e	Centennial Square	0.32
f	City Hall	2.50
g	Civic Auditorium	0.32
h	College Park and Aquatic Center	4.56
i	J.M. Park	5.16
j	Ken Adams Park	118.79
k	Lompoc Library	1.79
l	Lompoc Valley Middle School	2.50
m	Museum	0.32
n	Old Mission Site	1.07
o	Open Space	71.86
p	Pioneer Park	4.71
q	River Park	113.81
r	Riverbend Park	41.32
s	Ryon Memorial Park	19.62
t	Thompson Park	4.34
u	Westvale Park	1.96
	Total Acreage	447.26

Source: City of Lompoc Parks, Recreation and Urban Forestry Department, 2009.



Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Existing Parks Owned and Operated By the City

Figure 4.12-1
 City of Lompoc

**Table 4.12-1
Lompoc Park & Recreational Facilities**

Park Name	Acreeage	Type	Amenities
Existing Parks and Recreation Areas within City Limits			
Barton Park	5.11	Neighborhood	Playground, benches, basketball court, walking path, and open turf play areas, access to the East-West Channel Bike Path and dog park
Beattie Park	42.90	Community	Playground, picnic area, basketball courts, horseshoe pits, fitness trail, athletic field, BBQs, urban forest preserve
Briar Creek Park	4	Community	Tot lot, restrooms, baseball field, open play area
Centennial Square	0.32	Community	Benches, gazebo, art gallery
College Park and Lompoc Aquatic Center	4.56	Neighborhood	Skate park, YMCA location. Aquatic center includes competition pool, recreation pool with water features and water slides, therapeutic pool, and classroom
City Hall	2.50	Community	Benches, public art
J.M. Park	5.16	Neighborhood	Playground, BBQs, 2 lighted baseball fields, basketball court
Ken Adam	118.79	Community	Playground, BBQs, nature trails, horseshoe and volleyball facilities
Lompoc Library	1.79	Community	Library amenities, benches, public art
Museum	0.32	Community	Benches, public art
Old Mission Site	1.07	Community	Educational amenities
Pioneer Park	4.71	Neighborhood	Baseball field, playground, benches, pre-school facility, open turf areas
Ryon Memorial Park	19.62	Community	Baseball and softball fields, tennis courts, athletic field, tot lot, BBQs, stage
Thompson Park	4.34	Neighborhood	Playground, BBQs, softball field, benches, open turf
Westvale Park	1.96	Neighborhood	Playground, tot lot, benches, open turf areas
Subtotal	217.15		
Parks and Recreation Available Through Joint-Use Agreements with Lompoc Unified School District			
Lompoc Valley Middle School	2.5	Neighborhood	Playground, softball field, benches
Civic Auditorium	0.32	Community	430 seat auditorium and classroom
Subtotal	2.82		
Existing Parks and Recreational Areas Owned and Operated by the City Outside City Limits			
River Bend Park	41.32	Regional	Baseball field, BBQs, batting cages, multi-use athletic fields
River Park	113.81	Regional	Playground, fitness trail, Kiwanis Lake, horseshoe pits, volleyball courts, campground, large group BBQs
Unnamed Open Space (adjacent to River Park)	71.86	Regional	Open space, passive recreation trails
Subtotal	226.99		
Total Existing Acreeage	446.96		
Planned Park Facilities			
River Bend Park (phase III)	4.3	Regional	Baseball fields, restrooms, concessions
River Park Campground	8	Regional	Campground, restrooms, showers
Unnamed Park	0.5	Community	Formal park, fountain, art, restrooms
Total Proposed Acreeage	12.8		
Total Existing and Proposed Acreeage	459.76		

Source: City of Lompoc, Parks, Recreation and Urban Department, 2008



The City of Lompoc also operates a wide range of recreation programs for residents of all ages. The City offers a variety of sports programs, including youth and adult sports programs, classes, aquatics, and workshops. City-sponsored senior programs include art classes, bingo nights, and golf lessons. Youth programs include seasonal camps, after school programs, dance instruction and art classes. The City also hosts a number of special events throughout the year, including seasonal festivals and holiday celebrations. Some programs currently offered by the City are listed below.

- *Sports and Athletics Programs:* Basketball leagues, baseball leagues, swim lessons, recreation swimming, karate instruction, archery instruction, dance classes, swim team, youth tennis program, skateboarding workshop, golf instruction.
- *Youth Care:* After school programs, summer camps, classes, workshops, and events.
- *Cultural Arts:* Special events, classes, and programs.
- *Special Events:* Children's Holiday Parade, specialty dances, skate park competitions, tournaments, 4th of July fireworks show, health and wellness expo, specialty runs/walks, Easter egg hunt, and track meet.

b. Recreation Funding. The Quimby Act gives the legislative body of a City or County the authority, by ordinance, to require the dedication of land or payment of in-lieu fees, or a combination of both, for park and recreational purposes as a condition of approval of a tract map or parcel map. Pursuant to citywide fee ordinances, the City Parks and Recreation Department administers a Park Mitigation Fee Program that requires the payment of fees in Lompoc from new housing developments. Quimby Act Fees, assessed on subdivision projects, and Development Mitigation Fees, assessed on housing projects, are the two (2) fee ordinances that apply. Past projects have included capital improvements within city parks as well as public-serving facilities within school properties in the City. No fees are required for commercial or industrial development.

c. Regulatory Setting. The City's General Plan provides the framework for evaluating potential impacts to recreational resources within the City:

PRE Policy 1.1 *The City shall provide park facilities which respond to the needs of a diverse population using the following standards:*

- *Neighborhood Parks – 2 acres per 1000 persons*
- *Community Parks – 5 acres per 1000 persons*
- *Regional Parks – 5 acres per 1000 persons*

The City of Lompoc currently has a population of 42,892 (Department of Finance, 2009). Based on the standards outlined in Policy 1.1 above, the City of Lompoc should have 85.8 acres of neighborhood parkland, 214.5 acres of community parkland and 214.5 acres of regional



parkland, for a total of 515.5 acres. As shown in Table 4.12-1, the City currently has 28 acres of neighborhood parkland, 192 acres of community parkland, and 227 acres of regional parkland. The City therefore has an existing deficit of 57.8 acres of neighborhood parkland and 22.5 acres of community parkland. The City exceeds the regional parkland requirement by 12.5 acres.

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. Impacts to parks and recreational facilities were assessed based on the comparison of current parkland to population ratio and the target ratio as set forth by the General Plan Parks and Recreation Element. The City does not have explicit thresholds regarding impacts involving recreational facilities. However, the Parks and Recreation Element has a standard requirement of 12 acres of parkland per 1,000 residents, which is to include two acres of neighborhood parks, five acres of community parks and five acres of regional parks. Therefore, impacts are potentially significant if a project causes the City to provide less than 12 acres of parkland per 1,000 residents, as a deficiency in this ratio may require the development of additional parks and recreational facilities or cause the deterioration of facilities.

In addition, in accordance with Appendix G of the State CEQA Guidelines, an impact is considered significant if physical changes that could be facilitated by buildout of the 2030 General Plan would result in one or more of the following conditions:

- *The project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated*
- *The project includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment*

b. Project and Cumulative Impacts.

Impact REC-1 Development facilitated by the 2030 General Plan would increase City population and proportionate demand on parkland such that the City would not meet its parkland to population ratio upon buildout. However, development of proposed parks and payment of in-lieu fees would reduce potential impacts to a Class III, *less than significant*, level.

2030 General Plan Buildout within City Limits

Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 dwelling units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to



generate up to an additional 8,173 residents. Based on Parks and Recreation Element standards, this population increase would generate a need for 16.5 acres of neighborhood parkland, 40.9 acres of community parkland, and 40.9 acres of regional parkland. This additional demand for parkland would exacerbate existing deficiencies and create the need for new or expanded recreational facilities, the construction of which could cause adverse environmental impacts.

Future development within the City Limits would be required to pay in-lieu fees. Payment of in-lieu park fees would result in funding equivalent to the provision of public parks in accordance with State Quimby Act standards. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

The Bailey Avenue Specific Plan expansion area would accommodate up to 2,184 new single family residential units and 534 multiple-family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate up to an additional 7,827 residents. Based on Parks and Recreation Element standards, this population would generate a need for 15.7 acres of neighborhood parkland, 39.1 acres of community parkland, and 39.1 acres of regional parkland. The Bailey Avenue Specific Plan would provide an additional 59 acres of community parkland, which would include 22 acres of developed parkland and 37 acres of open space area with passive recreation. Demand for this type of parkland from this development would therefore be met internally. However, the additional demand for neighborhood and regional parkland would create the need for new or expanded recreational facilities, the construction of which could cause adverse environmental impacts.

Future development within the Bailey Avenue Specific Plan expansion area would be required to pay in-lieu fees. Payment of in-lieu park fees would result in funding equivalent to the provision of public parks in accordance with State Quimby Act standards. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area B: River Area

Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. For the purpose of this analysis, it is assumed that these RV campsites would accommodate



long-term residents. Therefore, as a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to an additional 362 residents. Based on Parks and Recreation Element standards, this population increase would generate a need for 0.7 acres of neighborhood parkland, 1.8 acres of community parkland, and 1.8 acres of regional parkland. Because the City exceeds the regional parkland requirement by 12.2 acres, the additional demand for this type of parkland would not exceed current supply. However, the demand for neighborhood and community parkland would further exacerbate existing deficiencies. This additional demand for neighborhood and community parkland would create the need for new or expanded recreational facilities, the construction of which could cause adverse environmental impacts.

Future development within the River expansion area would be required to pay in-lieu fees. Payment of in-lieu park fees would result in funding equivalent to the provision of public parks in accordance with State Quimby Act standards. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area C: Miguelito Canyon Area

Based on the citywide average of 2.88 persons per dwelling unit, development of the Miguelito Canyon expansion area with up to 25 rural density residences would be expected to generate up to an additional 72 residents. Based on Parks and Recreation Element standards, this population increase would generate a need for 0.1 acres of neighborhood parkland, 0.4 acres of community parkland, and 0.4 acres of regional parkland. Because the City exceeds the regional parkland requirement by 12.2 acres, the additional demand for this type of parkland would not exceed current supply. However, the demand for neighborhood and community parkland would further exacerbate existing deficiencies. This additional demand for neighborhood and community parkland would create the need for new or expanded recreational facilities, the construction of which could cause adverse environmental impacts.

Future development within the Miguelito Canyon expansion area would be required to pay in-lieu fees. Payment of in-lieu park fees would result in funding equivalent to the provision of public parks in accordance with State Quimby Act standards. Upon compliance with these existing requirements, impacts would be less than significant.

Expansion Area D: Wye Residential Area

Based on the citywide average of 2.88 persons per dwelling unit, development of the Wye Residential expansion area with up to 46 low density residences would be expected to generate up to an additional 132 residents. Based on Parks and Recreation Element standards, this population increase would generate a need for 0.3 acres of neighborhood parkland, 0.7 acres of community parkland, and 0.7 acres of regional parkland. Because the City exceeds the regional



parkland requirement by 12.2 acres, the additional demand for this type of parkland would not exceed current supply. However, demand for neighborhood and community parkland would further exacerbate existing deficiencies. This additional demand for neighborhood and community parkland would create the need for new or expanded recreational facilities, the construction of which could cause adverse environmental impacts.

Future development within the Wye Residential expansion area would be required to pay in-lieu fees. Payment of in-lieu park fees would result in funding equivalent to the provision of public parks in accordance with State Quimby Act standards. Upon compliance with these existing requirements, impacts would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four identified expansion areas. Impacts related to recreation from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. Upon 2030 General Plan buildout, the cumulative population increase would be approximately 16,568, resulting in a total City population of 59,525. This population would generate a need for 119.1 acres of neighborhood parkland (33.3 acres above existing demand), 296.3 acres of community parkland (81.8 acres above existing demand) and 296.3 acres of regional parkland (81.8 acres above existing demand). The 59 acres of community parkland in the Bailey Avenue Specific Plan area would accommodate some of this demand, as would the existing 12.5 acre surplus in regional parkland. However, the additional demand would still exceed current and anticipated supplies. This additional demand for parkland would create the need for new or expanded recreational facilities, the construction of which could cause adverse environmental impacts. However, as discussed above, future development within the City Limits would be required to pay in-lieu fees. Upon compliance with these existing requirements, impacts would be less than significant.

General Plan Policies which Reduce Impacts

The General Plan Parks and Recreation Element (PRE) includes the following goals and policies which reduce impacts to parks and recreational facilities.

PRE Goal 1 *Provide parkland and recreational facilities which are convenient to all neighborhoods and meet the needs of a diverse population.*

PRE Policy 1.1 *The City shall provide park facilities which respond to the needs of a diverse population using the following standards:*

Neighborhood Parks – 2 acres per 1000 persons



*Community Parks – 5 acres per 1000 persons
Regional Parks – 5 acres per 1000 persons.*

- PRE Policy 1.2** *The City shall provide adequate park sites throughout the City, especially in the northwest and northeast portions of the City, as well as other future growth areas.*
- PRE Policy 1.3** *The City shall develop Neighborhood Parks in currently-developed areas of the City (e.g. high density housing areas), where there is a shortage of parks.*
- PRE Policy 1.4** *Privately-owned recreation amenities and open space provided in developments shall be usable for organized recreational purposes.*
- PRE Policy 1.5** *The City shall encourage establishment of off-road bicycling/hiking/equestrian trails extending to Santa Ynez River Park, La Purisima Mission, State Burton Mesa Chaparral Preserve, Allan Hancock College site, Ocean Beach Park, and along the Santa Ynez River.*
- PRE Policy 1.6** *The City shall maximize opportunities for joint recreation use of public facilities and lands administered by other public agencies.*
- PRE Policy 1.7** *The City shall encourage Santa Barbara County to improve and expand the parks in the Lompoc Valley and surrounding area, including Ocean Beach Park, Miguelito Park, and Jalama Beach Park.*
- PRE Goal 2** *Provide a diversity of recreation programs and facilities to meet the needs of all citizens.*
- PRE Policy 2.1** *The City shall continue and, where possible, expand recreation programs for children, teens, adults, seniors, and disabled persons.*
- PRE Policy 2.2** *The City shall make lands or facilities owned by the City available to community and non-profit groups for activities which meet existing recreation needs and involve voluntary participation on the part of community residents in the design, development, or ongoing maintenance activities at existing and future park and recreation sites.*
- PRE Policy 2.3** *The City shall encourage collaborative efforts among private recreation groups to develop and maintain multi-use park and recreation facilities which serve a wide range of users.*



- PRE Goal 3** *All park and recreation facilities shall be well designed, developed, and maintained, as well as serve to enhance the positive aspects of the neighborhood.*
- PRE Policy 3.1** *The City shall encourage developments adjacent to parks or open space to provide direct access to, and common open space contiguous with, such areas.*
- PRE Policy 3.2** *The City shall improve and rehabilitate existing parks as needed and as funds become available.*
- PRE Goal 4** *The costs of providing parks and recreation facilities and programs shall be equitably shared by new development and current users.*
- PRE Policy 4.1** *The City shall require all residential, commercial, and industrial developments to contribute toward acquisition and/or improvement of parks and recreation facilities.*
- PRE Policy 4.2** *The recreation program offered by the Parks and Recreation Department should be financially self-supporting.*
- PRE Policy 4.3** *The City shall pursue various private, local, state, and federal sources of funding for acquisition, development, and maintenance of park and recreation facilities.*
- PRE Policy 4.4** *The City shall encourage the development of private commercial recreational facilities.*
- PRE Policy 4.5** *Provided that sufficient resources are available, the City shall enable children and adults to participate in recreation programs regardless of their ability to pay.*

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.



4.13 TRANSPORTATION and CIRCULATION

The following section includes an analysis of the existing and future traffic operations for the key intersections and roadways in the City of Lompoc. The section reviews traffic volume forecasts assuming buildout of the General Plan, and identifies intersection and roadway improvements that would be required to accommodate the buildout traffic volumes. Impacts associated with air traffic patterns are addressed in Section 4.6, *Hazards and Hazardous Materials*.

4.13.1 Setting

a. Existing Vehicular Circulation System. The City of Lompoc is served by a network of highway, arterial, collector, and local roadways. The City is bisected by two state highways, State Route (SR) 1 and SR 246. In the city these roadways are H Street (SR 1) and Ocean Avenue (SR 246). The Santa Ynez River runs along the east and north sides of the city. There are limited crossings of the river, with H Street, SR 246, and Santa Lucia Canyon Road, providing the main crossings. SR 1 and SR 246 are under the jurisdiction of the California Department of Transportation (Caltrans). Roadways within the City limits are under the jurisdiction of the City of Lompoc. Roadways outside of the City are under the jurisdiction of the County of Santa Barbara. The primary components of the City street system are listed below and described in the following text.

- *SR1/ H Street*
- *SR 246 / Ocean Avenue*
- *Central Avenue*
- *V Street*
- *O Street*
- *A Street*
- *North Avenue*
- *College Avenue*
- *7th Street*
- *Santa Lucia Canyon Road*
- *Harris Grade Road*

Regional Access Routes

Highway 1 (Cabrillo Highway) is a north/south, two-lane highway with a posted speed limit of 55 miles per hour (mph), south of SR 246. Highway 1 is signalized at its intersection with SR 246, Ocean Avenue, and 12th Street. This facility is classified as a Major Arterial in the Circulation Element of the Lompoc General Plan. Average daily traffic volumes on Highway 1, south of SR 246, totaled 8,000 in 2007 (Caltrans 2008).

State Route 246 (Buellton–Lompoc Road) is a two-lane undivided highway. SR 246 provides a two-lane bridge over the Santa Ynez River that is 25 feet wide. Buellton–Lompoc Road has a posted speed limit of 55 mph east of the 12th Street/Highway 1 intersection. This facility is classified as a Major Arterial in the Circulation Element of the Lompoc General Plan. Average daily traffic volumes on SR 246 (east of SR 1) totaled 9,300 in 2007 (Caltrans 2008).



Lompoc–Casmalia Road (Highway 1) is a four–lane expressway that provides access to Vandenberg Air Force Base, Vandenberg Village, and Santa Maria from the City of Lompoc. Lompoc–Casmalia Road has a 20–30 foot wide median in its center and six foot wide shoulders flanking the outside lanes of the roadway. It has a posted speed limit of 55 mph adjacent to the City of Lompoc and 65 mph north of the City Limit. Lompoc–Casmalia Road becomes Purisima Road east of H Street. Lompoc–Casmalia Road carried 19,000 average daily trips in 2007 (Caltrans 2008).

Harris Grade Road is a north/south two–lane arterial with a speed of 55 mph.

Central Avenue is a four–lane arterial (east of O Street). West of O Street it transitions to a three lane roadway with two eastbound lanes and one westbound lane. The intersection of Central Avenue and H Street is signalized. The posted speed limit on Central Avenue is 45 mph from A Street to V Street and 50 mph west of V Street.

H Street is the main north/south arterial in the City of Lompoc and is designated SR 1 south of Purisima Road to Ocean Avenue. The posted speed limit varies between 30 and 35 mph, south of Central Avenue, and 55 mph near the Santa Ynez River. H Street provides much of the commercial access for the area. North of its intersection with Lompoc–Casmalia Road/Purisima Road, H Street becomes Harris Grade Road.

Santa Lucia Canyon Road (Floradale Avenue) is a two–lane roadway that extends between Lompoc–Casmalia Road (Highway 1) and Ocean Avenue. Santa Lucia Canyon Road provides an alternative access to the north for motorists traveling to Santa Maria, the Federal Penitentiary, and the Vandenberg Air Force Base access at Washington Avenue. Santa Lucia Canyon Road is controlled by a stop sign at Highway 1 and is signalized at Central Avenue.

The Santa Ynez Bridge on Highway 1 provides four through lanes over the Santa Ynez River. This bridge provides a critical connection between Vandenberg Village, Mission Hills, Mesa Oaks, the City of Santa Maria, and the City of Lompoc. The lateral clearance on each side of the travel lanes is a minimum of 6.4 feet. The western side of the bridge includes a bike/pedestrian lane.

City System

Primary north–south roadways in the City of Lompoc include the following (listed from west to east):

Bailey Avenue is a two–lane north/south roadway from Central Avenue to Ocean Avenue. This section is poorly maintained and is utilized as an agricultural road. From Ocean Avenue to Olive Avenue, Bailey Avenue is well maintained and provides access for residential development and the City Landfill located south of Olive Avenue. At Central Avenue, Bailey Avenue merges with



Western Avenue to separate residential traffic from the agricultural activities that require the use of Bailey Avenue.

V Street is a two-lane north/south roadway that extends from Central Avenue to Olive Avenue. Its intersections with North Avenue, College Avenue, Laurel Avenue, and Ocean Avenue have all-way stop signs. The intersection of V Street with Central Avenue is signalized. The posted speed limit on V Street is 40 mph (north of North Avenue and south of Ocean Avenue) and 35 mph (between North Avenue and Ocean Avenue). The intersection of V Street with Laurel Avenue experiences congestion during the morning peak hour associated with traffic to and from Clarence Ruth Elementary School.

O Street is a north/south roadway that extends from the Airport property, north of Central Avenue, to Olive Avenue. O Street is a four-lane roadway north of Oak Avenue and a two-lane roadway south of Oak Avenue. The intersections with Central Avenue, Barton Avenue, and Ocean Avenue are signalized. The four intersections at North Avenue, Pine Avenue, College Avenue and Laurel Avenue have all-way stops. The O Street intersections with Cypress Avenue and Olive Avenue also have all-way stops. O Street has a posted speed limit of 35 mph (north of Pine Avenue) and 30 mph (south of Pine Avenue). O Street is designated as a Minor Arterial between Central Avenue and Ocean Avenue, and a Collector Street south of Ocean Avenue.

A Street is a two- to four-lane north/south roadway that extends from East Locust Avenue across Ocean Avenue/SR 246 to Canfield Drive, where it transitions to McLaughlin Road. There are gates preventing all traffic access across the Santa Ynez River. The intersections at Olive Avenue, College Avenue, Pine Avenue, North Avenue and Central Avenue have all-way stop control. The intersection of A Street and Ocean Avenue/SR 246 is signalized.

7th Street is a two-lane north/south roadway that extends from Locust Avenue at the southern City Limit, across Ocean Avenue/SR 246 to Riverside Drive. The intersection of 7th Street with Ocean Avenue/Highway 1 is signalized. Seventh Street is controlled by all-way stops at Laurel, College, and North Avenues

Primary east-west roadways in the City of Lompoc include the following (listed from north to south):

North Avenue is an east/west two-lane undivided roadway with a posted speed limit of 35 mph. The North Avenue intersections with Western Avenue, V Street, O Street, A Street, Third Street, and 7th Street are all-way stop controlled and its intersection with H Street is signalized. North Avenue is designated as a Minor Arterial (east of V Street) and as a Collector Street (between V Street and Western Avenue) in the Circulation Element of the Lompoc General Plan.

Pine Avenue is a two-lane east/west undivided roadway with a posted speed limit of 30 mph from V to A Streets. It is aligned along the north side of Lompoc High School. The intersection of Pine Avenue at V Street is controlled by stop signs on Pine Avenue. The intersections of Pine



Avenue and O Street, D Street, A Street, and Third Street are all-way stop controlled. The intersection of Pine Avenue and H Street is signalized. The intersection of Pine Avenue with 7th Street is controlled by stop signs on Pine Avenue. Pine Avenue is designated as a Collector Street from east of V Street to A Street in the Circulation Element of the Lompoc General Plan.

College Avenue is an east/west two-lane roadway with a posted speed limit of 30 mph from V Street to A Street. College Avenue is a primary access route for Lompoc High School. The College Avenue intersections with V Street, O Street, D Street, A Street, and 7th Street are controlled by all-way stop signs and its intersection at H Street is signalized. College Avenue is designated as a Minor Arterial between D Street and A Street and as a Collector Street between A Street and V Street in the Circulation Element of the Lompoc General Plan.

Laurel Avenue is a two-lane local roadway separated by an at-grade railroad line that enters west of town and terminates west of 7th Street. East of V Street, the Lompoc Local Railroad Line runs along the center of Laurel Avenue. The typical operating speed on Laurel Avenue is 25 mph. Laurel Avenue at D Street is side-street stop controlled with stops on Laurel Avenue. The intersection of Laurel Avenue with A Street is offset and controlled by stop signs on Laurel Avenue. The intersections of Laurel Avenue with V Street, R Street, O Street, 3rd Street, and 7th Street are all-way stop controlled. The intersection of Laurel Avenue and H Street is signalized. Laurel Avenue is classified as a Local Street between V Street and the western City Limits and as a Collector Street east of V Street in the Circulation Element of the Lompoc General Plan.

Chestnut Avenue is a two-lane east/west roadway that serves residential neighborhoods from the western City Limits to 7th Street. Chestnut Avenue intersects V Street from the west but does not cross the San Miguelito Creek drainage culvert to intersect V Street from the east. Chestnut Avenue is classified as a Collector Street between O Street and 7th Street in the Circulation Element of the Lompoc General Plan.

Ocean Avenue/SR 246 is a four-lane roadway, west of the intersection of Highway 1. It is Highway 1 east of H Street and State Route 246 west of H Street. Ocean Avenue is classified as a major arterial in the Lompoc General Plan.

Olive Avenue is a two-lane roadway with a posted speed limit of 30 mph from V Street to A Street. Its intersections with V Street, C Street, A Street, O Street, and I Street are controlled by all-way stop signs. Olive Avenue, east of V Street, is designated as a Collector Street in the Circulation Element of the current Lompoc General Plan.

The City's policy is to reduce the amount of regional traffic on neighborhood streets. However, the City does not have jurisdiction over many of the surrounding facilities that carry regional traffic through the City. One of the goals in the City's Circulation Element is to reduce the influence of regional traffic on the community by limiting development of roadway connections that will carry traffic through Lompoc to Santa Barbara, Santa Maria, and the cities in Santa Barbara County.



b. Existing Traffic Conditions.

Intersection Level of Service Definitions. When examining traffic operations within a city roadway system, intersections are generally the key components of the system where congestion occurs. Intersection operations are typically quantified by collecting traffic counts during peak morning and afternoon commute periods. Levels of service (LOS) A through F are used to rate intersection operations, with LOS A indicating very good operations with little congestion and LOS F indicating poor operations with heavy congestion. Table 4.13-1 summarizes level of service definitions for intersections.

**Table 4.13-1
Level of Service Definitions**

LOS	Definition
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.
C	Stable flow, but the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	Represents high-density, but stable flow.
E	Represents operating conditions at or near capacity level.
F	Represents forced or breakdown flow.

Levels of service for signalized and unsignalized intersections are determined based on the amount of delay experienced at the stop-sign controlled approaches. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed. Table 4.13-2 presents the level of service ranges for signalized and unsignalized intersections.

The existing and proposed General Plan performance standard for intersection level of service is LOS C. However, intersections designated in the Santa Barbara County Association of Governments' (SBCAG) Congestion Mitigation Program (CMP) may operate at LOS D if no feasible mitigation option exists.



**Table 4.13-2
 Intersection Level of Service Definitions**

LOS	Control Delay (seconds per vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	< 10.0
B	10.1 - 20.0	10.1 - 15.0
C	20.1 - 35.0	15.1 - 25.0
D	35.1 - 55.0	25.1 - 35.0
E	55.1 - 80.0	35.1 - 50.0
F	> 80.0	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Existing Intersection Operations. Figure 4.13-1 shows the location of each of the 32 key intersections that were chosen for analysis. The operations of the key intersections in the City were evaluated based on existing geometries, traffic control, and A.M. and P.M. peak hour traffic volumes. Existing intersection configurations and existing A.M. and P.M. traffic volumes are shown on Figure 4.13-2. The peak hour traffic counts were collected at the study area intersections in 2007.

Table 4.13-3 lists the existing A.M. and P.M. peak hour levels of service and traffic controls for major intersections in the City. The level of service calculation worksheets are contained in the Appendix H.

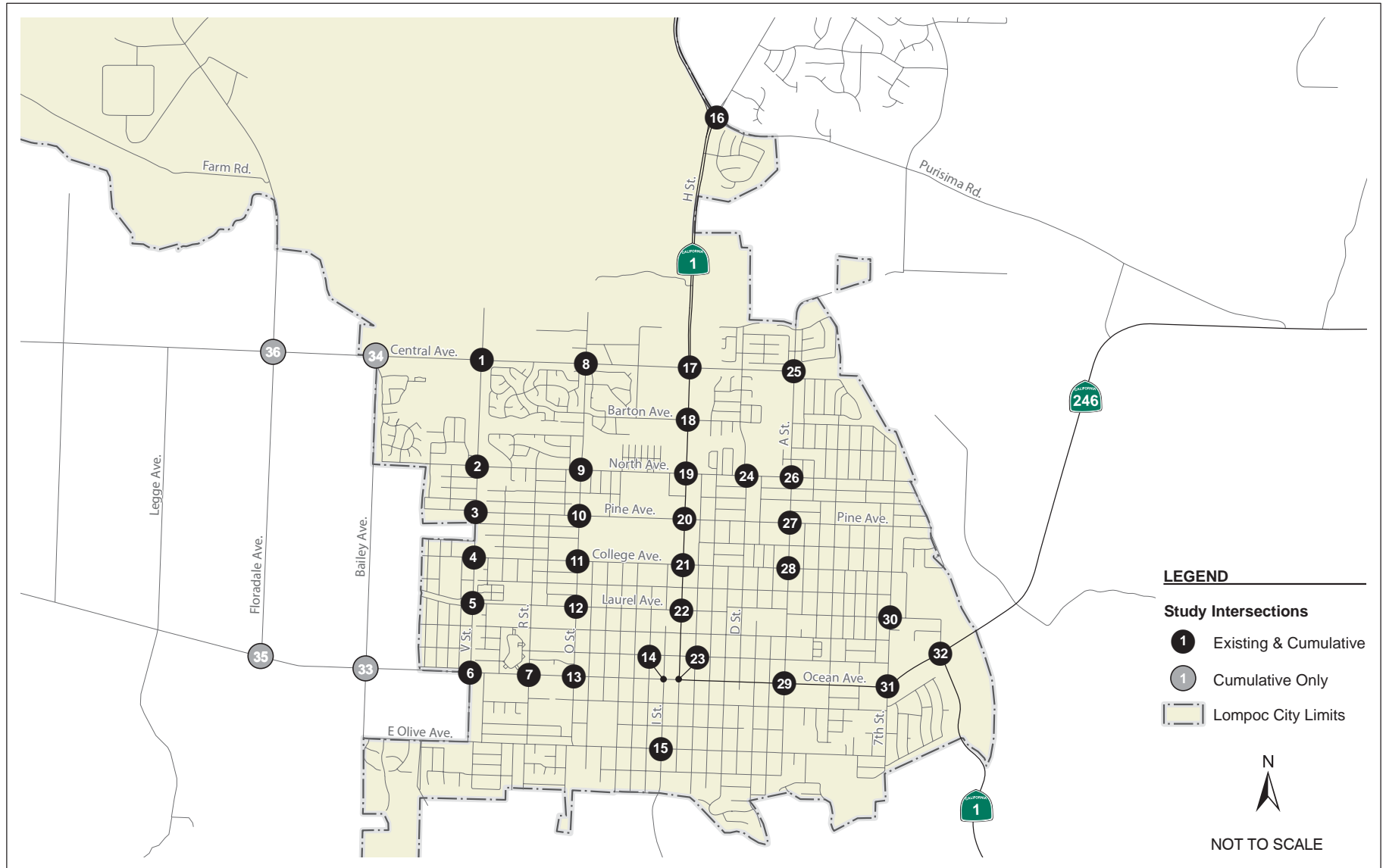
The data presented in table 4.13-3 indicates that most of the study area intersections currently operate at LOS C or better during the A.M. and P.M. peak hour periods, which is acceptable based on the City’s LOS C standard. The following intersection currently operates at a level of service that does not meet the City’s LOS C standard, but does meet the SBCAG CMP intersection standard of LOS D:

- *H Street/Central Avenue (P.M.)*

Existing Roadway Conditions. Figure 4.13-3 presents the average daily traffic (ADT) volumes on key roadway segments within the City.

The segment of H Street between Central Avenue and Purisima Road was evaluated using the Multi-lane Highway methodology from the Highway Capacity Manual 2000, Transportation Research Board. The segment operates at LOS B during both the AM and PM peak hours.





Study Intersections

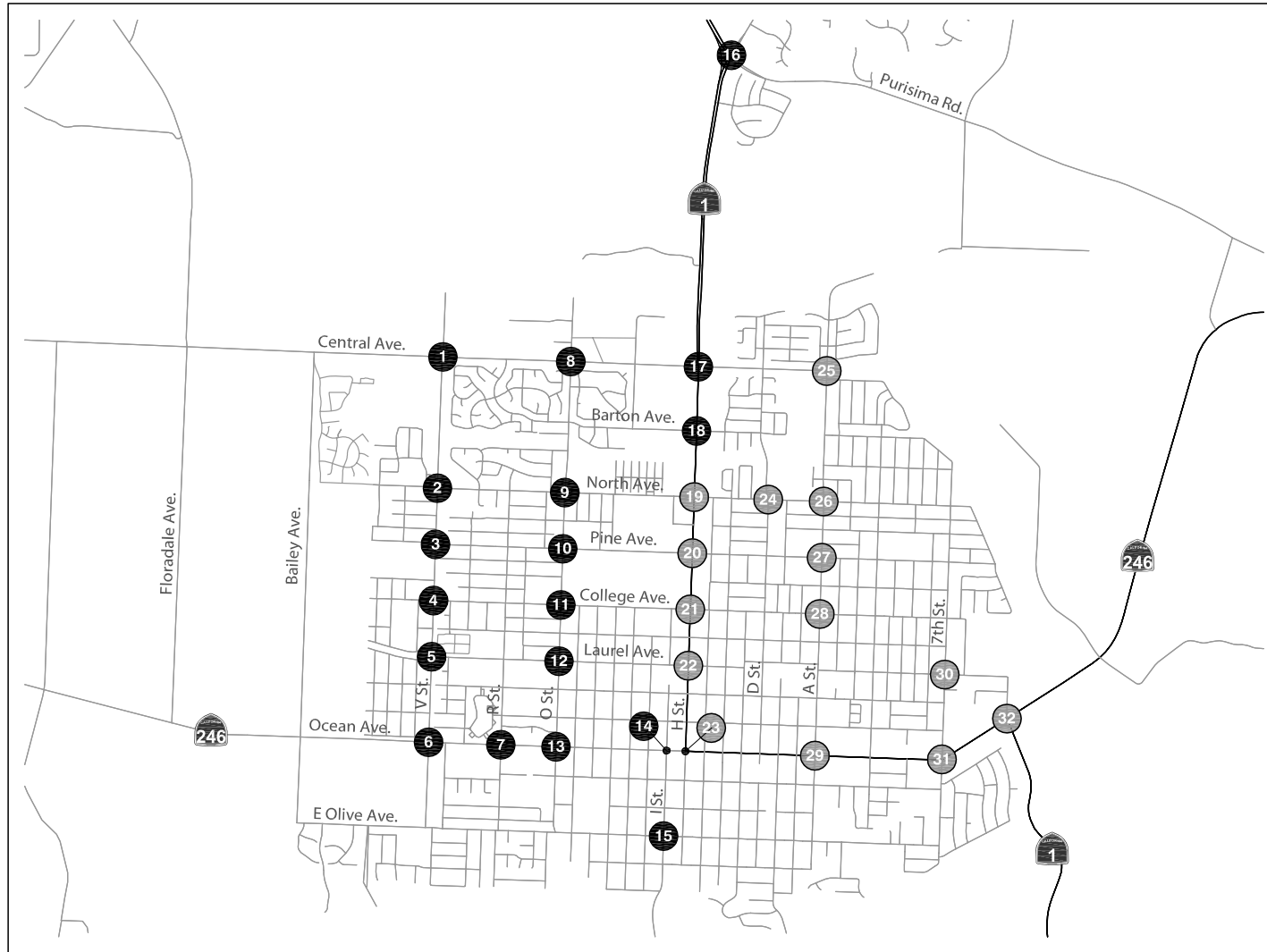
Bsae map source: Fehr & Peers, 2009.

Figure 4.13-1
 City of Lompoc



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- LEGEND**
- Turn Lane
 - AM (PM)** Peak Hour Traffic Volume
 - Study Intersection
 - Study Intersection (See Figure 1B)
 - Traffic Signal
 - Stop Sign
 - F** "Free" Right-Turn

N
 NOT TO SCALE

<p>1. Central Ave./V St.</p>	<p>2. North Ave./V St.</p>	<p>3. Pine Ave./V St.</p>
<p>4. College Ave./V St.</p>	<p>5. Laurel Ave./V St.</p>	<p>6. Ocean Ave./V St.</p>
<p>7. Ocean Ave./R St.</p>	<p>8. Central Ave./O St.</p>	<p>9. North Ave./O St.</p>
<p>10. Pine Ave./O St.</p>	<p>11. College Ave./O St.</p>	<p>12. Laurel Ave./O St.</p>
<p>13. Ocean Ave./O St.</p>	<p>14. Ocean Ave./I St.</p>	<p>15. Olive Ave./I St.</p>
<p>16. US 1/Harris Grade Rd./Purisima Rd.</p>	<p>17. Central Ave./H St.</p>	<p>18. Barton Ave./H St.</p>

Existing Peak Hour Traffic Volumes and Lane Configurations

Base map source: Fehr & Peers, September 2009.



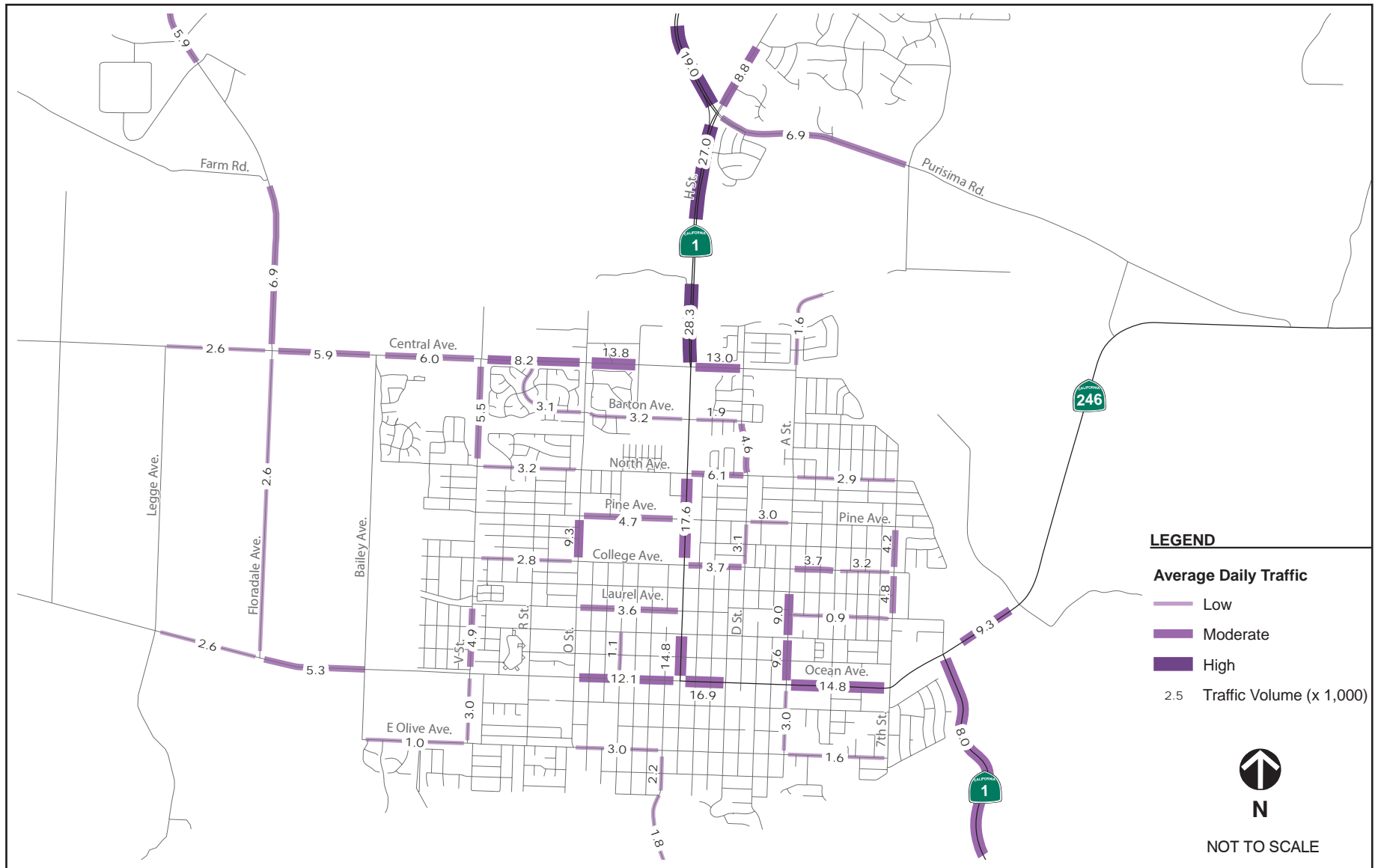
- LEGEND**
- Turn Lane
 - AM (PM) Peak Hour Traffic Volume
 - Study Intersection
 - Study Intersection (See Figure 1A)
 - Traffic Signal
 - Stop Sign
 - "Free" Right-Turn

N
 NOT TO SCALE

<p>19. North Ave./H St.</p>	<p>20. Pine Ave./H St.</p>	<p>21. College Ave./H St.</p>	
<p>22. Laurel Ave./H St.</p>	<p>23. Ocean Ave./H St.</p>	<p>24. North Ave./D St.</p>	
<p>25. Central Ave./A St.</p>	<p>26. North Ave./A St.</p>	<p>27. Pine Ave./A St.</p>	
<p>29. Ocean Ave./A St.</p>	<p>30. Laurel Ave./7th St.</p>	<p>31. Ocean Ave./7th St.</p>	
			<p>32. Ocean Ave./US 1</p>

Existing Peak Hour Traffic
 Volumes and Lane Configurations

Base map source: Fehr & Peers, September 2009.



Existing Average Daily Traffic Volumes

Figure 4.13-3
 City of Lompoc

Bsae map source: Fehr & Peers, 2009.



**Table 4.13-3
Existing Intersection Levels of Service**

Intersection	Control	Delay (sec.)/LOS	
		A.M. Peak Hour	P.M. Peak Hour
1. V Street/Central Avenue	Signal	13.9/LOS B	13.9/LOS B
2. V Street/North Avenue	AWSC ¹	9.4/LOS A	10.0/LOS A
3. V Street/Pine Avenue	SSSC ²	2.7/LOS A	2.4/LOS A
4. V Street/College Avenue.	AWSC	11.7/LOS B	10.2/LOS B
5. V Street/Laurel Avenue	AWSC	8.5/LOS A	9.2/LOS A
6. V Street/Ocean Avenue	AWSC	11.4/LOS B	10.7/LOS B
7. R Street/Ocean Avenue	SSSC	3.9/LOS A	5.1/LOS A
8. O Street/Central Avenue	Signal	29.5/LOS C	21.5/LOS C
9. O Street/North Avenue	AWSC	10.1/LOS B	13.3/LOS B
10. O Street/Pine Avenue	AWSC	11.8/LOS B	18.9/LOS C
11. O Street/College Avenue.	AWSC	15.6/LOS C	17.2/LOS C
12. O Street/Laurel Avenue	AWSC	14.0/LOS B	13.7/LOS B
13. O Street/Ocean Avenue	Signal	11.8/LOS B	13.6/LOS B
14. I Street/Ocean Avenue	Signal	8.0/LOS A	6.6/LOS A
15. I Street/Olive Avenue	AWSC	7.7/LOS A	8.4/LOS A
16. H St.-Harris Grade Rd./Purisima Rd.-Cabrillo Hwy.	Signal	22.7/LOS C	23.3/LOS C
17. H Street/Central Avenue	Signal	23.7/LOS C	35.6/LOS D
18. H Street/Barton Avenue	Signal	8.3/LOS A	11.8/LOS B
19. H Street/North Avenue	Signal	15.7/LOS B	19.9/LOS B
20. H Street/Pine Avenue	Signal	16.9/LOS B	19.5/LOS B
21. H Street/College Avenue.	Signal	23.5/LOS C	19.4/LOS B
22. H Street/Laurel Avenue	Signal	9.8/LOS A	9.8/LOS A
23. H Street/Ocean Avenue	Signal	19.5/LOS B	21.2/LOS C
24. D Street/North Avenue	AWSC	15.3/LOS C	12.9/LOS B
25. A Street/Central Avenue	AWSC	17.6/LOS C	15.3/LOS C
26. A Street/North Avenue	AWSC	16.6/LOS C	13.9/LOS B
27. A Street/Pine Avenue	AWSC	15.2/LOS C	9.8/LOS A
28. A Street/College Avenue	AWSC	15.0/LOS C	11.2/LOS B
29. A Street/Ocean Avenue	Signal	13.4/LOS B	15.6/LOS B
30. 7 th Street/Laurel Avenue	AWSC	8.8/LOS A	9.8/LOS A
31. 7 th Street/Ocean Avenue - S.R. 246	Signal	9.7/LOS A	11.1/LOS B
32. 12 th St. - S.R. 1/Ocean Avenue- S.R. 246	Signal	12.4/LOS B	12.7/LOS B

Notes: 1 = All Way Stop Controlled Intersection (AWSC)
2 = Side Street Stop Controlled Intersection (SSSC)



c. Alternative Transportation Systems. Alternative transportation systems within the City of Lompoc include a bikeway system, pedestrian system and public transit system. Each of these systems is discussed below.

Bikeway System. The City of Lompoc contains Class I, Class II and Class III bicycle facilities, which are defined as follows:

Class I – Bike Path: Routes which provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians. Cross-flows by motor vehicles are minimized.

Class II – Bike Lane: Routes which provide a right-of-way within the paved area of a roadway, designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited. Cross-flows by pedestrians and motor vehicles are permitted; motor vehicle parking may be permitted.

Class III – Bike Route: Routes which provide a right-of-way within the paved area of a roadway, designated by signs or markings on the pavement. The route is shared with pedestrians and motor vehicles.

Class I Bike Paths are currently located along Western Avenue (between Central and North Avenues), adjacent to H Street (north of Central Avenue and along the H Street Bridge), near Barton Park along the east/west channel (from V to H Streets and D Street to A Street), extending east from Central Avenue (at its termination at A Street), adjacent to V Street (between Ocean and Olive Avenues), and along the Santa Ynez River east of the community. Future Class I Bike Paths are also planned in the following locations: along the Santa Ynez River west of the existing Class I Bike Path to the eastern extent of the community, along Bailey Avenue, and from Bailey Avenue to V Street in the vicinity of College Avenue.

Class II Bike Lanes are currently located along: Central Avenue (from Santa Lucia Canyon Road to A Street), Barton Avenue (from H to D Streets), North Avenue (from Western Avenue to H Street), College Avenue (from V to Seventh Streets), Cypress Avenue (from O to Seventh Streets), Olive Avenue (from V to O Streets and A Street to Beattie Drive), V Street (from Ocean to Central Avenues), O Street (from Olive to Laurel Avenues and East/West Channel to Central Avenue), I Street (south of Cypress Avenue), A Street (Ocean Avenue to Olive Avenue), and Seventh Street (from Cypress to College Avenues). Future Class II Bike Lanes are also planned along: Central Avenue (west of Santa Lucia Canyon Road), Chestnut Avenue, Ocean Avenue (west of V Street), Floradale Avenue/Santa Lucia Canyon Road, Highway 1, Santa Rosa Road, Lompoc-Casmalia Road, Burton Mesa Road, Harris Grade Road, Purisima Road, and Highway 246.

Existing Class III Bike Routes are located along: North Avenue (Seventh Street to Riverside Drive), Seventh Street (from College Avenue to North Avenue), Laurel Avenue (from Seventh Street to 12th Street), 12th Street (Laurel Avenue to Highway 1), and Olive Avenue (from O to A Streets). Additional Class III connections are planned on I Street (from Cypress to Chestnut



Avenues), H Street (north of Central Avenue to the planned Class I Bike Path along Highway 1 to Harris Grade Road), and Ocean Avenue (from O Street to V Street).

Many of the planned Class II Bike Lanes and several of the Class I Bike Paths have not yet been implemented. Additional facilities will be added as funds become available. It should be noted, however, that two Class I Bike Paths are proposed and funded, but are pending construction: (1) from H Street north of the Santa Ynez River Bridge through Ken Adam Park, and (2) from the eastern extent of Laurel Avenue north to the existing Class I facility along Santa Ynez River.

Pedestrian System. The pedestrian system in Lompoc consists of sidewalks, crosswalks, and access ramps. The system also includes neighborhood and park path systems, and dedicated trail facilities that are shared with bicyclists and other users. Although pedestrian facilities are available in many parts of the community, some areas lack sidewalks, while other pedestrian connections are discontinuous.

Transit System. City of Lompoc Transit (COLT) provides public transit service within Lompoc, Mission Hills, and Vandenberg Village. There are five local bus routes serving these areas. Service is available from 6:30 am to 8:00 pm on weekdays, and 9:00 am to 5:00 pm on Saturday. Curb-to-curb service is also available for persons with disabilities.

Lompoc has a well-developed transit system, given the size of the City and its car-dependent nature. There are no major deficiencies in the transit system, although the system is limited by the requirement that services meet a 20% farebox recovery ratio (the proportion of the amount of revenue generated through fares by its paying customers as a fraction of the cost of its total operating expenses).

In addition to the city's bus service, Lompoc is also served by three regional commuter transit providers. The Breeze Bus offers service from the City of Lompoc to Vandenberg Air Force Base and the City of Santa Maria to the north. Clean Air Express offers service to the south, connecting Lompoc to the cities of Goleta and Santa Barbara. Wine Country Express is a transit service operated by COLT through a partnership with the Cities of Lompoc, Buellton, and Solvang, as well as Santa Barbara County. This service extends eastward from Lompoc along SR 246 to Buellton and Solvang.

4.13.2 Impact Analysis

a. Methodology and Significance Thresholds. The following section reviews the traffic analysis scenarios and key elements of the traffic methodology used in the project analysis.

Existing Traffic Volumes. Existing conditions analysis was performed using new peak hour weekday intersection traffic counts collected for this study in January 2008. The traffic data collection effort and subsequent analyses also included Average Daily Traffic (ADT) volumes for



study area roadways on weekdays. The following roadway segment traffic counts were collected for this study in January 2008:

- 7th Street south of Pine Avenue
- A Street south of Laurel Avenue
- Central Avenue west of V Street
- College Avenue between 3rd Street and Lupine Street
- D Street north of College Avenue
- North Avenue between Lupine Street and Poppy Street
- Ocean Avenue between L Street and K Street
- Ocean Avenue east of 3rd Street
- Olive Avenue east of Avalon Street
- Olive Avenue east of Hawthorne Street

The following roadway segment traffic counts were collected from 2007 data available from Caltrans:

- SR 1 south of SR 246–Ocean Avenue
- SR 246–Buellton Road east of SR 1–12th Street
- SR 1–H Street north of Central Avenue
- SR 1–H Street south of Purisima Road
- SR 1–Lompoc Casmalia Road west of Harris Grade Road–H Street

All other roadway segment ADT's used in the existing conditions analysis came from Santa Barbara County or other recent traffic studies completed in the study area.

Roadway ADT volumes represent the level of traffic that travels on a specific roadway segment over an average 24-hour period. Because traffic flow on a roadway network is most constrained at intersections, detailed traffic analyses also examine the operating condition of critical intersections during peak travel periods. Intersection turning movement counts were collected from 7:00 to 9:00 A.M. and 4:00 to 6:00 P.M. The one-hour period containing the highest volume of traffic is considered the peak hour.

Year 2030 Traffic Volumes. Year 2030 traffic volume forecasts were developed assuming full buildout of the Lompoc General Plan and no major changes to the City's roadway network. The major planned roadway improvement, which is anticipated to be completed within the life of the 2030 General Plan, is summarized below.

- **Central Avenue:** *It is assumed Central Avenue will be widened to four-lanes between O Street and V Street.*
- **Traffic Signal Timing:** *It was assumed that existing traffic signals will be optimized under future conditions to account for changes in traffic patterns and volumes.*



The City of Lompoc Transportation Demand Forecasting model was used to estimate the traffic generation for buildout of the draft 2030 General Plan and uses. The traffic forecasts also account for additional development that could occur in the County areas surrounding the City that would add traffic to the City street network. Cumulative (Existing General Plan buildout) and Cumulative Plus Draft General Plan buildout daily roadway traffic volumes are presented on Figure 4.13-4 and Cumulative (Existing General Plan buildout) and Cumulative Plus Draft General Plan buildout peak hour intersection traffic volumes are presented on Figures 4.13-5 and 4.13-6.

Level of Service Standards and Methodology. LOS C is considered the minimum acceptable intersection level of service desired within the City of Lompoc, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections must maintain a LOS in accordance with the most recent CMP standards, when it can be demonstrated that all feasible mitigation measures have been applied to a project and LOS C, with said mitigation, cannot be achieved, LOS D is considered the minimum acceptable LOS.

All of the existing study area intersections are within the City of Lompoc. However, for Cumulative and Cumulative Plus Draft General Plan Conditions several of the analyzed intersections are located in Santa Barbara County; therefore, Santa Barbara County thresholds would apply to these intersections. Santa Barbara County considers impacts to an intersection significant when project traffic causes an increase in the volume to capacity (V/C) ratio on the intersection operating condition after the addition of project generated traffic if one of the following were to occur:

- *If LOS operation decreases from LOS A-C to LOS D or lower, or*
- *V/C ratio increase is greater than or equal to 0.03 if final LOS is D (v/c = 0.80 to 0.85)*
- *V/C ratio increase is greater than or equal to 0.02 if final LOS is D (v/c = 0.86 to 0.90)*
- *V/C ratio increase is greater or equal to 0.010 if final LOS is E or F*

Levels of service for the intersections in the study area (signalized and unsignalized) were calculated using Highway Capacity Manual (HCM)¹ methodology.

Impacts relating to transportation and circulation would also be considered potentially significant if development allowed under the existing General Plan through 2030 would:

- *Substantially increase traffic-related hazards due to a design feature or incompatible uses*
- *Result in inadequate emergency access*

¹ *2000 Highway Capacity Manual*, Transportation Research Board, National Research Council, 2000.



- *Conflict with adopted policies relating to alternative transportation modes, including transit, walking, and bicycling*

No impact to air traffic patterns would occur as a result of buildout under the 2030 General Plan because flight paths to and from the Lompoc Airport generally occur to the north of the airport, thereby avoiding most of the developed and residential areas of the City. Refer to Section 4.6, *Hazards*, for a discussion of airport safety hazards.

Alternative Circulation Network. An analysis was completed to evaluate the changes in travel patterns due to the extension of Central Avenue from A Street to SR 246 and connection of Rucker Road to the extension. Figure 4.13-7 presents the daily traffic volumes on critical roadway segments with the Central Avenue extension compared to the draft General Plan buildout traffic forecasts without the Central Avenue extension.

The installation of the Central Avenue extension results in the following changes in travel patterns within the City:

- A 14% decrease in daily traffic on H Street north of Central Avenue
- A 75% increase in traffic on Central Avenue east of H Street
- A 23% increase in traffic on Central Avenue west of H Street
- A 3% decrease in traffic on H Street between North Avenue and College Avenue
- A 15% decrease in traffic on Ocean Avenue between 7th Street and A Street

Since the Central Avenue extension would divert traffic through the intersection of Central Avenue/H Street, the level of service at this intersection under buildout conditions with the Central Avenue extension would be in the LOS E to F range.

b. Project and Cumulative Impacts.

Impact TC-1 Development facilitated by the 2030 General Plan would result in deficiencies to the local circulation system based on recommended level of service standards. Mitigation options are available to address all projected deficiencies for intersections within the City. However, the traffic increase at the Ocean Avenue/ A Street intersection would exceed City thresholds and feasible mitigation is not available. Therefore, the impact at that location would be Class I, *significant and unavoidable*.

Cumulative 2030 General Plan Buildout, Including Annexation Areas

Development facilitated by the draft 2030 General Plan would increase traffic on the City of Lompoc roadway system. Increases in traffic would affect both intersections and roadway capacities. Impacts to intersections and roadway capacities resulting from estimated General



Plan buildout under the draft 2030 General Plan are discussed below. It should be noted, however, that full buildout is not likely to occur as this scenario assumes development of every vacant parcel in the City.

Year 2030 Intersections Levels of Service. Levels of service (LOS) were calculated for the key City intersections assuming the full buildout scenario traffic volumes shown on Figures 4.13-5 and 4.13-6 and the programmed improvement described under “Methodology and Significance Thresholds.” Table 4.13-4 presents the intersection LOS for the maximum buildout scenario. Figure 4.13-8 presents a comparison of the intersection level of service between the buildout of the existing General Plan and the draft General Plan.

**Table 4.13-4
 Cumulative Intersection Levels of Service**

Intersection	Control	Cumulative-Existing GP		Cumulative-Proposed GP	
		A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
1. V Street/Central Avenue	Signal	14.2/LOS B	16.1/LOS B	14.6/LOS B	20.3/LOS C
2. V Street/North Avenue	AWSC ²	12.7/LOS B	15.1/LOS C	75.5/LOS F	85.1/LOS F
3. V Street/Pine Avenue	SSSC ³	3.3/LOS A	2.9/LOS A	3.8/LOS A	3.1/LOS A
4. V Street/College Avenue	AWSC	14.7/LOS B	13.4/LOS B	104.8/LOS F	72.4/LOS F
5. V Street/Laurel Avenue	AWSC	9.5/LOS A	10.8/LOS B	29.8/LOS D	42.9/LOS E
6. V Street/Ocean Avenue	AWSC	12.7/LOS B	12.9/LOS B	43.3/LOS E	26.3/LOS D
7. R Street/Ocean Avenue	SSSC	4.4/LOS A	6.3/LOS A	6.2/LOS A	24.8/LOS C
8. O Street/Central Avenue	Signal	27.5/LOS C	23.5/LOS C	32.3/LOS C	26.6/LOS C
9. O Street/North Avenue	AWSC	12.8/LOS B	20.6/LOS C	15.4/LOS C	35.4/LOS E
10. O Street/Pine Avenue	AWSC	12.7/LOS B	24.2/LOS C	13.6/LOS B	31.3/LOS D
11. O Street/College Avenue	AWSC	12.4/LOS B	19.7/LOS C	14.0/LOS B	22.4/LOS C
12. O Street/Laurel Avenue	AWSC	13.0/LOS B	15.6/LOS C	20.8/LOS C	20.0/LOS C
13. O Street/Ocean Avenue	Signal	12.2/LOS B	13.6/LOS B	14.0/LOS B	15.1/LOS B
14. I Street/Ocean Avenue	Signal	15.9/LOS B	7.5/LOS A	8.1/LOS A	11.6/LOS B
15. I Street/Olive Avenue	AWSC	8.0/LOS A	9.0/LOS A	8.0/LOS A	9.0/LOS A
16. H St.-Harris Grade Rd.-Purisima Rd.-Cabrillo Hwy.	Signal	23.8/LOS C	34.0/LOS C	22.0/LOS C	33.6/LOS C
17. H Street/Central Avenue	Signal	24.4/LOS C	38.2/LOS D	27.6/LOS C	39.0/LOS D
18. H Street/Barton Avenue	Signal	10.3/LOS B	13.3/LOS B	10.3/LOS B	14.0/LOS B
19. H Street/North Avenue	Signal	19.2/LOS B	22.9/LOS C	22.9/LOS C	24.2/LOS C
20. H Street/Pine Avenue	Signal	24.3/LOS C	24.7/LOS C	18.9/LOS B	18.0/LOS B
21. H Street/College Avenue.	Signal	19.7/LOS B	20.7/LOS C	19.7/LOS B	21.8/LOS C
22. H Street/Laurel Avenue	Signal	26.6/LOS C	10.3/LOS B	27.9/LOS C	10.9/LOS B
23. H Street/Ocean Avenue	Signal	17.9/LOS B	24.0/LOS C	21.6/LOS C	23.3/LOS C
24. D Street/North Avenue	AWSC	20.8/LOS C	33.0/LOS D	20.4/LOS C	45.3/LOS E



**Table 4.13-4
 Cumulative Intersection Levels of Service**

Intersection	Control	Cumulative-Existing GP		Cumulative-Proposed GP	
		A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
25. A Street/Central Avenue	AWSC	16.9/LOS C	17.7/LOS C	16.9/LOS C	19.3/LOS C
26. A Street/North Avenue	AWSC	19.9/LOS C	27.9/LOS D	18.4/LOS C	27.0/LOS D
27. A Street/Pine Avenue	AWSC	16.4/LOS C	13.3/LOS B	15.7/LOS C	11.9/LOS B
28. A Street/College Avenue	AWSC	16.4/LOS C	16.1/LOS C	15.7/LOS C	17.2/LOS C
29. A Street/Ocean Avenue	Signal	28.6/LOS C	31.8/LOS C	33.9/LOS C	53.5/LOS D
30. 7 th Street/Laurel Avenue	AWSC	9.4/LOS A	11.2/LOS B	9.6/LOS A	12.5/LOS B
31. 7 th St/Ocean Ave – S.R. 246	Signal	13.2/LOS B	13.7/LOS B	12.9/LOS B	16.0/LOS B
32. 12 th St. – S.R. 1/Ocean Ave - S.R. 246	Signal	14.6/LOS B	28.0/LOS C	19.7/LOS B	38.1/LOS D
33. Bailey Avenue/Ocean Avenue	SSSC	2.0/LOS A	2.1/LOS A	2.7/LOS A	2.5/LOS A
34. Bailey Avenue/Central Avenue	SSSC	1.9/LOS A	1.9/LOS A	2.9/LOS A	2.4/LOS A
35. Ocean Ave/Floradale Avenue ¹	SSSC	1.7/LOS A	5.0/LOS A	1.9/LOS A	6.0/LOS A
36. Central Ave/Floradale Avenue ¹	Signal	6.3/LOS A	10.7/LOS B	6.5/LOS A	10.2/LOS B

Notes: 1 = Intersection in Santa Barbara County
 2 = All Way Stop Controlled Intersection (AWSC)
 3 = Side Street Stop Controlled Intersection (SSSC)

As shown in Table 4.13–4, the following eleven (11) intersections are forecast to operate at levels of service that do not meet the City’s LOS C operating standard at buildout of the General Plan in year 2030:

- *V Street/North Avenue (A.M. and P.M.)*
- *V Street/College Avenue (A.M. and P.M.)*
- *V Street/Laurel Avenue (A.M. and P.M.)*
- *V Street/Ocean Avenue–SR 246 (A.M. and P.M.)*
- *O Street/North Avenue (P.M.)*
- *O Street/Pine Avenue (P.M.)*
- *H Street/Central Avenue (P.M.)*
- *D Street/North Avenue (P.M.)*
- *A Street/North Avenue (P.M.)*
- *A Street/Ocean Avenue (P.M.)*
- *SR 1–12th Street /Ocean Avenue–SR 246 (P.M.)*

The intersections of H Street/Central Avenue, A Street/Ocean Avenue, and 12th Street–S.R. 1/Ocean Avenue–S.R. 246 do not meet City LOS standards but do meet the SBCAG CMP standard of LOS D.



General Plan Policies which Reduce Impacts

The proposed General Plan Update Circulation Element (CE) includes the following goal and policies intended to reduce traffic congestion and ensure mobility:

- CE Goal 1*** Maximize the efficiency, quality, and safety of a multi-modal circulation system which provides for the movement of people, goods, and services to serve the internal circulation needs of the City, while also addressing through-travel needs.
- CE Policy 1.3*** The City shall assure that all improvements to the circulation system necessitated by new development are proportionately financed by the project sponsor.
- CE Policy 1.4*** The City shall only allow development in areas where adequate circulation facilities and/or services, as defined in Policy 1.2, will be available at the time of development.
- CE Policy 1.5*** The City shall maximize movement of through-traffic on expressways and arterials by encouraging efficient utilization of existing roadway capacity, and when necessary providing additional transportation capacity. For arterials, consideration should also be given to planned or future pedestrian and bicyclist facilities so that vehicular improvements are not at the expense of facilities and safety of these other modes of transportation.

Because intersections would not meet the City standards for intersection LOS, recommended mitigation measures to address these impacts are discussed below.

Mitigation Measures. Implementation of the following mitigation measures would reduce impacts to intersections to a less than significant level. Table 4.13-5 shows the levels of service for the identified intersections with the proposed mitigation measures described below. Figure 4.13-9 illustrates the mitigation measures. It should be noted that additional analysis will be required before implementation of any of the following mitigation measures.

TC-1(a) V Street/North Avenue. This intersection is forecast to operate at LOS F at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Install a traffic signal and restripe northbound and southbound approaches to include left-turn lanes.



TC-1(b) V Street/College Avenue. This intersection is forecast to operate at LOS F at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Install a traffic signal and restripe northbound and southbound approaches to include left-turn lanes.

TC-1(c) V Street/Laurel Avenue. This intersection is forecast to operate at LOS D/E at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Install a traffic signal.

TC-1(d) V Street/Ocean Avenue. This intersection is forecast to operate at LOS E/D at buildout of the 2030 General Plan. A portion of the traffic added to this intersection would be generated by buildout of the Bailey Avenue Specific Plan, located along Bailey Avenue. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Install a traffic signal.

TC-1(e) O Street/North Avenue. This intersection is forecast to operate at LOS E during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Add a right-turn lane to the westbound approach by restriping the roadway.

TC-1(f) O Street/Pine Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Add right-turn lanes to all intersection approaches by restriping the roadways.

TC-1(g) H Street/Central Avenue. This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.



Add a second left-turn lane to the southbound intersection approach and modify the existing traffic signal. This improvement would require the acquisition of right-of-way (ROW). The intersection is in the SBCAG CMP and would meet the minimum level of service criteria of LOS D under buildout conditions.

- TC-1(h) D Street/North Avenue.** This intersection is forecast to operate at LOS E during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Add right-turn lanes to all intersection approaches by restriping the roadways.

- TC-1(i) A Street/North Avenue.** This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Add a right-turn lane to the eastbound intersection approach by restriping the roadway.

- TC-1(j) A Street/Ocean Avenue.** This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Add a right-turn lane to the westbound intersection approach. This mitigation measure will require acquisition of ROW and widening of the roadway. Because of existing development on the northeast corner of the intersection this mitigation may not be feasible. The intersection is in the SBCAG CMP and would meet the minimum level of service criteria of LOS D under buildout conditions.

- TC-1(k) 12th Street-S.R. 1/Ocean Avenue-S.R. 246.** This intersection is forecast to operate at LOS D during the P.M. peak hour at buildout of the 2030 General Plan. In order to achieve an acceptable LOS (LOS C), the improvement described below has been identified for this intersection.

Add a through lane to the northbound intersection approach, convert the existing shared left-turn/through lane to an exclusive left-turn lane and modify the existing traffic signal. This mitigation measure may require acquisition of ROW and will require widening of the roadway.



Year 2030 Roadway Operations. Figure 4.13-4 presents the Year 2030 roadway daily traffic volumes for the key roadway segments in the City of Lompoc. The figure shows ADT for both the buildout of the existing General Plan and draft General Plan. A summary of the major changes in traffic volumes between the buildout of the existing General Plan and draft General Plan is summarized below:

- Floradale Avenue and between Central Avenue and Ocean Avenue: 41% increase
- V Street between Central Avenue and North Avenue: 46% increase
- V Street between Laurel Avenue and Ocean Avenue: 86% increase
- V Street between Ocean Avenue and Olive Avenue: 84% increase
- Ocean Avenue between O Street and H Street: 46% increase
- Central Avenue between V Street and H Street: 13% increase
- H Street north of Central Avenue: 10% increase

The impacts of the increases in traffic on the roadway segments in the year 2030 were evaluated using methodologies from the Highway Capacity Manual 2000 (Transportation Research Board). The Floradale Avenue segment was evaluated using the Two-lane Highway method, the H Street segment was evaluated using the Multi-lane Highway method, and the V Street, Ocean Avenue, and Central Avenue segments were evaluated using the Urban Streets method. The results indicate all of the segments would operate at LOS C or better except for the V Street segments. The V Street segments would operate at an unacceptable LOS (LOS D or worse) in the year 2030 scenario. However, with the implementation of mitigation measures TC-1(a), TC-1(b), and TC-1(c), the LOS at the V Street segments would improve to LOS C or better.

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Cumulative and Cumulative plus General Plan
 Average Daily Traffic Volumes



- LEGEND**
- Turn Lane
 - AM (PM) Peak Hour Traffic Volume
 - Study Intersection
 - Study Intersection (See Figure 2B)
 - Traffic Signal
 - Stop Sign
 - "Free" Right-Turn

N
 NOT TO SCALE

<p>1. Central Ave./V St.</p>	<p>2. North Ave./V St.</p>	<p>3. Pine Ave./V St.</p>
<p>4. College Ave./V St.</p>	<p>5. Laurel Ave./V St.</p>	<p>6. Ocean Ave./V St.</p>
<p>7. Ocean Ave./R St.</p>	<p>8. Central Ave./O St.</p>	<p>9. North Ave./O St.</p>
<p>11. College Ave./O St.</p>	<p>12. Laurel Ave./O St.</p>	<p>13. Ocean Ave./O St.</p>
<p>14. Ocean Ave./I St.</p>	<p>15. Olive Ave./I St.</p>	<p>16. US 1/Harris Grade Rd./Purisima Rd.</p>
<p>17. Central Ave./H St.</p>	<p>18. Barton Ave./H St.</p>	

Cumulative Peak Hour Traffic Volumes and Lane Configurations

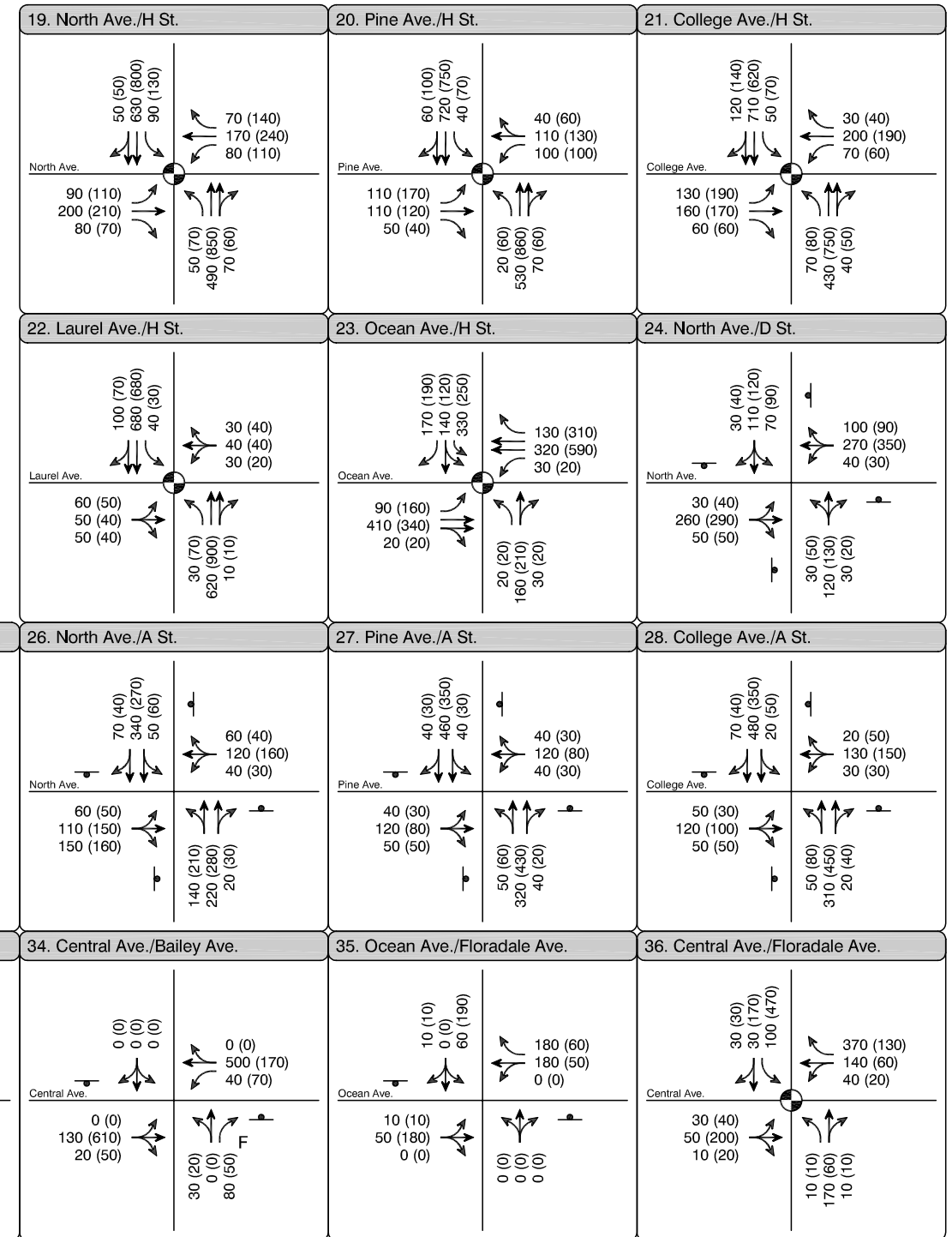
Base map source: Fehr & Peers, September 2009.

Figure 4.13-5A



- LEGEND**
- Turn Lane
 - AM (PM) Peak Hour Traffic Volume
 - Study Intersection
 - Study Intersection (See Figure 2A)
 - Traffic Signal
 - Stop Sign
 - F "Free" Right-Turn

N
 NOT TO SCALE



Cumulative Peak Hour Traffic
 Volumes and Lane Configurations



- LEGEND**
- Turn Lane
 - AM (PM)** Peak Hour Traffic Volume
 - Study Intersection
 - Study Intersection (See Figure 2B)
 - Traffic Signal
 - Stop Sign
 - F** "Free" Right-Turn

N
 NOT TO SCALE

<p>1. Central Ave./V St.</p>	<p>2. North Ave./V St.</p>	<p>3. Pine Ave./V St.</p>
<p>4. College Ave./V St.</p>	<p>5. Laurel Ave./V St.</p>	<p>6. Ocean Ave./V St.</p>
<p>7. Ocean Ave./R St.</p>	<p>8. Central Ave./O St.</p>	<p>9. North Ave./O St.</p>
<p>11. College Ave./O St.</p>	<p>12. Laurel Ave./O St.</p>	<p>13. Ocean Ave./O St.</p>
<p>14. Ocean Ave./I St.</p>	<p>15. Olive Ave./I St.</p>	<p>16. US 1/Harris Grade Rd./Purisima Rd.</p>
<p>17. Central Ave./H St.</p>	<p>18. Barton Ave./H St.</p>	

Cumulative Plus General Plan
 Peak Hour Traffic Volumes
 and Lane Configurations



- LEGEND**
- Turn Lane
 - AM (PM) Peak Hour Traffic Volume
 - Study Intersection
 - Study Intersection (See Figure 2A)
 - Traffic Signal
 - Stop Sign
 - "Free" Right-Turn

N
 NOT TO SCALE

<p>19. North Ave./H St.</p>	<p>20. Pine Ave./H St.</p>	<p>21. College Ave./H St.</p>
<p>22. Laurel Ave./H St.</p>	<p>23. Ocean Ave./H St.</p>	<p>24. North Ave./D St.</p>
<p>25. Central Ave./A St.</p>	<p>26. North Ave./A St.</p>	<p>27. Pine Ave./A St.</p>
<p>28. College Ave./A St.</p>	<p>29. Ocean Ave./A St.</p>	<p>30. Laurel Ave./7th St.</p>
<p>31. Ocean Ave./7th St.</p>	<p>32. Ocean Ave./US 1</p>	<p>33. Ocean Ave./Bailey Ave.</p>
<p>34. Central Ave./Bailey Ave.</p>	<p>35. Ocean Ave./Floradale Ave.</p>	<p>36. Central Ave./Floradale Ave.</p>

Cumulative Plus General Plan
 Peak Hour Traffic Volumes and
 Lane Configurations

Base map source: Fehr & Peers, September 2009.

Figure 4.13-6B



Cumulative plus General Plan and General Plan with Central Avenue Extension Average Daily Traffic Volumes



Cumulative and Cumulative plus General Plan
 Intersection Levels of Service

Significance After Mitigation. As shown in Table 4.13-5, implementation of mitigation measures TC-1(a) through TC-1(k) would reduce impacts to a less than significant level for all intersections except the A Street/Ocean Avenue intersection. Although Mitigation Measure TC-1(j) could reduce impacts to a less than significant level for the A Street/Ocean Avenue intersection, it is not considered feasible mitigation measures due to the high costs associated with the improvements. As such, buildout of the draft 2030 General Plan would have an unavoidably significant impact to the A Street/Ocean Avenue intersection. It should be noted that the intersections of H Street/Central Avenue and A Street/Ocean Avenue are in the SBCAG CMP and meet the CMP intersection minimum level of service criteria of LOS D.

Because the intersections of H Street/Central Avenue, A Street/Ocean Avenue, and 12th Street/Ocean Avenue are located on state routes under the jurisdiction of Caltrans, the City of Lompoc does not have direct control over whether recommended improvements at these intersections are implemented. These improvements would need to be coordinated with Caltrans.

Implementation of many transportation improvements required as mitigation (i.e., installation of traffic signals, restriping of lanes, etc.) would not result in significant environmental impacts related to site disturbance since improvements would occur within existing disturbed rights-of-way. Secondary impacts associated with construction of the identified circulation improvements (e.g., construction impacts, aesthetic impacts) are discussed in other impact sections of this EIR.

If any of the improvements identified in measures TC-1(a) through TC-1(k) are determined to be unacceptable, the City could consider adopting an LOS D policy in the draft Circulation Element.

**Table 4.13-5
 Intersection Levels of Service with
 Recommended Mitigation Measures- General Plan Buildout**

Intersection	Buildout LOS without Mitigation		Mitigated LOS at Buildout	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
2. V Street/North Avenue	76.5/LOS F	85.1/LOS F	13.7/LOS B	15.1/LOS B
4. V Street/College Avenue	104.8/LOS F	72.4/LOS F	14.2/LOS B	10.5/LOS B
5. V Street/Laurel Avenue	29.8/LOS D	42.9/LOS E	8.1/LOS A	10.1/LOS B
6. V Street/Ocean Avenue	43.3/LOS E	26.3/LOS D	17.9/LOS B	17.5/LOS B
9. O Street/North Avenue	15.4/LOS C	35.4/LOS E	13.5/LOS B	23.1/LOS C
10. O Street/Pine Avenue	13.6/LOS B	31.3/LOS D	12.3/LOS B	21.0/LOS C
17. H Street/Central Avenue	27.6/LOS C	39.0/LOS D	24.8/LOS C	30.2/LOS C
24. D Street/North Avenue	20.4/LOS C	45.3/LOS E	14.3/LOS B	22.0/LOS C
26. A Street/North Avenue	18.4/LOS C	27.0/LOS D	16.5/LOS C	21.1/LOS C
29. A Street/Ocean Avenue	33.9/LOS C	53.5/LOS D	33.1/LOS C	33.8/LOS C
32. 12th St.-S.R. 1/Ocean Ave.-S.R. 246	19.7/LOS B	38.1/LOS D	16.4/LOS B	28.6/LOS C



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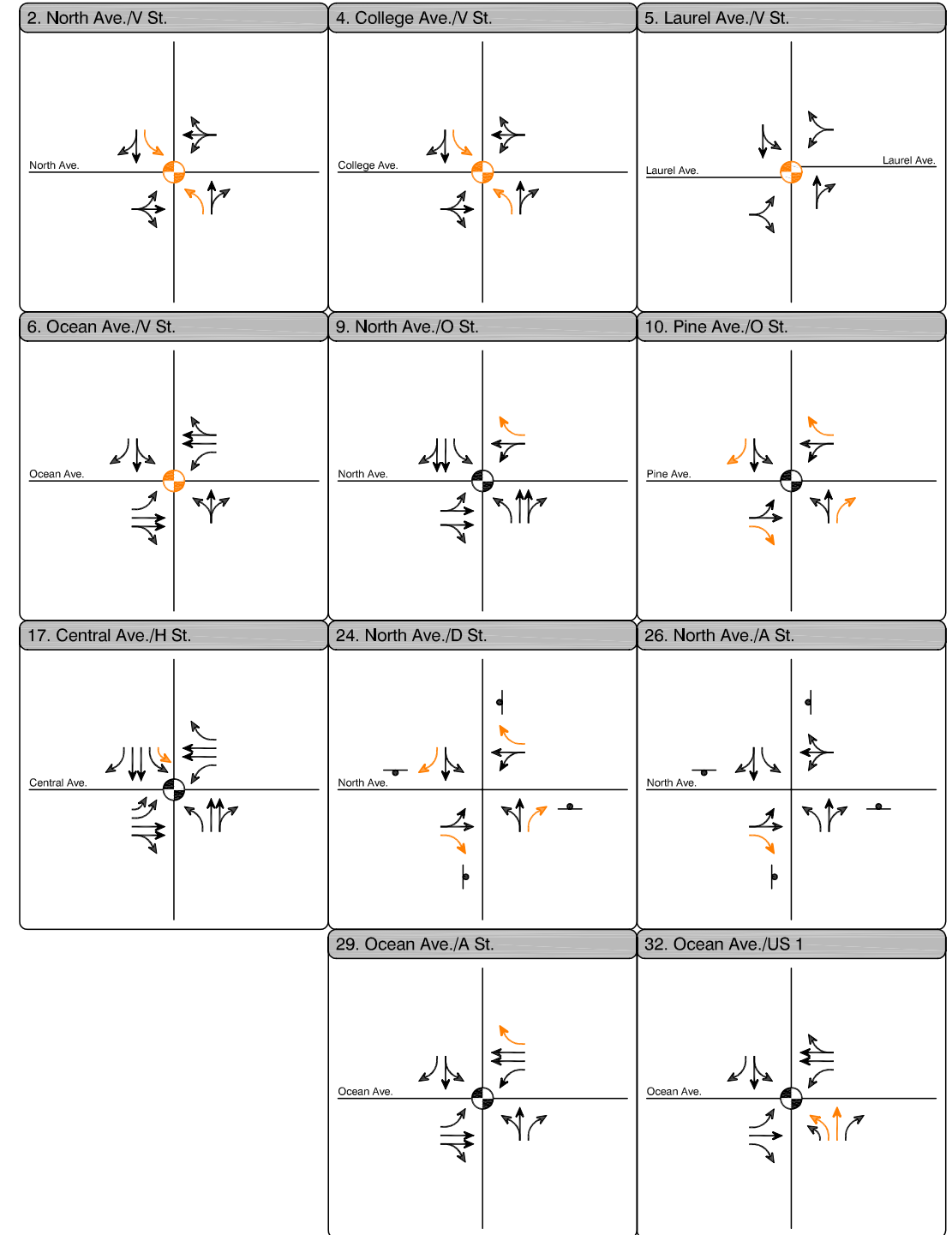




LEGEND

- Existing Turn Lane
- Mitigation Measures
- Mitigated Intersections
- Intersections Not Mitigated
- Existing Traffic Signal
- New Traffic Signal
- Stop Sign

N
 NOT TO SCALE



Recommended Mitigation Measures

Impact TC-2 The 2030 General Plan would not accommodate design features that would create traffic hazards. While the placement of new residential development along highly traveled thoroughfares may incrementally increase hazards for pedestrians, implementation of proposed policies relating to traffic calming and improving walkability would reduce such impacts to a Class III, *less than significant*, level.

By emphasizing intensification and reuse of developed areas of the City, the General Plan could accommodate new mixed use and residential development along relatively highly traveled corridors, such as H Street.

The placement of residences along main travel corridors is expected to generally increase pedestrian activity in these areas, with the potential for increased hazards for pedestrians. However, the 2030 General Plan includes a range of policies and actions specifically intended to increase traffic calming and enhance the walkability throughout the City. These include:

- CE Goal 2*** Minimize the public's exposure to circulation-related noise and safety hazards.
- CE Policy 1.9*** The City shall ensure that developers of new commercial and mixed use areas provide adequate and convenient pedestrian access ways into adjacent residential neighborhoods.
- CE Policy 1.10*** The City shall control access along expressways and arterials by limiting the number of intersections and driveways entering and exiting these high traffic roadways and by requiring that any development of new private driveways along such roadways does not introduce significant traffic conflicts.
- CE Policy 1.11*** To avoid the creation of new traffic flow hazards, the City should require that future roads and improvements to existing roads be designed to minimize conflicting traffic movements such as overlapping use of turn lanes, curbside parking, and frequent stops.
- CE Policy 1.12*** The City should improve mobility and access for disabled persons.
- CE Policy 2.2*** The City shall encourage regulatory agencies to designate routes away from urban and environmentally-sensitive areas for transportation of hazardous and explosive materials.
- CE Policy 2.3*** The City shall ensure that approaches to intersection crosswalks and all adjacent street corners are illuminated by requiring all new commercial, entertainment, school and other pedestrian generating



uses to provide lighting for pedestrians, for review and consideration by the City as part of the development review process.

CE Policy 2.4 The City should encourage the provision of crosswalks along major access routes to all schools. For newly proposed schools, the City shall work with the school district to ensure the provision of crosswalks as part of development.

CE Policy 2.5 As part of the development review process, the City should require a system of sidewalks or pathways for all new development to provide a safe environment for pedestrians and promote pedestrian use.

CE Policy 2.6 The City shall consider the extent of vehicular through-traffic on local streets in new residential neighborhoods and should encourage the minimization of such through-traffic.

Implementation of proposed policies, in combination with continued application of standard safety requirements and ongoing City programs, is expected to generally improve overall safety conditions for pedestrians throughout the City. Implementation of General Plan policies and ongoing City programs on any future development in any of the potential mixed-use areas would also minimize traffic-related hazards associated with the development of those areas. Therefore, impacts related to traffic safety as a result of development under the 2030 General Plan would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact TC-3 Implementation of the 2030 General Plan would be expected to generally enhance the use of alternative transportation modes, including transit, bicycling, and walking. Hence, impacts relating to alternative transportation are considered Class IV, *beneficial*.

The 2030 General Plan includes a range of policies aimed at enhancement of alternative transportation mode opportunities throughout the City. These include:

CE Goal 3 Maximize the use and convenience of alternative transportation modes to reduce reliance on automobile use and reduce the associated vehicular traffic-related emissions.

CE Policy 3.1 The City shall provide and maintain a safe and convenient circulation system that encourages walking and that seeks to provide a continuous network of sidewalks and separated pedestrian paths



connecting housing areas with major activity centers such as shopping areas, schools, and recreation.

- CE Policy 3.2*** The City shall provide and maintain a safe and convenient circulation system that encourages bicycle travel.
- CE Policy 3.3*** The City shall encourage programs and strategies including site design features that provide for ridesharing and transit use.
- CE Policy 3.4*** The City shall provide safe and convenient transit service which strives to meet the needs of the transportation-disadvantaged including young, elderly, disabled, and low-income individuals. Such transit service should provide frequent, reliable and efficient service, with service hours that meet the needs of riders to maintain and increase the viability of public transit as an alternative to driving for Lompoc residents and commuting workers.
- CE Policy 3.5*** The City shall encourage regional transportation services to accommodate the needs of commuters and ridesharing.
- CE Policy 3.6*** The City shall facilitate the provision of lockers and secure enclosed long term parking areas for bicycles at appropriate places throughout the City and at multi-modal stations to extend the range of the bicycle commuter.
- CE Policy 3.7*** The City shall continue to support transit including the COLT bus system and shall work cooperatively with appropriate jurisdictions and agencies to encourage the augmentation of roadway and transit facilities, which address local and regional travel needs.
- CE Policy 3.8*** The City shall require, during the development review process, the dedication of land and/or construction of appropriate facilities to ensure a safe and efficient public transportation system.
- CE Policy 3.9*** The City should encourage efforts by local employers to offer telecommuting and other work schedule modifications which reduce vehicular use.
- CE Policy 3.10*** The City should require developers to provide bus shelters in high-usage locations, for example, in multi-family developments and within commercial areas. The City should consider the need for bus shelters and other transit facilities in City-sponsored redevelopment projects.



- CE Policy 3.11*** The City shall require the construction of bus turnouts adjacent to new developments in locations which improve transit service, safety, and efficiency.
- CE Policy 3.12*** The City shall encourage the inclusion of facilities that promote alternative modes of transportation, including bicycle lanes and connections, pedestrian and hiking trails, park and ride lots, and facilities for public transit into new development as well as existing development.
- CE Policy 3.13*** The City supports safe and effective connectivity between adjacent neighborhoods for new development and encourages measures that increase connectivity for existing neighborhoods, where necessary and appropriate.

The General Plan emphasizes intensification and reuse of already developed areas of the City. In particular, future development is focused on the proposed mixed-use areas. Mixed-use areas are generally supportive of alternative transportation since residences, employment centers, and services are generally closer together. Research indicates that in compact neighborhoods, where destinations are nearer to one another, people are more willing to walk, bicycle and ride transit. According to one study, every time a neighborhood doubles in compactness, the number of vehicle trips residents make is reduced by 20% to 30% (Holtzclaw, 1991).

Implementation of the policies included in the 2030 General Plan is expected to improve the availability of sidewalks, bike paths, and transit over time. By making these transportation alternatives more attractive, General Plan implementation is expected to foster a gradual increase of alternative transportation use. Consequently, conflicts with policies relating to alternative transportation are not anticipated.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.



4.14 UTILITIES and SERVICE SYSTEMS

This section evaluates potential impacts to water, wastewater and stormwater facilities, and solid waste service. Section 4.8, *Hydrology and Water Quality*, addresses potential impacts to hydrology and surface water quality.

4.14.1 Setting

a. Water. This section presents information about the City of Lompoc water supply, including groundwater, recycled water, and surface water. This section additionally discusses current and projected water supply and demand for the City of Lompoc.

Water Sources.

Groundwater. The City of Lompoc provides water resources to City residents primarily through pumping of groundwater from the Lompoc Plain, which is located within the Lompoc Groundwater Basin. This basin is fed by Santa Ynez River water, irrigation return flow, and deep percolation of rainfall. The Lompoc Groundwater Basin consists of three hydrologically connected subbasins: the Lompoc Plain, Lompoc Terrace, and the Lompoc Uplands. The Lompoc Plain occupies the flat floor of the valley through which the Santa Ynez River flows. The Lompoc Upland subbasin is north of the Lompoc Plain and extends to the eastern edge of the Cebada Canyon watershed, (approximately 4 miles east of Mission Hills), where it abuts the Santa Rita Upland. The Lompoc Terrace is a small area geologically and topographically similar to the Lompoc Upland, but adjacent to the southwest corner of the Lompoc Plain. Together, these three subbasins encompass about a 63 square-mile area that extends 1–4 miles on either side of the Santa Ynez River from the Pacific Ocean inland as much as 16 miles from the coast.

A recent evaluation of groundwater conditions (Lompoc Water Resources Study 2008, included as Appendix I) noted that groundwater availability for the City had improved in the last 10–15 years for two reasons. First, pumping by Vandenberg Air Force Base and the U.S. Penitentiary decreased by approximately 2,020 acre-feet per year (AFY) when those users switched to imported water supplies in 1997. Second, prolonged low flows in the Santa Ynez River became much more frequent as a result of changes in releases from Lake Cachuma implemented around 1990 (pursuant to State Water Resources Control Board order 89–18). The infiltration capacity of the river under low-flow conditions is approximately 10 cubic feet per second (cfs), and the increased duration of low flows increased the annual percolation capacity by about 3,400 AFY. Finally, additional pumping at City wells would also increase percolation at rates greater than 10 cfs when river flows are high, adding a third increment of additional water supply availability. Thus, increased river percolation would balance an increase in municipal pumping of up to approximately 5,400 AFY without substantially depleting river flows below the pre-1989 conditions.



These quantities represent average annual conditions. During droughts, increased municipal pumping would lead to larger cumulative declines in groundwater levels, and streamflow depletion could be higher than under existing conditions during the first 1–2 years following the drought. An analysis of cumulative water-level declines during the 1984–1990 drought indicated that declines from current pumping levels would not likely be large enough to impair the yield of the City’s wells or other nearby wells (Lompoc Water Resources Study 2008).

Groundwater availability has improved during the past 20 years as a result of the aforementioned changes in river flow and pumping. Existing condition for purposes of this environmental impact analysis therefore consists of land use and water use patterns and the river flow regime as of 2008, taking into account previous improvements. Although implementation of the 2030 General Plan would result in a decline in groundwater and surface water levels, groundwater and surface conditions would continue to be improved over 1990 conditions.

The Santa Ynez River Water Conservation District (SYWCD) and the City of Lompoc have entered into an agreement with the Cachuma Conservation Release Board and Santa Ynez River Water Conservation District No. 1, collectively known as the Cachuma Member Units, which addresses a number of concerns relating to the operation of Cachuma Reservoir, including protection of water quality in the Lompoc Plain. State Water Resources Control Board (SWRCB) Order 89–18 allows for periodic releases from Bradbury Dam. The agreement with the Cachuma Member Units incorporates existing plans and water rights decisions, including Order 89–18, and provides flexibility to improve management procedures as warranted (Susan Segovia, Senior Administrative Analyst, Utility Department, Personal Communication, March 27, 2009).

Recycled Water. The City of Lompoc owns and operates the Lompoc Regional Wastewater Reclamation Plant (LRWRP), located at 1801 East Central Avenue. The LRWRP utilizes advanced secondary treatment technology. Among the LRWRP upgrades scheduled to be completed in 2009 is a tertiary treatment system, which is a process subsequent to secondary treatment that results in an additional stage of wastewater cleansing. The City produces and uses approximately 5 AFY of recycled water (Susan Segovia, Senior Administrative Analyst, Utility Department, Personal Communication, March 27, 2009).

Surface Water– Frick Springs. The City serves existing residences in the Miguelito Canyon area with water from Frick Springs (located on San Miguelito Road, approximately 4.5 miles south of Willow Avenue.) The City purchased the riparian rights in Miguelito Canyon downstream of Frick Springs in the early 1900s. Approximately 10 acre–feet per year (AFY) is filtered, disinfected, and delivered by a Surface Water Filtration Package Plant to 13 customers. These Miguelito Canyon customers use this water for domestic, stock and dust control purposes (Gene Margheim, Water Superintendent, Personal Communication, March 27, 2009).

Water Infrastructure. Water from the Lompoc Plain Basin is pumped from nine wells located throughout the City, which have capacities that range between 250 and 2,200 gallons per



minute (gpm). The current yield for all nine wells is approximately 7,000 gpm, or 10 million gallons per day (MGD). The City is actively planning the construction of a tenth well, which will be located in the southeastern part of the City near the Santa Ynez River. The well is expected to be operational in 2009 and have an approximate capacity of 1,500 gpm, or 2.16 MGD (Gene Margheim, City of Lompoc Water Superintendent, Personal Communication, February 23, 2009).

The City has approximately 9,600 domestic water service connections. Water from the wells is conveyed to the Lompoc Water Treatment Plant (LWTP) located at 601 East North Avenue. The LWTP, which was constructed in 1963, employs a lime caustic soda softening process to treat the water for hardness and to reduce total dissolved solids (TDS). Spent chemicals, removed solids, and filter material from the softening process, along with waste filter wash water, are discharged and dried in on-site lagoons or dried in centrifuges. The dried softening process waste is utilized as an alternate daily cover material at the City's landfill (Gene Margheim, Water Superintendent, Personal Communication, April 14, 2009).

The peak treatment capacity of the LWTP is currently 10 MGD and a maximum of 11,201 AFY. From the LWTP, water is piped to the distribution system and to four distribution reservoirs. The four reservoirs have a total usable storage capacity of 12 million gallons. These reservoirs are connected to a gravity delivery grid, which has a single pressure zone for all of its service area (Gene Margheim, Water Superintendent, Personal Communication, April 14, 2009).

Refer to Figure 4.14-1 for a map of the City's water distribution system.

Existing Water Demand. According to the 2008 Water Resources Study, the City consumes 125 gallons per day per capita. This equates to 3,740 gallons per month and 44,625 gallons per year (or 0.1369 acre-feet per year) per capita. As of 2007, the City pumps a total of 5,600 AFY from the Lompoc Plain Basin. This is equivalent to pumping approximately 5 million gallons per day.

b. Wastewater. The City owns and operates the Lompoc Regional Wastewater Reclamation Plant (LRWRP), located at 1801 West Central Avenue (refer to Figure 4.14-2). The LRWRP has a design capacity to treat an average flow of up to 5.0 million gallons per day (MGD) of wastewater. The LRWRP currently processes approximately a total of 3.06 MGD from wastewater sources in the City (City of Lompoc General Plan Update Utility Plan Review, 2009), including 0.65 MGD from sources within Vandenberg Air Force Base, and 0.50 MGD from sources within Vandenberg Village. The City's average per capita wastewater flow is estimated to be 78 gallons per day.

Upgrades to the LRWRP are currently being implemented and are projected to be operational in August 2009. The upgraded plant is designed to treat 5.5 MGD under average dry weather flow (ADWF), 9.5 MGD under peak dry weather flow (PDWF), and 15 MGD under peak wet weather flow (PWWF) (Tim Smith, Acting Wastewater Superintendent, Personal Communication, April 14,



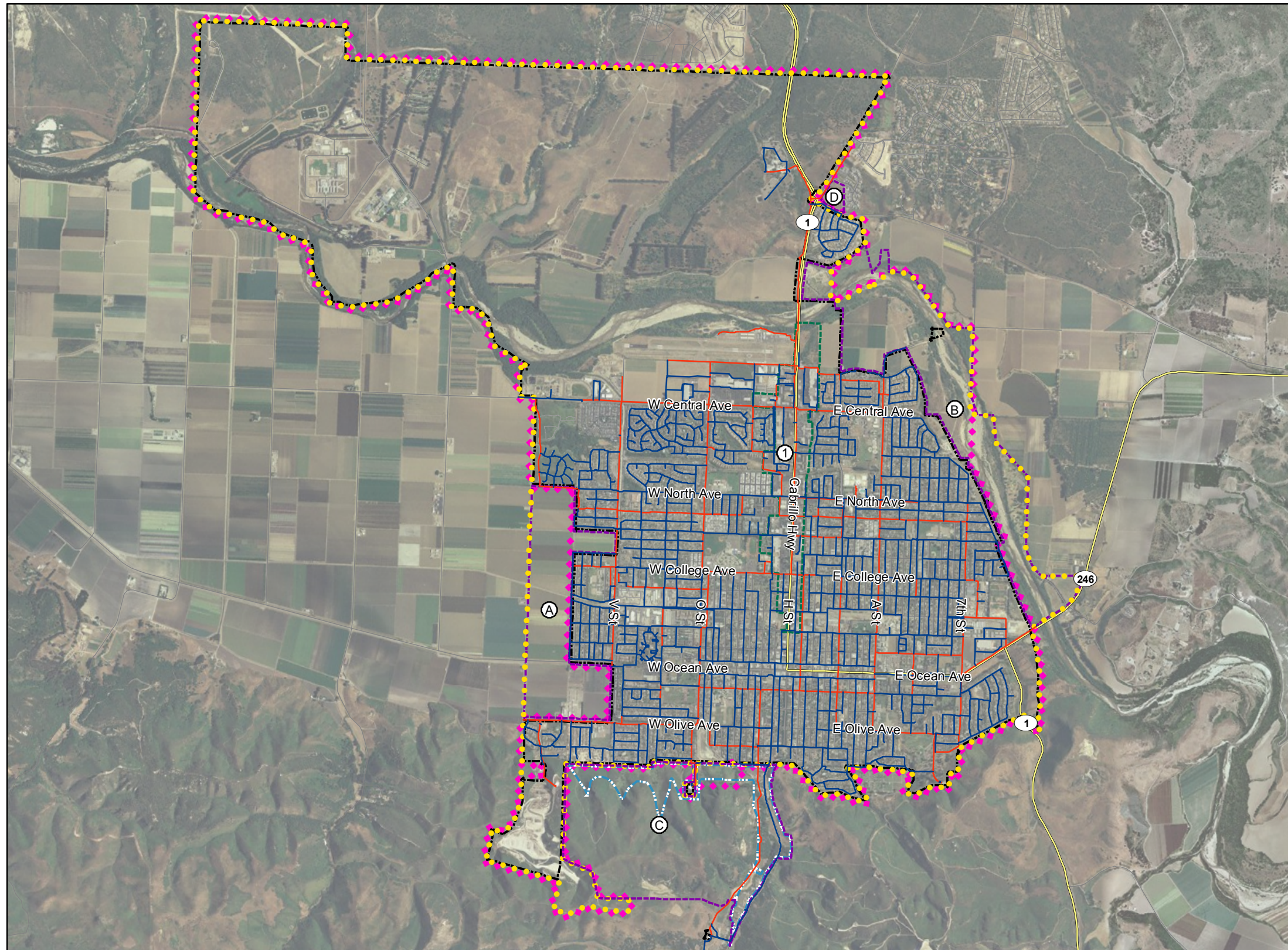
2009). The plant will provide primary, secondary and tertiary wastewater treatment. Specific upgrades to the plant include new headworks, flow meters, two oxidation ditches, secondary clarifiers, tertiary cloth filters, UV disinfection, and new solids handling facilities.

Although the upgrades to the LRWRP will increase its treatment capacity, the City is prevented from discharging treated wastewater in an amount that would exceed its currently permitted flow of 5.0 mgd (ADWF). To discharge an amount that exceeds the 5.0 mgd (ADWF) the City would need to apply for a new waste discharge permit from the Regional Water Quality Control Board to utilize the higher discharge rates. In the future, permit effluent requirements may differ from the current permit.

c. Stormwater. Lompoc's stormwater infrastructure consists of channelized drainages, detention basins, standard storm drain inlets and sub-surface storm drainage systems, and curbs and gutters. The City of Lompoc is located at the downstream end of the Santa Ynez River's watershed. This watershed is very large and its uses primarily include open space, agriculture and a limited amount of rural and urban development. The City is also located on the downstream end of San Miguelito Creek, which flows from Santa Barbara County's jurisdiction into the southern portion of Lompoc.

Both the City and County maintain stormwater infrastructure within the City of Lompoc. The City of Lompoc maintains the East-West Channel drainage (shown in Figure 4.13-3) and the City's curbs and gutters. The County maintains all the V Street Channel (also referred to as the Miguelito Creek Channel). Stormwater flows are directed, where possible, to detention basins prior to entering the sub-surface drainages to avoid sediment loading. Stormwater ultimately flows into the subsurface drainages, which then flow to either the East-West Channel, the V Street Channel, or directly into the Santa Ynez River. In times of heavy flow, the Santa Ynez River reaches flood stage and water flows onto agricultural fields west of town. During these peak flow periods, the City's lowest lying areas may flood and the channels may surcharge (refer to Figure 4.7-1 in section 4.7 Hydrology and Water Quality). The City's streets are designed to accommodate storm flows until the River level recedes (City of Lompoc General Plan Update Utility Plan Review, 2009). Figure 4.14-3 displays the City's stormwater collection system.





LEGEND

- Distribution Mains
- Transmission Mains
- Additional Overlays**
- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- ◆◆◆◆ Existing City Sphere of Influence

Proposed Land Use Changes

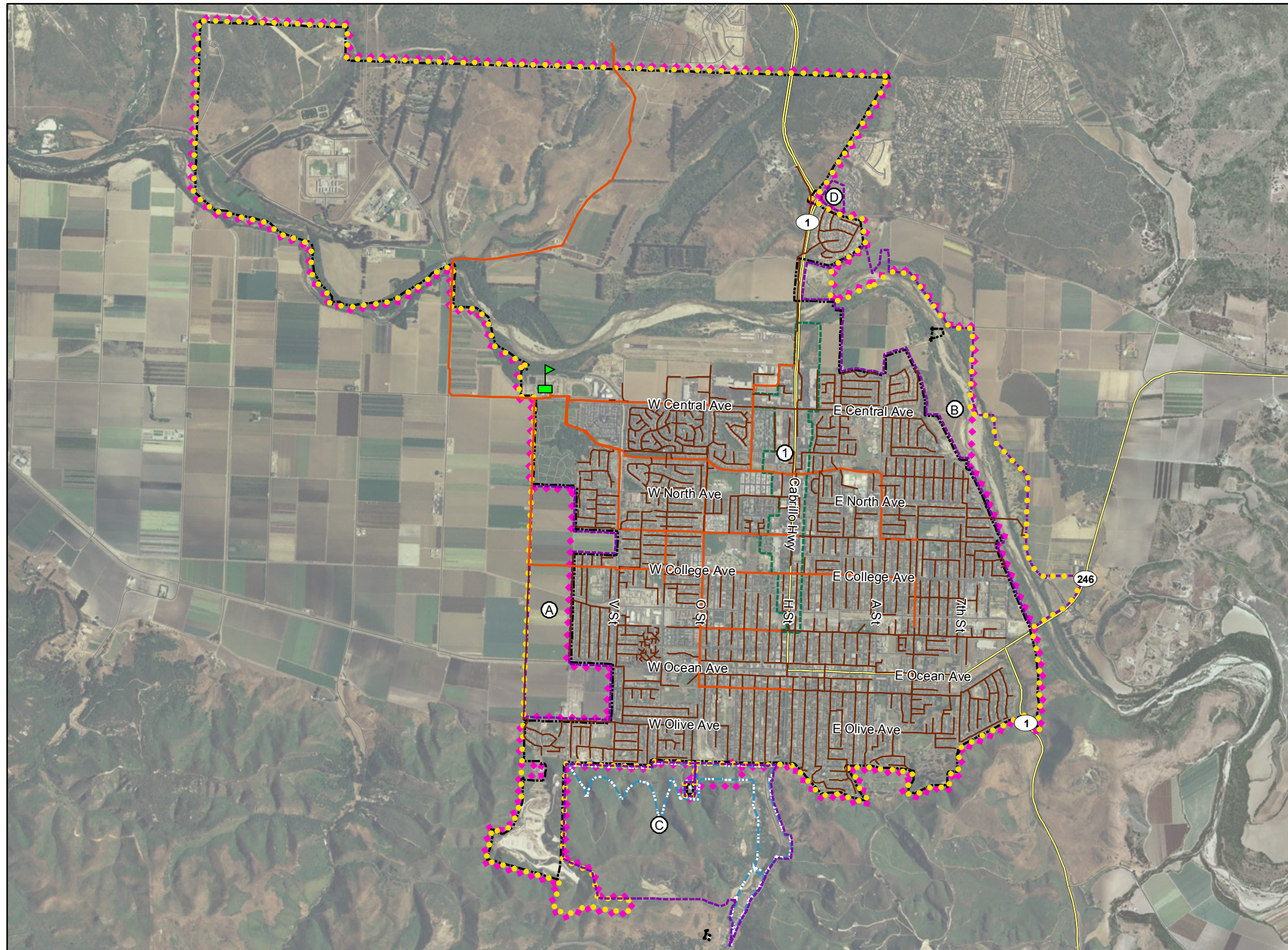
- Area ① H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential



Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Water System Map

Figure 4.14-1
 City of Lompoc



LEGEND

- Lompoc Regional Wastewater Reclamation Plant
- Sewer Mains 10 inches and Smaller
- Sewer Mains 12 inches and Larger
- Additional Overlays**
- H Street Corridor Infill Area
- Draft Annexation Areas (Subject to LAFCO approval)
- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

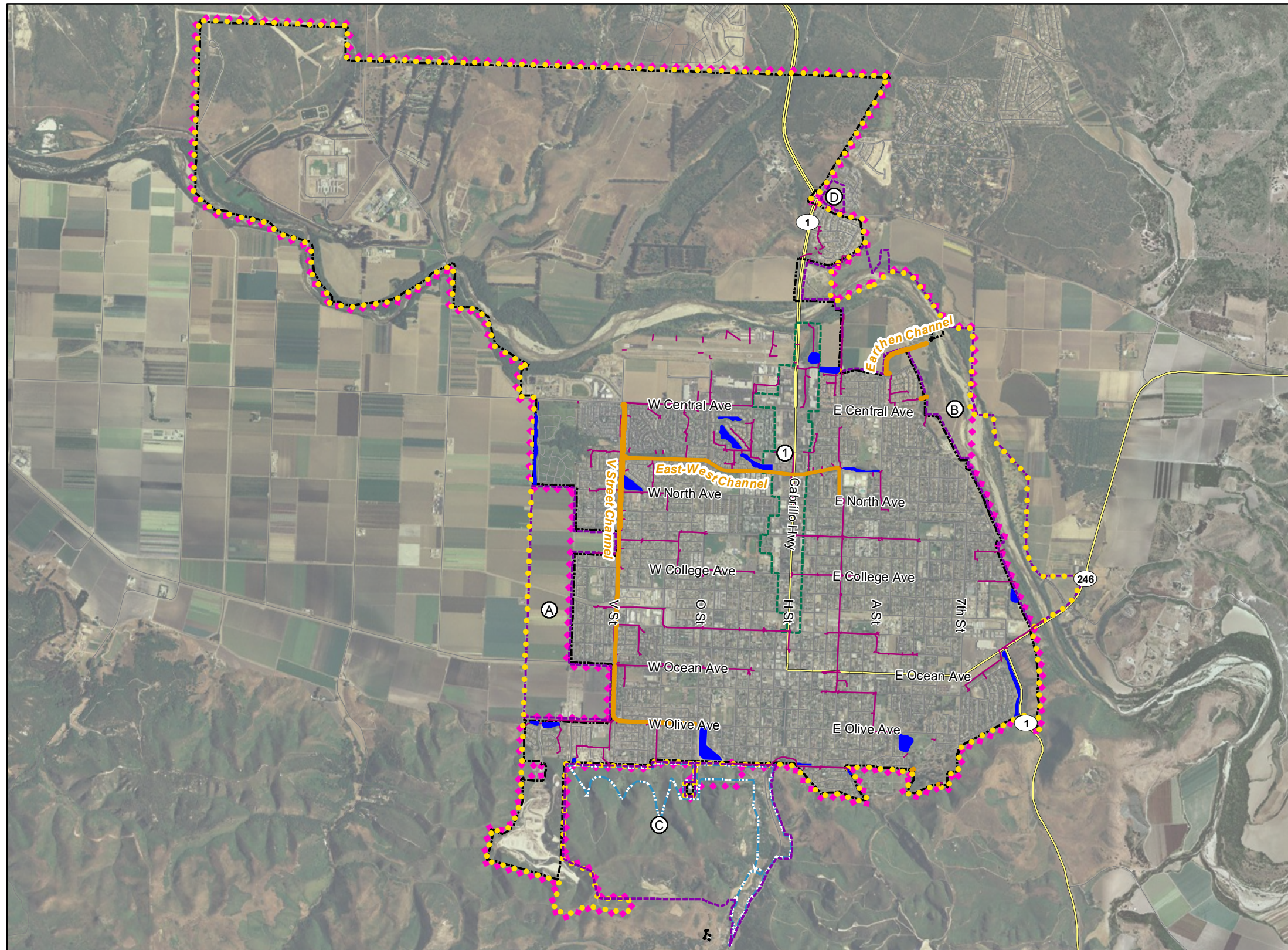
- Area ① H Street Corridor Infill
- Area ① Bailey Avenue Specific Plan
- Area ② River Area
- Area ③ Miguelito Canyon
- Area ④ Wye Residential












Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Wastewater System Map

Figure 4.14-2
 City of Lompoc

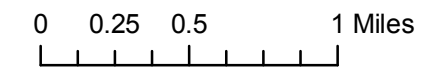


LEGEND

-  Stormwater Pipeline
 -  Stormwater Channel
 -  Stormwater Detention Basin
- Additional Overlays**
-  H Street Corridor Infill Area
 -  Draft Annexation Areas (Subject to LAFCO approval)
 -  Existing City Limits
 -  Proposed Area to be Added to City Urban Limit Line
 -  Existing City Urban Limit Line
 -  Existing City Sphere of Influence

Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area A Bailey Avenue Specific Plan
- Area B River Area
- Area C Miguelito Canyon
- Area D Wye Residential



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Stormwater System Map

Figure 4.14-3
 City of Lompoc

d. Solid Waste. The City of Lompoc provides all weekly garbage and recycling collection services in the City and owns and operates the City of Lompoc Sanitary Landfill, which is a Class III (non-hazardous) landfill. Services provided include automated refuse, recycling and green waste collection. Single-family residences and business customers are offered a three-container system: trash, comingled recycling, and green waste recycling. Solid waste from single family residences is collected once per week, and solid waste from commercial customers may be collected up to five days per week (Monday through Friday), if required. Trash and recyclables are taken to the Lompoc Landfill. The Landfill accepts the following materials for recycling: cardboard, green waste, wood waste, white goods (i.e., washers/dryers, refrigerators, etc.), electronic waste, tires, concrete, top soil, scrap metal, motor oil, oil filters, antifreeze and batteries.

The landfill has a remaining capacity of 2,146,779 cubic yards and a permitted peak throughput of 500 tons per day. The facility disposed of approximately 38,500 tons of waste in 2007, averaging approximately 89 tons per day (Larry Bean, PE, City of Lompoc Public Works Director, Personal Communication, March 19, 2009). It should be noted that the Lompoc Sanitary Landfill also receives waste from adjacent unincorporated County areas including Mission Hills, Mesa Oaks and Vandenberg Village. Of the 38,500 tons of waste disposed of in 2007, approximately 32,500 tons were generated by the City of Lompoc and approximately 6,000 tons were generated by County sources.

The expected closure date of the landfill is 2047 (California Integrated Waste Management Board, SWIS Database, 2008). Residential waste in the City is primarily composed of organic materials (e.g., food, yard waste) and paper products. Business waste in the City is primarily composed of food, paper, plastic, and cardboard products.

The City of Lompoc has achieved relatively high waste diversion rates in recent years. The City diverted 53% of its waste in 2001, 2002, and 2003, 61% in 2004, 62% in 2005 and 64% in 2006 (Integrated Waste Management Board, Jurisdiction Profile 2008). These diversion rates satisfy the State-mandated standard of 50% diversion.

4.14.2 Impact Analysis

a. Methodology and Significance Thresholds. The following thresholds have been used to determine the impacts to water provision, wastewater treatment, and solid waste disposal.

In general, the 2030 General Plan would result in potentially significant impacts if growth facilitated by the plan would result in substantial adverse physical impacts associated with provision of new or physically altered facilities, or the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.



Water. The 2030 General Plan would have a significant effect on water supplies if demand associated with projected growth exceeds the available supply, thereby causing water shortages during average or peak demand periods. Water duty factors were based on those contained within the 2009 Utility Plan Review, which is 125 gallons per capita per day. Additional information was provided by the 2008 City of Lompoc Water Resources Study. An impact is considered significant if physical changes that could be facilitated by buildout of the 2030 General Plan would result in any of the following conditions, listed in Appendix G of the CEQA Guidelines:

- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*
- *Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*
- *Fail to have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements are needed.*

Wastewater. Impacts to the sewer system are considered significant if sewage generated by growth facilitated by the 2030 General Plan would exceed the existing or planned capacity of the sewage collection or treatment system, or require extension of a trunk line with capacity to serve new development. The analysis used a wastewater generation factor of 78 gallons per capita per day, which is based on the City's current wastewater generation. Impacts related to the 2030 General Plan would be significant if growth accommodated under the Plan would result in any of the following conditions:

- *Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*
- *Result in a determination that the wastewater treatment provider that it does not have adequate capacity to serve projected demand in addition to existing commitments*
- *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.*

Stormwater. The 2030 General Plan would have significant impacts on storm water infrastructure if development facilitated by the General Plan would over-capacitate existing facilities. An impact is considered significant if growth facilitated by buildout of the 2030 General Plan would result in the following condition:



- *Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects*

Solid Waste. The 2030 General Plan would have significant impacts on solid waste collection and disposal if development facilitated by the General Plan would exceed the maximum permitted allowance at the City of Lompoc Sanitary Landfill. Solid waste generation factors used for the analysis include 0.95 tons per person per year for residential uses, 0.0057 tons per square foot per year for commercial uses, and 0.0016 tons per square foot per year for industrial uses. An impact is considered significant if growth facilitated by buildout of the 2030 General Plan would:

- *Not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs*
- *Fail to comply with federal, state, and local statutes and regulations related to solid waste*

b. Project and Cumulative Impacts.

Impact U-1 Maximum development facilitated by the 2030 General Plan would generate a net increase in water demand of approximately 2320 acre feet per year, which currently must be offset by participating in and providing water conservation measures and remedies to the existing City supply and distribution system that decrease existing demand by an amount equal to the demand added under buildout of the General Plan. Existing water conveyance and treatment facilities are adequate and water supplies are available to accommodate the delivery of water. Therefore, water supply impacts would be Class III, *less than significant*.

2030 General Plan Buildout within City Limits

Water Conveyance and Treatment Facilities. Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 dwelling units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 8,173 residents.

Currently new development is required to offset their projected water usage by participating in and providing water conservation measures that decrease existing water demand by an amount equal to the calculated project demand (Title 13 Public Services, Chapter 13.04, Section 13.04.070 of the City Code). This policy has succeeded in keeping the City's overall water use more or less constant since 1995, largely through replacing older plumbing fixtures (especially toilets) and since 2003, appliances (dishwashers and washing machines) with newer models



that use less water. However, retrofits represent a finite opportunity to decrease existing demand and cannot be expected to fully offset population growth indefinitely; however, the City expects that its aggressive multi-faceted water conservation program will help ensure that the City's water usage continues at or below the current low level of 125 gallons per capita per day (gpcd).

The water demand analysis in this EIR is based on a worst-case assumption that demand caused by future population growth is not offset by further reductions in water use by existing customers. The 125 gpcd level is used as the average per capita water usage for new development. For further information reference the City of Lompoc Water Resources Study 2008.

Based on 125 gallons per capita per day (gpcd), the added population at buildout would increase water demand by 1.02 million gallons per day (MGD) to 6.02 MGD, if not mitigated by offsetting water conservation measures as required by City Code.

The combined pumping capacity of the City's wells is currently 10 MGD, which meets the Lompoc Water Treatment Plant (LWTP) maximum output of 10 MGD, or 11,201 AFY. Based on an estimated demand of 6.02 MGD the existing water conveyance and treatment facilities would be adequate to serve anticipated demands from buildout of the 2030 General Plan within the City Limits. Additionally, development within City limits would connect to existing water mains located throughout the City to provide water to individual project sites. Impacts would therefore be less than significant.

Groundwater Supply. The additional water demand generated by 2030 General Plan buildout within City Limits would not cause the groundwater basin to enter a state of overdraft. As described in Section 4.14.1, *Setting*, increased river percolation could balance an increase in municipal pumping of up to approximately 5,400 AFY without substantially depleting river flows below the pre-1989 conditions. An analysis of cumulative water-level declines during the 1984-1990 drought indicated that declines under 2030 General Plan buildout conditions would not likely be large enough to impair the yield of the City's wells or other nearby wells (Lompoc Water Resources Study 2008).

Buildout of the 2030 General Plan within the City limits would add 8,173 people to the population and increase municipal water use by 1,144 AFY. This is based on 125 gpcd, which is the City's average water usage for new development.

Over the long run, increases in groundwater pumping at City wells—which are relatively close to the Santa Ynez River—cause an equal increase in percolation from the river. During droughts, however, river flows are too small to provide enough percolation to keep up with pumping, and groundwater levels decline from year to year. This deficit is replenished by increased percolation during subsequent normal and wet years. The 1984-1990 drought was the largest



drought in the period of record for rainfall in terms of cumulative rainfall deficit. Cumulative water-level declines at the City's wells were 20–25 feet during that period. Vandenberg AFB and the U.S. Penitentiary were both using groundwater as their sole source of supply during the 1984–1990 drought. After taking into account a possible resumption of pumping by those users as a result of curtailments in imported water supply, the increased pumping resulting from the 2030 General Plan would increase the cumulative drawdown during a similar drought to 33–41 feet, but the additional decline would not diminish the yield of the municipal wells (Lompoc Water Resources Study 2008). Any improvements in water supply availability since that drought (decreased pumping at Vandenberg AFB and the U. S. Penitentiary, and increased duration of baseflows in the river) would diminish the calculated drawdown for a future drought. Therefore, the groundwater supply is adequate to meet the additional demand associated with the 2030 General Plan without causing overdraft or temporarily impairing the capacity of the City's well field.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Water Conveyance and Treatment Facilities. Development within the Bailey Avenue Specific Plan expansion area would accommodate up to 2,184 new single family residential units and 534 multiple-family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 7,827 residents. Based on 125 gallons per capita per day (GPCD), this population would increase water demand by 0.98 million gallons per day, or 1,096 AFY. However, because the Bailey Avenue Specific Plan site would be converted from agricultural uses to residential uses, on-site groundwater pumping and recharge would change. This would result in a 186 AFY decrease in net on-site groundwater use (Lompoc Water Resources Study, 2008). This decrease would partially offset the increased pumping at the City's municipal wells, so the change in the overall groundwater balance for the Lompoc Plain due to buildout of the Bailey Avenue Specific Plan would be an increase of 910 AFY, or 0.88 MGD in groundwater withdrawals. When added to the City's existing use, total groundwater withdrawals would be 5.88 MGD

The combined pumping capacity of the City's wells is currently 10 MGD, which meets the Lompoc Water Treatment Plant (LWTP) maximum output of 10 MGD, or 11,201 AFY. Based on an estimated demand of 5.98 MGD the existing water conveyance and treatment facilities would be adequate to serve anticipated demands from buildout of the 2030 General Plan within the Bailey Avenue Specific Plan expansion area. Additionally, water conveyance facilities for development within the Bailey Avenue Specific Plan area would connect to existing water mains adjacent to the site, near Z Street, West Olive Street and West North Avenue. Impacts would therefore be less than significant.



Groundwater Supply. Development within the Bailey Avenue Specific Plan expansion area could result in an additional 7,827 residents, which would result in a net demand increase of 910 AFY, when accounting for the demand reduction due to the conversion of agricultural lands.

Currently new development is required to offset their projected water usage by participating in and providing water conservation measures that decrease existing water demand by an amount equal to the calculated project demand (Title 13 Public Services, Chapter 13.04, Section 13.04.070 of the City Code). This policy has succeeded in keeping the City's overall water use more or less constant since 1995, largely through replacing older plumbing fixtures (especially toilets) and since 2003, appliances (dishwashers and washing machines) with newer models that use less water. However, retrofits represent a finite opportunity to decrease existing demand and cannot be expected to fully offset population growth indefinitely; however, the City expects that its aggressive multi-faceted water conservation program will help ensure that the City's water usage continues at or below the current low level of 125 gallons per capita per day (gpcd).

The water demand analysis in this EIR is based on a worst-case assumption that demand caused by future population growth is not offset by further reductions in water use by existing customers. The 125 gpcd level is used as the average per capita water usage for new development. For further information reference the City of Lompoc Water Resources Study 2008.

As discussed above, groundwater supplies are adequate to meet the increased water demand that would result from implementing the entire General Plan (2,320 AFY). Therefore, they would be adequate to meet the demand of any part of the 2030 General Plan without causing overdraft or temporarily decreasing the capacity of the City's well field. Overall impacts to the Lompoc Plain Basin would be less than significant.

Expansion Area B: River Area

Water Conveyance and Treatment Facilities. Development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground with 126 full hookup RV campsites. For this analysis, it is assumed that these RV campsites would accommodate long-term residents. As a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to an additional 362 residents. Based on 125 gallons per capita per day (GPCD), this population would increase water demand by 0.04 MGD gallons per day. When added to existing demand, total demand would be 5.04 MGD.



The combined pumping capacity of the City's wells is currently 10 MGD, which meets the Lompoc Water Treatment Plant (LWTP) maximum output of 10 MGD, or 11,201 AFY. Based on an estimated demand of 5.04 MGD (or 5,645 AFY), the existing water conveyance and treatment facilities would be adequate to serve anticipated demands from buildout of the 2030 General Plan within the River expansion area. Additionally, water would be conveyed to new development on the site through the existing 6-inch service line, which is located under the riverbed from the area of Lemon-Oak Alley at Riverside Drive.

Groundwater Supply. Development within the River expansion area could result in an additional 362 residents, which would increase demand by 51 AFY.

Currently new development is required to offset their projected water usage by participating in and providing water conservation measures that decrease existing water demand by an amount equal to the calculated project demand (Title 13 Public Services, Chapter 13.04, Section 13.04.070 of the City Code). This policy has succeeded in keeping the City's overall water use more or less constant since 1995, largely through replacing older plumbing fixtures (especially toilets) and since 2003, appliances (dishwashers and washing machines) with newer models that use less water. However, retrofits represent a finite opportunity to decrease existing demand and cannot be expected to fully offset population growth indefinitely; however, the City expects that its aggressive multi-faceted water conservation program will help ensure that the City's water usage continues at or below the current low level of 125 gallons per capita per day (gpcd).

The water demand analysis in this EIR is based on a worst-case assumption that demand caused by future population growth is not offset by further reductions in water use by existing customers. The 125 gpcd level is used as the average per capita water usage for new development. For further information reference the City of Lompoc Water Resources Study 2008.

As discussed above, groundwater supplies are adequate to meet the increased water demand that would result from implementing the entire 2030 General Plan (2,320 AFY). Therefore, they would be adequate to meet the demand of any part of the 2030 General Plan without causing overdraft or temporarily decreasing the capacity of the City's well field. Overall impacts to the Lompoc Plain Basin would be less than significant.

Expansion Area C: Miguelito Canyon Area

Water Conveyance and Treatment Facilities. Development that could occur within Miguelito Canyon expansion area in accordance with the 2030 General Plan would include up to 25 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 72 residents. Based on 125



gallons per capita per day (GPCD), this population would increase water demand by 0.009 MGD gallons per day. When added to existing demand, total demand would be to 5.009 MGD.

The combined pumping capacity of the City's wells is currently 10 MGD, which meets the Lompoc Water Treatment Plant (LWTP) maximum output of 10 MGD, or 11,201 AFY. Based on an estimated demand of 5.009 MGD the existing water conveyance and treatment facilities would be adequate to serve anticipated demands from buildout of the 2030 General Plan within the Miguelito Canyon expansion area. Additionally, water conveyance facilities for development within the Miguelito Canyon area would connect to existing water mains adjacent to the site, near West Fir Avenue, West Willow Avenue and San Miguelito Road. This would require installation of an additional pump station to service customers along Miguelito Canyon Road. The amount of disturbance needed to install a pump station would be minor. Impacts would be less than significant.

Groundwater Supply. Development within the Miguelito Canyon expansion area could result in an additional 72 residents, which would demand 10 AFY. Currently new development is required to offset their projected water usage by participating in and providing water conservation measures that decrease existing water demand by an amount equal to the calculated project demand (Title 13 Public Services, Chapter 13.04, Section 13.04.070 of the City Code). This policy has succeeded in keeping the City's overall water use more or less constant since 1995, largely through replacing older plumbing fixtures (especially toilets) and since 2003, appliances (dishwashers and washing machines) with newer models that use less water. However, retrofits represent a finite opportunity to decrease existing demand and cannot be expected to fully offset population growth indefinitely; however, the City expects that its aggressive multi-faceted water conservation program will help ensure that the City's water usage continues at or below the current low level of 125 gallons per capita per day (gpcd).

The water demand analysis in this EIR is based on a worst-case assumption that demand caused by future population growth is not offset by further reductions in water use by existing customers. The 125 gpcd level is used as the average per capita water usage for new development. For further information reference the City of Lompoc Water Resources Study 2008.

As discussed above, groundwater supplies are adequate to meet the increased water demand that would result from implementing the entire 2030 General Plan (2,320 AFY). Therefore, they would be adequate to meet the demand of any part of the 2030 General Plan without causing overdraft or temporarily decreasing the capacity of the City's well field. Overall impacts to the Lompoc Plain Basin would be less than significant.



Expansion Area D: Wye Residential Area

Water Conveyance and Treatment Facilities. Development within the Wye Residential expansion area in accordance with the 2030 General Plan would include up to 46 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, development of the Wye Residential expansion area with up to 46 low density residences would be expected to generate an additional 132 residents. Based on 125 gallons per capita per day (gpcd), this population would increase water demand by 0.016 million gallons per day. When added to existing demand, total demand would be to 5.016 MGD.

The combined pumping capacity of the City's wells is currently 10 MGD, which meets the Lompoc Water Treatment Plant (LWTP) maximum output of 10 MGD, or 11,201 AFY. Based on an estimated demand of 5.016 MGD the existing water conveyance and treatment facilities would be adequate to serve anticipated demands from buildout of the 2030 General Plan within the Wye Residential expansion area. Additionally, water conveyance facilities for development within the Wye Residential area would connect to existing water mains adjacent to the site, near Purisima Road. This would require installation of an additional pump station to service customers within this expansion area if City water is used. Impacts would be less than significant.

Groundwater Supply. Development within the Wye Residential expansion area could result in an additional 132 residents, which would demand 18.48 AFY. Currently new development is required to offset their projected water usage by participating in and providing water conservation measures that decrease existing water demand by an amount equal to the calculated project demand (Title 13 Public Services, Chapter 13.04, Section 13.04.070 of the City Code). This policy has succeeded in keeping the City's overall water use more or less constant since 1995, largely through replacing older plumbing fixtures (especially toilets) and since 2003, appliances (dishwashers and washing machines) with newer models that use less water. However, retrofits represent a finite opportunity to decrease existing demand and cannot be expected to fully offset population growth indefinitely; however, the City expects that its aggressive multi-faceted water conservation program will help ensure that the City's water usage continues at or below the current low level of 125 gallons per capita per day (gpcd).

The water demand analysis in this EIR is based on a worst-case assumption that demand caused by future population growth is not offset by further reductions in water use by existing customers. The 125 gpcd level is used as the average per capita water usage for new development. For further information reference the City of Lompoc Water Resources Study 2008.

As discussed above, groundwater supplies are adequate to meet the increased water demand that would result from implementing the entire 2030 General Plan (2,320 AFY). Therefore, they would be adequate to meet the demand of any part of the 2030 General Plan without causing



overdraft or temporarily decreasing the capacity of the City's well field. Overall impacts to the Lompoc Plain Basin would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries (including the H Street Corridor Infill area), as well as buildout of the four identified expansion areas. Impacts related to water conveyance and treatment facilities and water supply from these components of the General Plan have been addressed individually in the paragraphs above. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. Upon 2030 General Plan buildout, the cumulative population increase would be approximately 16,566. Based on 125 gallons per capita per day (GPCD), this population would increase water demand by 2,320 AFY (accounts for the 186 AFY decrease in demand due to land use changes in the Bailey Avenue Specific Plan expansion area). This increase in demand is equivalent to 2.1 MGD. When added to existing demand, total demand would be 7.1 MGD. As noted in the paragraphs above, pumping capacity of the City's existing wells is greater than this anticipated demand. The existing LWTP similarly has capacity to treat the increased demand for water.

As discussed above, groundwater supplies are adequate to meet the increased water demand that would result from implementing the entire 2030 General Plan (2,320 AFY). Therefore, they would be adequate to meet the demand of any part of the 2030 General Plan without causing overdraft or temporarily decreasing the capacity of the City's well field. Cumulative impacts related to water supply would therefore be less than significant.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts to water supply and infrastructure.

- PSE Goal 18*** *Provide economical and dependable water service.*

- PSE Policy 18.1*** *The City shall make improvements to the water supply system to maintain system capability and reliability.*

- PSE Policy 18.2*** *The City shall assure that sufficient capacity and quality is available in the Lompoc Water Treatment Plant and system prior to approval of new development projects.*

- PSE Policy 18.3*** *The City shall assure that all improvements to the water supply system necessitated by the approval of new projects are proportionately financed by the project sponsor.*



PSE Goal 19 *Maximize the conservation of water.*

PSE Policy 19.1 *The City shall promote the conservation of water by all customers.*

The following proposed 2030 General Plan Land Use Element (LUE) Goals and Policies would also reduce impacts related to water.

LUE Goal 4 *Provide and maintain high-quality public facilities and services.*

LUE Policy 4.1 *The City shall ensure that a sufficient supply of land continues to be available for community facility and institutional uses.*

LUE Policy 4.2 *The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development.*

LUE Policy 4.6 *To ensure that requested annexations do not negatively impact City fiscal health, such requests shall be accompanied by a study that analyzes the fiscal impact to the City presented by the annexation. The City should not approve annexation requests unless it can be demonstrated: 1) that the annexation promotes orderly development commensurate with available resources; 2) that the annexation proposal would result in a positive relationship between city facility and service costs and the revenues generated subsequent to the annexation, and 3) that the annexation substantially furthers the City needs for new or expanded parks, open space areas, and/or other public facilities.*

Mitigation Measures. None required, as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-2 **Development facilitated by the 2030 General Plan would not increase wastewater generation in excess of existing treatment facility capacity. Therefore, wastewater impacts would be Class III, *less than significant*.**

2030 General Plan Buildout within City Limits

Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 dwelling units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 8,173 residents. Based on a rate of 78 gallons of wastewater generation per capita per day, this population would generate 637,494 gallons of wastewater per day. When added to existing wastewater flow, the City total would be 2.55 million gallons per day (MGD). This wastewater would be treated at the Lompoc Regional Wastewater Reclamation Plant



(LRWRP). The Vandenberg Air Force Base (VAFB) and the community of Vandenberg Village are also served by the LRWRP and generate a maximum of 0.65 MGD and 0.50 MGD, respectively. Combined, waste generation to the LRWRP would total 3.70 MGD. The LRWRP has the capacity to serve 5.0 MGD, and is expected to complete improvements that would increase capacity to 5.5 MGD in 2009. In addition, development within City limits would connect to existing sewer mains located throughout the City to provide wastewater conveyance to individual project sites. Therefore, development facilitated by the 2030 General Plan within City Limits, in combination with other communities served by the LRWRP, would have a less than significant impact on wastewater facilities.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development within the Bailey Avenue Specific Plan expansion area would accommodate up to 2,184 new single family residential units and 534 multiple-family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 7,827 residents. Based on a rate of 78 gallons of wastewater generation per capita per day, this population would generate 610,506 gallons of wastewater per day. When added to existing wastewater flow, the City total would be 2.52 MGD. This wastewater would be treated at the Lompoc Regional Wastewater Reclamation Plant (LRWRP). VAFB and Vandenberg Village are also served by the LRWRP and would generate a maximum of 0.65 MGD and 0.50 MGD, respectively. Combined, waste generation would total 3.67 MGD. The LRWRP currently has a capacity of 5.0 MGD, and is expected to complete improvements that would increase capacity to 5.5 MGD in 2009. In addition, wastewater conveyance facilities for development within the Bailey Avenue Specific Plan area would connect to existing sewer mains adjacent to the site, near Z Street and West Olive Street. Therefore, development of the Bailey Avenue Specific Plan expansion area, in combination with other communities served by the LRWRP, would have a less than significant impact on wastewater facilities.

Expansion Area B: River Area

Development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground with 126 full hookup RV campsites. For this analysis, it is assumed that these RV campsites would accommodate long-term residents. As a worst case scenario and based on the citywide average of 2.88 persons per dwelling unit, development of the River expansion area with 126 RV dwelling units would be expected to generate up to an additional 362 residents. Based on a rate of 78 gallons of wastewater generation per capita per day, this population would generate 28,236 gallons of wastewater per



day. When added to existing wastewater flow, the City total would be 1.94 MGD. This wastewater would be treated at the Lompoc Regional Wastewater Reclamation Plant (LRWRP). VAFB and Vandenberg Village are also served by the LRWRP and would generate a maximum of 0.65 MGD and 0.50 MGD, respectively. Combined, waste generation would total 3.09 MGD. The LRWRP currently has a capacity of 5.0 MGD, and is expected to complete improvements that would increase capacity to 5.5 MGD in 2009. In addition, wastewater conveyance facilities for development within the River area would connect to an existing sewer main that runs under the Santa Ynez River to the River area. Therefore, development of the River expansion area in accordance with the 2030 General Plan, in combination with other communities served by the LRWRP, would have a less than significant impact on wastewater facilities.

Expansion Area C: Miguelito Canyon Area

Development within Miguelito Canyon area would accommodate up to 25 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, this development would be expected to generate an additional 72 residents. Based on a rate of 78 gallons of wastewater generation per capita per day, this population would generate 5,616 gallons of wastewater per day. When added to existing wastewater flow, the City total would be 1.92 MGD. This wastewater would be treated at the Lompoc Regional Wastewater Reclamation Plant (LRWRP). VAFB and Vandenberg Village are also served by the LRWRP and would generate a maximum of 0.65 MGD and 0.50 MGD, respectively. Combined, waste generation would total 3.07 MGD. The LRWRP currently has a capacity of 5.0 MGD, and is expected to complete improvements that would increase capacity to 5.5 MGD in 2009. In addition, wastewater conveyance facilities for development within the Miguelito Canyon area would connect to existing sewer mains adjacent to the site, near West Fir Avenue and West Willow Avenue. Therefore, development of the Miguelito Canyon expansion area in accordance with the 2030 General Plan, in combination with other communities served by the LRWRP, would have a less than significant impact on wastewater facilities.

Expansion Area D: Wye Residential Area

Development within the Wye Residential expansion area would accommodate up to 46 new single family residential units. Based on the citywide average of 2.88 persons per dwelling unit, development of the Wye Residential expansion area with up to 46 low density residences would be expected to generate an additional 132 residents. Based on a rate of 78 gallons of wastewater generation per capita per day, this population would generate 10,296 gallons of wastewater per day. When added to existing wastewater flow, the City total would be 1.92 million gallons per day (MGD). This wastewater would be treated at the Lompoc Regional Wastewater Reclamation Plant (LRWRP). VAFB and Vandenberg Village are also served by the LRWRP and would generate a maximum of 0.65 MGD and 0.50 MGD, respectively. Combined, waste generation would total 3.07 MGD. The LRWRP currently has a capacity of 5.0 MGD, and is expected to complete improvements that would increase capacity to 5.5 MGD in 2009. In



addition, wastewater conveyance facilities for development within the Wye Residential area would connect to existing sewer mains adjacent to the site, near Purisima Road. Therefore, development of the Wye expansion area, in accordance with the 2030 General Plan, and in combination with other communities served by the LRWRP, would have a less than significant impact on wastewater facilities.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries (including the H Street Corridor Infill area), as well as buildout of the four identified expansion areas. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. Upon 2030 General Plan buildout, the cumulative population increase would be approximately 16,566. Based on an estimated rate of 78 gallons of wastewater generation per capita per day, this population would generate 1.29 MGD. Combined with the existing City wastewater flow, which includes a maximum generation of 0.65 MGD and 0.50 MGD from VAFB and Vandenberg Village (Lompoc Regional Wastewater Reclamation Plant Master Plan, 2002), waste generation would total 4.31 MGD. With the recently completed (November 2009) improvements at the LRMRP, the plant now has the capacity for 5.5 MGD. Upon 2030 General Plan buildout, wastewater generation would not exceed the existing capacity of the LRWRP. Existing General Plan policies require that the LRWRP has sufficient capacity to serve development projects prior to approval. Impacts would therefore be cumulatively less than significant.

General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts to the LRWRP.

- PSE Goal 12** Provide economical and dependable sewer service and treatment.*

- PSE Policy 12.1** The City shall make improvements to the sewer system to maintain system capability and reliability.*

- PSE Policy 12.2** The City shall assure that sufficient capacity is available in the Lompoc Regional Wastewater Reclamation Plant prior to approval of new development projects.*

- PSE Policy 12.3** The City shall assure that all improvements to the sewer system necessitated by the approval of new projects are proportionately financed by the project sponsor.*



PSE Policy 12.4 *The City shall promote beneficial uses of wastewater biosolids and effluent.*

The following proposed 2030 General Plan Land Use Element (LUE) Goals and Policies would also reduce impacts related to wastewater.

LUE Goal 4 *Provide and maintain high-quality public facilities and services.*

LUE Policy 4.1 *The City shall ensure that a sufficient supply of land continues to be available for community facility and institutional uses.*

LUE Policy 4.2 *The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development.*

LUE Policy 4.6 *To ensure that requested annexations do not negatively impact City fiscal health, such requests shall be accompanied by a study that analyzes the fiscal impact to the City presented by the annexation. The City should not approve annexation requests unless it can be demonstrated: 1) that the annexation promotes orderly development commensurate with available resources; 2) that the annexation proposal would result in a positive relationship between city facility and service costs and the revenues generated subsequent to the annexation, and 3) that the annexation substantially furthers the City needs for new or expanded parks, open space areas, and/or other public facilities.*

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-3 **Depletion of baseflow in the Santa Ynez River due to increased groundwater pumping at City of Lompoc municipal wells could decrease the amount of water available for dilution. This impact is *less than significant*.**

Increased groundwater pumping at City wells to supply growth envisioned in the 2030 General Plan would deplete flow in the Santa Ynez River by an average of 3.2 cfs. The LRWRP discharges treated effluent to the Santa Ynez River near the downstream end of the reach where flow depletion would occur. If a minimum amount of flow in the river is needed or relied upon to dilute the discharge, flow depletion could potentially impair the City's ability to meet a discharge permit's conditions.

This impact is less than significant for two reasons. First, NPDES Permit CA0048127 issued for the LRWRP does not require or allow for consideration of dilution in the receiving water. Instead,



it requires the discharged effluent to comply with applicable water quality standards at the point of discharge. The permit also requires the City to complete a salt management study and complete a salt management plan by January 2011. Second, flow in the river at the discharge point is already often zero in summer months. Therefore, there is no dilution under existing conditions, and flow depletion would not alter the minimum flow or impact the City's ability to meet permit requirements or comply with applicable water quality standards.

By the same token, flow in the river downstream of the discharge point will continue to consist entirely of treated effluent during certain periods. This represents the maximum possible effect of the wastewater discharge on downstream water quality. This maximum effect will not change under the 2030 General Plan, so the impact of the General Plan is less than significant.

Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-4 **Development facilitated by the 2030 General Plan would incrementally increase the amount of impervious surfaces within the City, resulting in increased stormwater runoff and the need for additional stormwater infrastructure. Compliance with the City's Stormwater Management Plan (SWMP), and State regulatory requirements, including restricting the amount of impervious surface introduced by future development projects, would reduce impacts to a Class III, *less than significant*.**

2030 General Plan Buildout within City Limits

Development within the City of Lompoc facilitated by the 2030 General Plan, including the H Street Corridor Infill area, would accommodate up to 2,838 dwelling units. Development in these areas would incrementally increase the amount of impervious surface area and place additional demand on existing stormwater conveyance infrastructure, such that new or expanded infrastructure may be needed. However, based on the current regulations of the Regional Water Quality Control Board (RWQCB) reflected in the City's Stormwater Management Plan (SWMP), effective October 17, 2009, future development and redevelopment projects within the City of Lompoc will be required to comply with the following:

- Maintain an "Effective Impervious Area" of less than five (5) percent of the total project area. "Effective Impervious Area" is the portion of impervious area that drains directly to a receiving surface water body via a hardened storm drain conveyance without first draining to a pervious area. Impervious surfaces tributary to pervious areas are not considered Effective Impervious Area.
- For projects that create and/or replace 5,000 square feet or more of impervious surface, the post-construction runoff hydrographs are required to match within one (1) percent the pre-construction runoff hydrographs.



- For projects whose disturbed area exceeds two acres, pre-construction drainage density (miles of stream length per square mile of watershed) must be preserved for all drainage areas serving a first order stream or larger and post-project time of concentration must be equal or greater than pre-project time of concentration.
- The City must achieve an Effective Impervious Area of no more than three (3) to ten (10) percent of watershed area within its jurisdiction.

In accordance with these requirements, future development facilitated by the 2030 General Plan within the existing City Limits would result in a minimal increase in effective impervious area, thereby placing limited demand on existing or planned stormwater infrastructure. As development occurs, site-specific stormwater infrastructure needs would be determined on a project-specific basis. Upon compliance with the City's SWMP, impacts related to the need for additional stormwater infrastructure would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development within the Bailey Avenue Specific Plan expansion area would accommodate up to 2,184 new single family residential units and 534 multiple-family residential units. Development in this area would increase the amount of impervious surface area. Because the site is currently predominately undeveloped, new stormwater infrastructure would be required, the construction of which could cause environmental impacts. Development in this area would be subject to subsequent environmental review and would be required to comply with the City's General Plan policies as they relate to stormwater infrastructure, as well as the recently adopted Stormwater Management Program.

As noted above, the City's SWMP requires that future development projects meet specific requirements related to impervious surfaces and runoff. These include: maintaining an Effective Impervious Area of less than five (5) percent of the total project area, keeping within one (1) percent of pre-construction runoff for projects exceeding 5,000 square feet, and preserving pre-construction drainage density for projects exceeding two (2) acres.

In accordance with these regulations, future development facilitated by the 2030 General Plan within the Bailey Avenue Specific Plan expansion area would result in a minimal increase in effective impervious area, thereby placing limited demand on existing or planned stormwater infrastructure. As development occurs, site-specific stormwater infrastructure needs would be determined on a project-specific basis. Upon compliance with the City's SWMP, Impacts would be less than significant.



Expansion Area B: River Area

The River expansion area is primarily composed of open space and the 45-acre River Park, which is a linear park along the Santa Ynez River. The majority of this expansion area is therefore composed of pervious surfaces. Additional development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. This level of development on a 446-acre site would not add a substantial amount of impervious surfaces such that new or expanded stormwater conveyance infrastructure would be needed. Impacts related to stormwater infrastructure in the River Area would therefore be less than significant.

Expansion Area C: Miguelito Canyon Area

Development within Miguelito Canyon area would accommodate up to 25 new single family residential units. The Miguelito Canyon expansion area is currently developed with scattered rural residences. Additional development that would be accommodated in this area under the 2030 General Plan would include up to 25 additional rural density residences. This level of development on the 587-acre expansion area would not be anticipated to add a substantial amount of impervious surfaces such that new or expanded stormwater infrastructure is needed. However, should storm drainage be needed, development would utilize the existing detention basin located at the base of Miguelito Canyon. Impacts related to stormwater infrastructure in the Miguelito Canyon expansion area would therefore be less than significant.

Expansion Area D: Wye Residential Area

Development within the Wye Residential expansion area would accommodate up to 46 new single family residential units. The Wye Residential expansion area is currently undeveloped and contains approximately 10 acres of pervious surfaces. The level of development would require a substantial portion of the site to be developed with impervious surfaces, including roadways, driveways, and rooftops, which would require new stormwater infrastructure. However, as noted above, the City's SWMP requires that future development projects meet specific requirements related to impervious surfaces and runoff. These include: maintaining an Effective Impervious Area of less than five (5) percent of the total project area, keeping within one (1) percent of pre-construction runoff for projects exceeding 5,000 square feet, and preserving pre-construction drainage density for projects exceeding two (2) acres.

In accordance with these requirements, future development facilitated by the 2030 General Plan within the Wye Residential expansion area would result in a minimal increase in effective impervious area, thereby placing limited demand on existing or planned stormwater infrastructure. As development occurs, site-specific stormwater infrastructure needs would be determined on a project-specific basis. Upon compliance with the City's SWMP, Impacts would be less than significant.



Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries (including the H Street Corridor Infill area), as well as buildout of the four identified expansion areas. The combination of these impacts reflects the cumulative impacts of the proposed General Plan Update. As noted above, these impacts would be less than significant based on compliance with regulations contained in the City's SWMP.

Cumulative impacts are evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review.

General Plan Policies which Reduce Impacts

In addition to the City's SWMP, the existing 1997 General Plan Public Services Element (PSE) includes the following goals and policies which reduce impacts storm drain infrastructure.

- PSE Goal 17*** *Provide storm drains which minimize street flooding.*
- PSE Policy 17.1*** *The City shall ensure the storm drain system has adequate capacity to minimize street flooding from the design standard storm, and where feasible, shall expand the capacity of the system to control storm flows.*
- PSE Policy 17.2*** *The City shall require new developments to: minimize the amount of off-site drainage by retaining stormwaters for on-site percolation, provide adequate drainage facilities for remaining off-site flows, maintain natural drainage channels, and avoid alteration of off-site drainage courses.*

The following proposed 2030 General Plan Land Use Element (LUE) Goals and Policies would also reduce impacts related to stormwater infrastructure.

- LUE Goal 4*** *Provide and maintain high-quality public facilities and services.*
- LUE Policy 4.1*** *The City shall ensure that a sufficient supply of land continues to be available for community facility and institutional uses.*
- LUE Policy 4.2*** *The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development.*



LUE Policy 4.6 *To ensure that requested annexations do not negatively impact City fiscal health, such requests shall be accompanied by a study that analyzes the fiscal impact to the City presented by the annexation. The City should not approve annexation requests unless it can be demonstrated: 1) that the annexation promotes orderly development commensurate with available resources; 2) that the annexation proposal would result in a positive relationship between city facility and service costs and the revenues generated subsequent to the annexation, and 3) that the annexation substantially furthers the City needs for new or expanded parks, open space areas, and/or other public facilities.*

Mitigation Measures. None required as impacts would be less than significant.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-5 **Buildout of the 2030 General Plan would generate additional solid waste. Existing landfills, including the Lompoc Sanitary Landfill, have adequate capacity to accommodate projected increases in solid waste generation. Therefore, the solid waste generated by the 2030 General Plan would result in Class III, *less than significant*, impacts.**

2030 General Plan Buildout within City Limits

The net increase in development facilitated by the 2030 General Plan within City Limits including H Street infill, would add 8,173 to the City's population. Using the City's average rate of 12.2 pounds per day of solid waste generated per person, and assuming a 50 percent diversion rate, this additional population would generate 49,855 pounds per day of solid waste. Therefore, development facilitated by the 2030 General Plan within City Limits, including within the H Street Corridor Infill area, could generate approximately 9,100 tons of solid waste per year. When combined with the existing disposal rate of 38,500 tons per year of solid waste from City and County sources, General Plan 2030 buildout within the City would total 47,600 tons per year of solid waste, which would represent an increase of 23 percent. However, it should be noted that this buildout demand would not be reached until approximately the year 2030.

The remaining airspace capacity of the Lompoc Sanitary Landfill is 2,146,779 cubic yards. Using a conversion rate of 800 pounds of solid waste per cubic yard, the landfill currently has capacity to accept an additional 858,700 tons of waste over its lifespan. By the year 2030, the additional solid waste generated by buildout of the 2030 General Plan would not exceed the permitted maximum capacity of the landfill such that new or expanded facilities would be required. In addition, the solid waste generation estimate assumes a 50 percent diversion rate. In 2004, the City of Lompoc diverted 61 percent of waste from the landfill. The most recent



(2006) diversion rate estimate provided by the California Integrated Waste Management Board is 58 percent. Therefore, if the City continues to divert more than the state mandated 50 percent, the 2030 General Plan would generate less solid waste. Impacts would be less than significant.

Expansion Area A: Bailey Avenue Specific Plan Area

As noted in Section 1.0, *Introduction*, the Bailey Avenue Specific Plan is currently under separate environmental review. The analysis herein is intended to serve as a generalized program-level review, based on the detail available in the proposed General Plan Update. Additional detail from the proposed Specific Plan will be analyzed in the Specific Plan EIR.

Development of the Bailey Avenue Specific Plan expansion area in accordance with the 2030 General Plan could result in an additional population of 7,827 persons. Using the City's average rate of 12.2 pounds per day of solid waste generated per person, and assuming a 50 percent diversion rate, this additional population would generate 47,745 pounds per day of solid waste. Therefore, development in this expansion area could generate approximately 8,700 tons of solid waste per year. When combined with the existing disposal rate of 38,500 tons per year of solid waste from City and County sources, the City would dispose a total of 47,200 tons per year of solid waste, which would represent an increase of 22 percent. However, it should be noted that this buildout demand would not be reached for several years.

The remaining airspace capacity of the Lompoc Sanitary Landfill is 2,146,779 cubic yards. Using a conversion rate of 800 pounds of solid waste per cubic yard, the landfill currently has capacity to accept an additional 858,700 tons of waste over its lifespan. By the year 2030, the additional solid waste generated by buildout of this expansion area would not exceed the permitted maximum capacity of the landfill such that new or expanded facilities would be required. In addition, the solid waste generation estimate assumes a 50 percent diversion rate. In 2004, the City of Lompoc diverted 61 percent of waste from the landfill. The most recent (2006) diversion rate estimate provided by the California Integrated Waste Management Board is 58 percent. Therefore, if the City continues to divert more than the state mandated 50 percent, less solid waste would be generated. Impacts would be less than significant.

Expansion Area B: River Area

Development that could occur in the River expansion area under the 2030 General Plan would include expansion of the existing RV campground by 126 full hookup RV campsites. For the purpose of this analysis, it is assumed that these RV campsites would accommodate long-term residents and generate similar solid waste as compared to a standard residential unit. This expansion area is therefore assumed to generate 362 residents. Using the City's average rate of 12.2 pounds per day of solid waste generated per person, and assuming a 50 percent diversion rate, this additional population would generate 2,200 pounds per day of solid waste. Therefore, development in this expansion area could generate approximately 400 tons of solid waste per year. When combined with the existing disposal rate of 38,500 tons per year of solid



waste from City and County sources, the City would dispose a total of 38,900 tons per year of solid waste, which would represent an increase of 1 percent.

The remaining airspace capacity of the Lompoc Sanitary Landfill is 2,146,779 cubic yards. Using a conversion rate of 800 pounds of solid waste per cubic yard, the landfill currently has capacity to accept an additional 858,700 tons of waste over its lifespan. By the year 2030, the additional solid waste generated by buildout of this expansion area would not exceed the permitted maximum capacity of the landfill such that new or expanded facilities would be required. In addition, the solid waste generation estimate assumes a 50 percent diversion rate. In 2004, the City of Lompoc diverted 61 percent of waste from the landfill. The most recent (2006) diversion rate estimate provided by the California Integrated Waste Management Board is 58 percent. Therefore, if the City continues to divert more than the state mandated 50 percent, less solid waste would be generated. Impacts would be less than significant.

Expansion Area C: Miguelito Canyon Area

Development of the Miguelito Canyon expansion area in accordance with the 2030 General Plan could result in an additional 25 residential units. Using the City's average rate of 12.2 pounds per day of solid waste generated per person, and assuming a 50 percent diversion rate, this additional population would generate 150 pounds per day of solid waste. Therefore, development in this expansion area could generate approximately 30 tons of solid waste per year. When combined with the existing disposal rate of 38,500 tons per year of solid waste from City and County sources, the City would dispose a total of 38,530 tons per year of solid waste, which would represent an increase of less than 1 percent.

The remaining airspace capacity of the Lompoc Sanitary Landfill is 2,146,779 cubic yards. Using a conversion rate of 800 pounds of solid waste per cubic yard, the landfill currently has capacity to accept an additional 858,700 tons of waste over its lifespan. By the year 2030, the additional solid waste generated by buildout of this expansion area would not exceed the permitted maximum capacity of the landfill such that new or expanded facilities would be required. In addition, the solid waste generation estimate assumes a 50 percent diversion rate. In 2004, the City of Lompoc diverted 61 percent of waste from the landfill. The most recent (2006) diversion rate estimate provided by the California Integrated Waste Management Board is 58 percent. Therefore, if the City continues to divert more than the state mandated 50 percent, less solid waste would be generated. Impacts would be less than significant.

Expansion Area D: Wye Residential Area

Development of the Wye Residential expansion area in accordance with the 2030 General Plan would result in an additional 46 residential units. Using the City's average rate of 12.2 pounds per day of solid waste generated per person, and assuming a 50 percent diversion rate, this additional population would generate 280 pounds per day of solid waste. Therefore,



development in this expansion area could generate approximately 50 tons of solid waste per year. When combined with the existing disposal rate of 38,500 tons per year of solid waste from City and County sources, the City would dispose a total of 38,550 tons per year of solid waste, which would represent an increase of less than 1 percent.

The remaining airspace capacity of the Lompoc Sanitary Landfill is 2,146,779 cubic yards. Using a conversion rate of 800 pounds of solid waste per cubic yard, the landfill currently has capacity to accept an additional 858,700 tons of waste over its lifespan. By the year 2030, the additional solid waste generated by buildout of this expansion area would not exceed the permitted maximum capacity of the landfill such that new or expanded facilities would be required. In addition, the solid waste generation estimate assumes a 50 percent diversion rate. In 2004, the City of Lompoc diverted 61 percent of waste from the landfill. The most recent (2006) diversion rate estimate provided by the California Integrated Waste Management Board is 58 percent. Therefore, if the City continues to divert more than the state mandated 50 percent, less solid waste would be generated. Impacts would be less than significant.

Cumulative Development

Cumulative buildout of the 2030 General Plan includes buildout of areas within existing City boundaries as well as buildout of the four identified expansion areas. Upon 2030 General Plan buildout, the cumulative population increase would be approximately 16,568. Using the City's average rate of 12.2 pounds per day of solid waste generated per person, and assuming a 50 percent diversion rate, this additional population would generate 100,000 pounds per day of solid waste. Therefore, cumulative development facilitated by the 2030 General Plan could generate approximately 18,500 tons of solid waste per year. When combined with the existing disposal rate of 38,500 tons per year of solid waste from City and County sources, General Plan 2030 buildout within the City would total 57,000 tons per year of solid waste, which would represent an increase of 48 percent. However, it should be noted that this buildout demand would not be reached until approximately the year 2030.

The remaining airspace capacity of the Lompoc Sanitary Landfill is 2,146,779 cubic yards. Using a conversion rate of 800 pounds of solid waste per cubic yard, the landfill currently has capacity to accept an additional 858,700 tons of waste over its lifespan. The life of the landfill would depend on the rate of development in the City and from County sources. With source reduction plans, current facilities, potential for diversion and other regional landfill capacity, cumulative buildout of the 2030 General Plan would be served by a landfill with sufficient permitted capacity to accommodate solid waste disposal needs. Nevertheless, development facilitated by the 2030 General Plan would hasten the need to provide additional landfill capacity. Compliance with existing City policies that require development to provide fees to fund necessary improvements to public services, such as solid waste services, would ensure that impacts remain less than significant.



General Plan Policies which Reduce Impacts

The existing 1997 General Plan Public Services Element (PSE) includes the following goal and policies which minimize impacts to solid waste disposal sites.

- PSE Goal 15*** *Maximize the life of the landfill.*
- PSE Policy 15.1*** *The City shall continue to encourage efforts to reduce, recycle, and compost as many materials as possible.*
- PSE Policy 15.2*** *The City shall reduce waste entering the landfill by 25 percent by 1995 and by 50 percent by 2000, relative to waste received at the landfill in 1990.*
- PSE Policy 15.3*** *The City shall prioritize waste reduction techniques as the preferred method to maximize the life of the landfill. If waste reduction techniques are insufficient, the City may investigate options for expansion of the landfill area.*

The following proposed 2030 General Plan Land Use Element (LUE) Goals and Policies would also reduce impacts related to solid waste.

- LUE Goal 4*** *Provide and maintain high-quality public facilities and services.*
- LUE Policy 4.1*** *The City shall ensure that a sufficient supply of land continues to be available for community facility and institutional uses.*
- LUE Policy 4.2*** *The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development.*
- LUE Policy 4.6*** *To ensure that requested annexations do not negatively impact City fiscal health, such requests shall be accompanied by a study that analyzes the fiscal impact to the City presented by the annexation. The City should not approve annexation requests unless it can be demonstrated: 1) that the annexation promotes orderly development commensurate with available resources; 2) that the annexation proposal would result in a positive relationship between city facility and service costs and the revenues generated subsequent to the annexation, and 3) that the annexation substantially furthers the City needs for new or expanded parks, open space areas, and/or other public facilities.*



Mitigation Measures. None required as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.



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4.15 LESS than SIGNIFICANT ENVIRONMENTAL FACTORS

This section discusses those factors determined to be less than significant that do not require a full environmental impact analysis. Environmental Factors discussed in this section were analyzed in the Initial Study prepared for the project and determined therein to result in no impacts or less than significant impacts. Environmental factors discussed herein include Biological Resources, Geology and Soils, Land Use and Planning, and Noise. Refer to Appendix A for full text of the Initial Study and Notice of Preparation (NOP).

4.15.1 BIOLOGICAL RESOURCES

The General Plan would not conflict with the provision of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan, as none apply to the Plan Area. Although the Burton Mesa Ecological Preserve located northwest of the City is owned by the State Lands Commission and operated under a lease to the California Department of Fish and Game, buildout facilitated by the 2030 General Plan would not result in impacts to this area. Therefore, no impacts related to conservation plan consistency are anticipated.

4.15.2 GEOLOGY AND SOILS

All new development within the City is anticipated to be connected to the municipal waste disposal system. Therefore, no impacts related to the use of septic systems, including the possibility of having soils incapable of adequately supporting the use of septic tanks, would occur.

4.15.3 LAND USE AND PLANNING

The General Plan would not conflict with the provision of any adopted Habitat Conservation Plan or Natural Community Conservation Plan, as none apply to the Plan Area. Although the Burton Mesa Ecological Preserve located northwest of the City is owned by the State Lands Commission and operated under a lease to the California Department of Fish and Game, buildout facilitated by the 2030 General Plan would not result in impacts to this area. Therefore, no impacts related to conservation plan consistency are anticipated.

4.15.4 NOISE

No private airstrips are located within the City of Lompoc or proposed annexation areas. Therefore, no impacts related to noise generated from private airstrips would occur.



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5.0 OTHER CEQA DISCUSSIONS

This section discusses other issues for which CEQA requires analysis in addition to the specific issue areas discussed in Section 4.0, *Environmental Impact Analysis*. These additional issues include the potential to induce growth and significant and irreversible impacts on the environment.

5.1 GROWTH INDUCING EFFECTS

Section 15126.2(d) of the State CEQA Guidelines requires that EIRs discuss the potential for projects to induce population or economic growth, either directly or indirectly. CEQA also requires a discussion of ways in which a project may remove obstacles to growth.

a. Population and Employment Growth. As discussed in Section 2.0, *Project Description*, a maximum of 5,753 residential units could be facilitated by the 2030 General Plan. Based on an average household size of 2.88 persons per unit (U.S. Census, 2000), a cumulative total of 16,568 residents could be added to the City of Lompoc, which would bring the citywide population to 59,525. Such growth represents an approximately 38.6% increase in population over the 20-year timeframe of the 2030 General Plan and exceeds the Santa Barbara County Association of Governments (SBCAG) 2030 population forecast for Lompoc (48,200). However, as discussed in Section 4.10, *Population and Housing*, SBCAG and SBCAPCD population estimates are periodically updated based on General Plan Updates, at which time any inconsistencies between regional planning documents and the population growth anticipated under the 2030 General Plan would be rectified. In addition, the maximum growth facilitated by the General Plan is unlikely to occur since it would require maximum development of every vacant and underdeveloped parcel in the City as well as development of all four identified expansion areas.

As discussed in Section 4.10, *Population and Housing*, maximum development facilitated by the 2030 General Plan would add about 3,462 jobs, using a standard figure of one employee per 500 square feet. This increase in jobs would represent growth of about 25.4% over the current level of employment in the City. This projected increase in employment would not exceed SBCAG's 2030 employment forecast of 17,955 jobs (refer to Table 4.10-2 in Section 4.10, *Population and Housing*).

It is the purpose of the 2030 General Plan to accommodate the orderly economic and population growth in the City of Lompoc. Therefore, by its nature, the General Plan is intended to reduce the potential for uncontrolled growth and associated environmental impacts. Annexations would require review and approval by LAFCo, and that agency would specifically consider the potential for growth-inducing impacts in its decision-making process. Nevertheless, plan adoption could indirectly induce both population and economic growth in



the City, although the level of growth would depend upon a variety of factors, including the local economy and associated demand for housing in the area.

b. Removal of Obstacles to Growth. The 2030 General Plan would facilitate the potential future development of four annexation areas outside of the existing City Limits (the Bailey Avenue Specific Plan, the River, the Miguelito Canyon, and the Wye Residential expansion areas). Subject to approval of annexations, development would occur beyond the existing City Limits and would require the extension of roadways or infrastructure into areas that are not already served. However, as discussed in Section 4.8, *Land Use and Agriculture*, expansion into the four identified expansion areas area may be consistent with the Santa Barbara Local Agency Formation Commission's (LAFCo's) *Standards for Annexation to Cities*, as well as their *Policies Encouraging Orderly Urban Development and Preservation of Open Space* and *Policies Encouraging Conservation of Prime Agricultural Lands and Open Space Areas*. However, as noted in Section 4.8, a final determination of consistency with LAFCo policies must be made by the Santa Barbara LAFCo. Proposed policies in the 2030 Land Use Element (identified below) would reduce impacts to the extent feasible, since they promote a compact urban form and cooperation with the Santa Barbara LAFCo.

- LUE Goal 1*** *Maintain a compact urban form and growth pattern which provides adequate space to meet housing, employment, business, and public service needs.*
- LUE Policy 1.2*** *The City shall maintain a compact urban form by delineating an Urban Limit Line which establishes the ultimate edge of urban development within the City. Refer to Table LU-1 for additional information on the Urban Limit Line.*
- LUE Policy 1.3*** *The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.*
- LUE Policy 1.4*** *The City shall encourage Santa Barbara County and the Local Agency Formation Commission to plan urbanization within municipalities in order to protect prime agricultural land outside the Urban Limit Line and to efficiently utilize public infrastructure.*
- LUE Policy 1.5*** *The City's Sphere of Influence is depicted on the Land Use Element Map. The Sphere of Influence delineates the probable ultimate physical boundaries and service area of the City. Refer to Table LU-1 for additional information on the Sphere of Influence.*



LUE Policy 1.6 *Areas identified by the City for potential annexation and their land use designations are depicted on Figure LU-2. These lands include:*

- *Expansion Area A: the Bailey Area Specific Plan Area*
- *Expansion Area B: the River Area*
- *Expansion Area C: the Miguelito Canyon Area*
- *Expansion Area D: the Wye Residential Area*

LUE Policy 1.7 *The City shall encourage infill development to meet City residential and commercial growth needs. The City designates the H Street Corridor Infill area as shown on Figure LU-2 as particularly suitable to infill development and shall prescribe specific design and zoning standards for this corridor. Additional information on the intent of the H Street Corridor Infill area is provided in Table LU-1.*

Under SBCAG's Regional Transportation Plan (RTP), regional transportation facilities are identified based on the growth projections included in the various general plans of the cities within the County. The transportation projects identified in the RTP for the Lompoc area are thus specifically intended to address cumulative growth within the region. Based on the projections of the proposed 2030 General Plan Update, it is not anticipated that additional regional facilities would be required beyond those already identified in the RTP. Thus, development under the 2030 General Plan is not expected to be growth-inducing from this perspective.

5.2 IRREVERSIBLE ENVIRONMENTAL EFFECTS

The CEQA Guidelines require that EIRs evaluating projects involving amendments to public plans, ordinances, or policies contain a discussion of significant irreversible environmental changes. CEQA also requires decisionmakers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the 2030 General Plan.

Construction activity that would be accommodated under the 2030 General Plan would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development in the region and are not unique to Lompoc or the General Plan. The addition of new residential and non-residential development in the City through 2030 would irreversibly increase local demand for non-renewable energy resources such as petroleum and natural gas. Increasingly efficient building fixtures and automobile engines, as well as implementation of policies included in the 2030 General Plan, are expected to offset the demand to some degree. It is not anticipated that growth accommodated under the General Plan would significantly affect local or regional energy supplies.



Growth facilitated by the General Plan would require an irreversible commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. As discussed in Sections 4.11 and 4.14, impacts to public services and utilities would be reduced to a less than significant level with implementation of policies included in the 2030 General Plan.

The additional vehicle trips associated with growth through 2030 would incrementally increase local traffic, noise levels, and regional air pollutant emissions. As discussed in Section 4.2, *Air Quality*, development facilitated by the 2030 General Plan would result in an increase in air pollutant emissions within the Santa Barbara County portion of the South Central Coast Air Basin and would be inconsistent with regional forecasts in the 2007 Clean Air Plan. Impacts related to CAP consistency would therefore be significant and unavoidable. As discussed in Section 4.9, *Noise*, implementation of proposed General Plan policies would reduce traffic-related noise impacts associated with future growth to a less than significant level, while mitigation would reduce nuisance noise associated with mixed-use developments to a less than significant level. As discussed in Section 4.13, *Transportation and Circulation*, development facilitated by the 2030 General Plan would result in deficiencies to the local circulation system based on recommended level of service standards. Mitigation options are available to address all projected deficiencies for intersections within the City. However, the impact at the H Street/Central Avenue intersection would be significant and unavoidable based on City of Lompoc thresholds since no feasible mitigation is available for possible impacts at that location.

Future development in accordance with the 2030 General Plan would occur in areas that contain prime agriculture soils and/or important farmland. Although the Bailey Avenue Specific Plan expansion area is the only area of proposed land use change currently used for agriculture, both the River and Miguelito Canyon expansion areas contain prime soils which could be feasibly farmed. Buildout of these three expansion areas would therefore result in Class I, *significant and unavoidable* impacts related to agricultural conversion.

Development facilitated by the proposed 2030 General Plan could adversely affect historical buildings, structures, and districts. Although adherence to General Plan policies would ensure that impacts are addressed on a case-by-case basis, these policies may not avoid them altogether. Impacts would therefore be Class I, *significant and unavoidable*.



6.0 ALTERNATIVES

As required by Section 15126.6 of the State CEQA Guidelines, this section of the EIR examines a range of alternatives to the 2030 General Plan. Included in this analysis are two versions of the CEQA-required “no project” alternative (no further development and growth in accordance with the 1997 General Plan), a high growth alternative, a moderate growth alternative, and a low growth alternative. The alternatives are listed below:

- *Alternative 1: No Project (No Further Development)*
- *Alternative 2: No Project (1997 General Plan Buildout)*
- *Alternative 3: High Growth Alternative*
- *Alternative 4: Moderate Growth Alternative*
- *Alternative 5: Low Growth Alternative*

As required by CEQA, this section also includes a discussion of the “environmentally superior alternative” among those studied.

6.1 ALTERNATIVE 1: NO PROJECT (NO FURTHER DEVELOPMENT)

6.1.1 Description

This version of the “no project” alternative assumes that no further residential or non-residential development would occur in Lompoc and that environmental conditions would not change. No new roadway infrastructure improvements, parks, or other City facilities would be constructed. It is assumed that the current population (approximately 42,957) would not change, though it should be recognized that the City cannot in reality control whether or not population growth occurs. Absent additional housing, any population growth in the City would be accommodated through increasing the number of persons per household.

It should be noted that this is a purely hypothetical alternative that is not realistic given that even if a General Plan update is not adopted, property owners in Lompoc would retain the development rights they have under the current General Plan.

6.1.2 Impact Analysis

Implementation of this alternative would not result in any physical changes as it would not accommodate any new development. As such, it would not have any of the potentially adverse effects associated with new development. This alternative would reduce the magnitude of impacts associated with implementation of the 2030 General Plan. In particular, this alternative would avoid the increased impacts to the local circulation system that could occur as the development facilitated by the proposed 2030 General Plan occurs. Other impacts that would



be incrementally lower than would occur under the proposed project relate to air quality, noise, water supply, and infrastructure.

This alternative would not, on the other hand, result in any of the anticipated improvements to the aesthetic character of the community, nor would it add amenities for which the community has expressed a desire. As this alternative would facilitate no changes to the local circulation system, it would not address impacts relating to regional traffic growth, which the City does not control, nor would it add bike lanes, pedestrian, facilities, or other circulation system improvements. The failure to facilitate the construction of additional housing and non-residential development could potentially result in overcrowded conditions within the existing housing stock and lack of jobs and/or retail shopping opportunities for local residents.

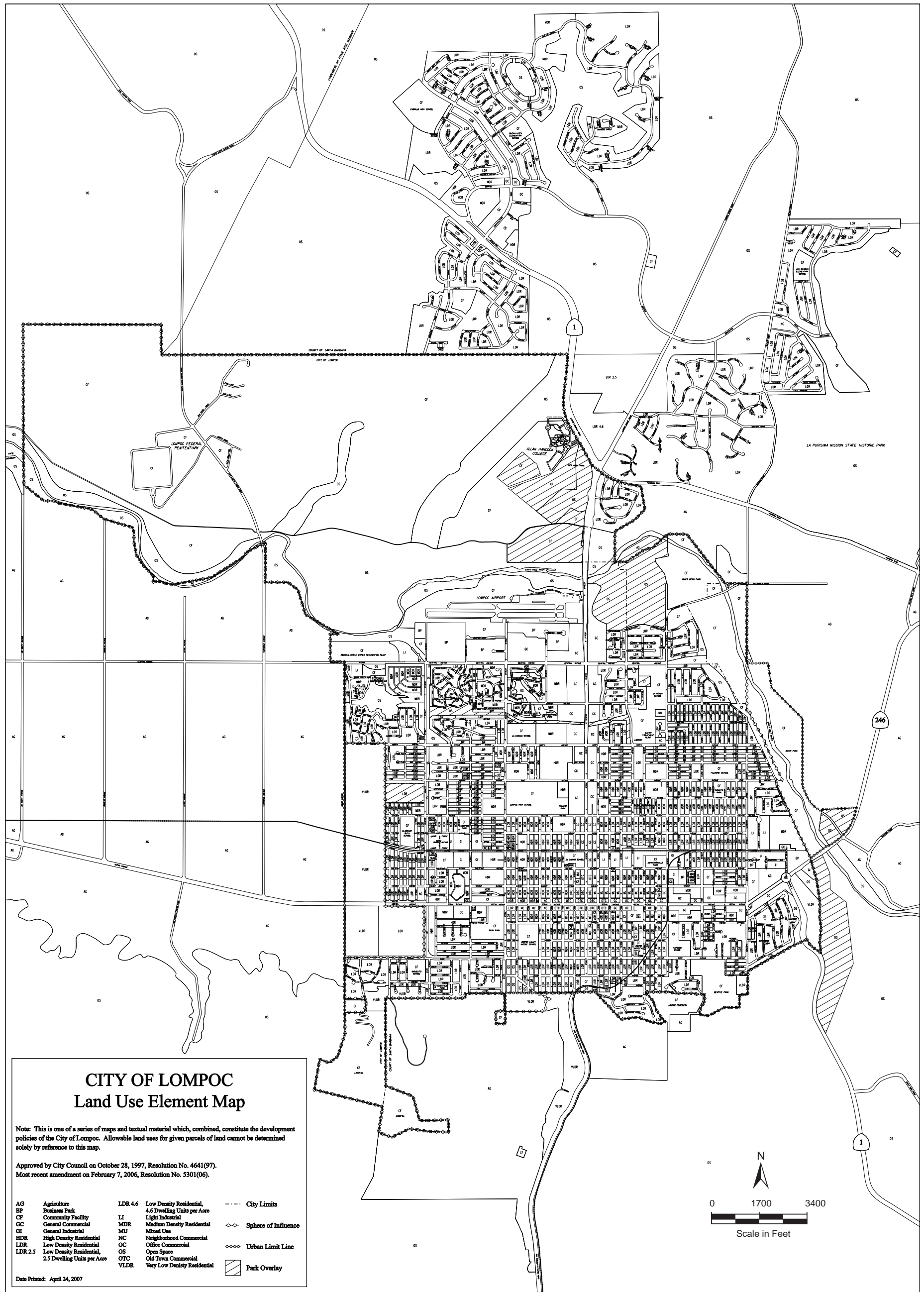
6.2 ALTERNATIVE 2: NO PROJECT (1997 GENERAL PLAN BUILDOUT)

6.2.1 Description

This No Project Alternative assumes that the proposed 2030 General Plan is not implemented, and that development facilitated by the 1997 General Plan, including private development and planned infrastructure improvements, would occur. The overall amount of development anticipated to occur under the 1997 General Plan is roughly equivalent to what could be facilitated under the proposed 2030 General Plan within the existing City Limits. For the most part, proposed land use designations within the City Limits are similar to those contained in the 1997 General Plan. However, the 2030 General Plan would change where and how development may occur in certain locations, and identifies four potential annexation areas. These and other key differences are outlined below:

- The 2030 General Plan identifies four potential expansion areas (as shown in Figure 2-4 in Section 2.0, *Project Description*) to accommodate new development. Development in these areas represents the most substantial additions to growth envisioned in the 1997 General Plan, and would facilitate the development of up to 2,915 residences and 228,700 square feet of commercial space. This level of development is not accounted for in the current General Plan, and is not included in the No Project Alternative.
- The 2030 General Plan includes the addition of the H Street Corridor Infill area within the Overlay Designations. The purpose of this Overlay Designation in the proposed 2030 General Plan is to encourage infill development along the H Street Corridor. Buildout potential would include 333 multi-family residential units in addition to infill commercial development. This development is not accounted for in the current General Plan, and is not included in the No Project Alternative.
- The 2030 General Plan includes the addition of the Rural Density Residential designation, which would apply only to the Miguelito Canyon expansion area.





1997 General Plan Land Use Map

Figure 6-1
 City of Lompoc

Base map source: City of Lompoc, 2007.

- The 2030 General Plan expands the Mixed Use designation to include increased densities and maximum floor-to-area ratios (FAR).
- The 2030 General Plan expands the Old Town Commercial designation to allow for additional floor area and increased maximum densities for residential uses.

In addition, the 1997 General Plan calls for extension of Central Avenue from from A Street to Highway 246 and connection of Rucker Road to the extension (as depicted in Figure 4.13-7 in Section 4.13, *Transportation and Circulation*). The proposed 2030 General Plan excludes this additional infrastructure. The No Project (1997 General Plan Buildout) Alternative would therefore differ from the proposed 2030 General Plan in its extension of these roadways.

6.2.2 Impact Analysis

For most of the area within the existing City Limits, land use types and intensities are the same under both the 1997 General Plan and proposed 2030 General Plan. However, as shown on the proposed Land Use map on Figure 2-5 in Section 2.0, *Project Description*, the 2030 General Plan identifies four expansion areas to accommodate new development and creates an H Street Corridor Infill area to promote higher density infill development along H Street. The No Project (1997 General Plan Buildout) Alternative would not include City development in the expansion areas, and would include less dense development, and substantially less residential development, along the H Street Corridor.

The elimination or reduction of development within the four identified expansion areas would reduce impacts tied directly to physical disturbance in these areas, as development facilitated by the proposed 2030 General Plan would be eliminated. It should be noted, however, that some development in these areas could occur under the No Project (1997 General Plan Buildout) Alternative, as property owners in these areas would retain the development rights they have under the current Santa Barbara County jurisdiction. However, the level of anticipated development would be substantially reduced. Impacts related to biological and cultural resources, geology, hydrology and water quality, and agricultural resources would therefore be reduced. Impacts related to visual character changes, including the addition of new light and glare, would also be eliminated in these areas. In addition, because less residential development would occur overall under this alternative, per capita based impacts would also be reduced. This includes transportation and circulation related impacts and associated impacts to air quality, global climate change, and noise. Impacts related to population and housing, public services, recreation and utilities would similarly be reduced under the No Project (1997 General Plan Buildout) Alternative.

Under the No Project (1997 General Plan Buildout) Alternative, infrastructure improvements that would be facilitated by the 2030 General Plan would not occur. This includes the installation of traffic signals at the V Street/North Avenue and the V Street/Laurel Avenue intersections; addition of second left turn lanes to the westbound O Street/Central Avenue intersection approach and to the southbound H Street/Central Avenue intersection approach; addition of



right turn lanes to all D Street/North Avenue intersection approaches; addition of a right turn lane to the eastbound A Street/North Avenue intersection approach and to the westbound A Street/Ocean Avenue intersection approach; and various improvements to the 12th Street/Ocean Avenue intersection (refer to Section 4.13, *Transportation and Circulation*). In addition, the 1997 General Plan calls for the extension of Central Avenue from A Street to Highway 246 and connection of Rucker Road to the extension. This extension is not included in the proposed 2030 General Plan. As shown in Figure 4.13-7 and discussed in Section 4.13, *Transportation and Circulation*, the inclusion of this extension under the No Project (1997 General Plan Buildout) Alternative would result in the following changes in travel patterns within the City:

- A 14% decrease in daily traffic on H Street north of Central Avenue
- A 75% increase in traffic on Central Avenue east of H Street
- A 23% increase in traffic on Central Avenue west of H Street
- A 3% decrease in traffic on H Street between North Avenue and College Avenue
- A 15% decrease in traffic on Ocean Avenue between 7th Street and A Street

The relatively large increases in traffic on Central Avenue would further exacerbate anticipated deficiencies at the H Street/Central Avenue intersection, which is the only intersection anticipated to have a significant and unavoidable impact under the proposed 2030 General Plan. The No Project (1997 General Plan Buildout) Alternative would therefore result in greater impacts to this intersection than the proposed 2030 General Plan. In addition, the Central Avenue extension would introduce new impacts related to ground disturbance west of A Street at Central Avenue, particularly due to the the construction of a new bridge over the Santa Ynez River. This alternative would therefore result in greater impacts to biological and cultural resources, geology, and hydrology and water quality in this area than the proposed 2030 General Plan.

Increased residential and commercial development along the H Street Corridor Infill area that could occur under the 2030 General Plan would increase vehicular trips to and from these areas as compared to what could occur under the 1997 General Plan. Although compatibility conflicts could be addressed through implementation of proposed General Plan policies, increased vehicular activity and higher intensity development would also increase the potential for land use compatibility conflicts relating to air quality, hazards, and noise. These impacts would be reduced under the No Project (1997 General Plan Buildout) Alternative.

Overall environmental impacts associated with this alternative would be reduced when compared to those of the proposed 2030 General Plan, although some new impacts would occur as a result of the Central Avenue extension. As with future development under the proposed 2030 General Plan, development under this alternative would be subject to environmental review on a case-by-case basis.



6.3 ALTERNATIVE 3: HIGH GROWTH ALTERNATIVE

6.3.1 Description

Under this alternative, development facilitated by the 2030 General Plan within the existing City Limits, including the H Street Corridor Infill area, and development of three of the four identified expansion areas (including Bailey Avenue Specific Plan, River and Miguelito Canyon) would not change. However, the 10-acre Wye expansion area would be designated General Commercial (GC) rather than Low Density Residential (LDR). This alternative would therefore accommodate up to 120,000 square feet of commercial space in this area rather than 46 low-density residential units. Overall site disturbance would be similar; however, the type of development envisioned would change. Residential buildout of this alternative would be reduced by 46 units, with an associated population reduction of approximately 144 residents, when compared to the proposed 2030 General Plan.

Because the only difference between the proposed 2030 General Plan and the High Growth Alternative is the development potential of the Wye expansion area, the following analysis focuses on impacts in this area. Impacts associated with development within the existing City Limits and development of the other three identified expansion areas would be similar to the proposed 2030 General Plan, since this alternative would not change development potential in these areas.

6.3.2 Impact Analysis

Aesthetics

The Wye parcel is currently undeveloped and is bordered by single-family residences to the south and east and a church to the north. Although development of additional residential uses in this area could be considered a logical extension of existing development (refer to Section 4.1, *Aesthetics*), the level of commercial development envisioned by this alternative may be visually incompatible with the surrounding low density residential development. In addition, 120,000 square feet of commercial space would likely require more nighttime lighting than 46 residential units, particularly for security and parking lot illumination. Similarly, as discussed under *Transportation and Circulation* below, this alternative would result in increased traffic that would produce daytime glare and nighttime lighting from headlights at parking lots on the property. Impacts related to nighttime lighting and daytime glare would therefore be greater when compared to the proposed General Plan 2030. As with the draft General Plan, implementation of draft General Plan policies would reduce aesthetic impacts associated with this alternative to a less than significant level.

Overall, the development of 120,000 square feet of commercial space rather than 46 low density residential units would result in somewhat greater aesthetic impacts.



Air Quality

The consistency of this alternative with the Santa Barbara County Air Pollution Control District (SBCAPCD) 2007 Clean Air Plan (CAP) is determined based on consistency with Santa Barbara County Association of Governments (SBCAG) population forecasts, the rate of increase in vehicle trips and miles traveled, and the inclusion of applicable land use and transportation control measures. Because this alternative would result in 46 fewer residential units when compared to the proposed project, exceedance of the SBCAG population forecasts would be somewhat reduced. However, because development facilitated by this alternative within the existing City Limits and the three other identified expansion areas would be the same, the overall population increase would still exceed forecasts. In addition, as discussed under *Transportation and Circulation* below, this alternative would result in slightly more average daily trips (ADT) and associated vehicle miles traveled (VMT) than the proposed project. Impacts related to CAP consistency would therefore be somewhat greater than the proposed 2030 General Plan. The overall increase in operational air pollutant emissions associated with this alternative would also be somewhat greater than what could occur under the 2030 General Plan due to the incremental increase in vehicle trips (refer to *Transportation and Circulation* below).

Because overall site disturbance would be similar, construction related air quality impacts would not change. In addition, impacts related to elevated health risks for residences within 500 feet of roads and highways that carry a high traffic volume would be similarly less than significant, because Highway 1 does not carry enough traffic to pose a significant risk. It should be noted, however, that any incremental impacts would be eliminated under this alternative because no residential development would occur on this parcel.

Odor related impacts under the High Growth Alternative would be somewhat greater than the proposed 2030 General Plan because the Wye expansion area would be developed with commercial uses, rather than residential. Commercial uses may require the use of exterior trash containers, and may include such uses as fast food, a gas station, and other odor-generating businesses.

Biological Resources

The Wye expansion area includes approximately 10 acres of disturbed grassland north of the existing City Limits. Periodic disturbance in this expansion area reduces the functions and values of the habitat on-site and precludes many special status species from occurring. This area is also surrounded by a residential community to the north and east, Harris Grade Road to the west and Purisima Road to the south, all of which further degrades the habitat value of the site and reduces the potential for wildlife movement.

As discussed in Section 4.3, *Biological Resources*, development of 46 residences on this property in accordance with the proposed 2030 General Plan would not result in impacts to



sensitive habitats (because none are present), would result in minimal impacts to special status species, and would not impact wildlife movement. Because development of the site with commercial uses would result in similar overall site disturbance, biological impacts under this alternative would be similar. Also similar to the proposed project, implementation of draft General Plan policies and the addition of a recommended special status species policy would reduce biological resource impacts associated with this alternative to a less than significant level.

Cultural Resources

Although this alternative would facilitate development of the Wye expansion area with 120,000 square feet of commercial space rather than 46 low density residential units, overall site disturbance on the 10 acre parcel would be the same. As noted in Section 4.4, *Cultural Resources*, the Wye expansion area has a high archaeological potential. Because site disturbance would be similar, impacts to identified and previously unidentified pre-historical archaeological resources would also be similar. In addition, the Wye expansion area does not contain any existing structures. Therefore, impacts to historical buildings, structures, and districts would not occur within this expansion area regardless of the type of development constructed.

Geology

Although this alternative would facilitate development of the Wye expansion area with 120,000 square feet of commercial space rather than 46 low density residential units, overall site disturbance on the 10 acre parcel would be the same. As a result, geology impacts would be similar to those of the 2030 General Plan. This includes impacts related to groundshaking, liquefaction, soil-related hazards, slope hazards and radon exposure. As with the 2030 General Plan, implementation of General Plan policies and compliance with California Building Code (CBC) requirements would reduce most geology related impacts to a less than significant level. The addition of radon gas exposure policies to the General Plan Conservation/Open Space Element would reduce radon gas exposure impacts to a less than significant level.

Hazards and Hazardous Materials

There are no records of previous or existing sources of contamination in the Wye expansion area. Therefore, neither the proposed 2030 General Plan nor the High Growth Alternative would result in significant impacts related to exposure to hazardous materials in this area. However, due to the proximity of hazardous material transportation corridors, development of 46 residential units in this area under the 2030 General Plan could expose future residents to a significant hazard in the event of an accident. In addition, because the site is located in a Moderate Wildland Fire Hazard area, development facilitated by the 2030 General Plan would expose future residents to potential risks from wildfires. Although this alternative would facilitate development of the Wye expansion area with 120,000 square feet of commercial



space rather than 46 low density residential units, future occupants and patrons of commercial structures would be exposed to the same level of hazards as future residents. Therefore, impacts related to risk of upset and wildfire hazards would be similar.

It should be noted, however, that commercial uses could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. For example, the development and operation of a gas station, dry cleaner, or other commercial enterprise that handles hazardous materials on the site could expose existing adjacent residences to accidental releases of hazardous materials. Such hazards would not be anticipated with the development of residential uses, as anticipated under the proposed 2030 General Plan. Although existing federal, state and local regulations require safe handling and storage of hazardous materials, hazardous materials impacts would be greater under the High Growth Alternative.

Hydrology and Water Quality

As discussed in Section 4.7, *Hydrology and Water Quality*, the Wye expansion area is outside of the 100-year flood plain and the dam inundation hazard area associated with the Bradbury Dam. Impacts related to flooding and dam inundation would therefore be less than significant regardless of the type of development anticipated. In addition, although this alternative would facilitate development of the Wye expansion area with 120,000 square feet of commercial space rather than 46 low density residential units, overall site disturbance and associated impervious surfaces would be similar. Impacts related to increased runoff and increased pollutants loads would therefore be similar. As with the proposed 2030 General Plan, the addition of stormwater runoff policies in the General Plan Conservation/Open Space Element, implementation of General Plan policies, and compliance with local, state, and federal requirements relating to water quality would reduce hydrology and water quality impacts to a less than significant level.

Land Use and Agriculture

The Wye parcel is currently undeveloped and is bordered by single-family residences to the south and east and a church to the north. Because the site does not abut agricultural uses, agricultural compatibility impacts would not occur. However, the High Growth Alternative would place 120,000 square feet of commercial development in close proximity to existing residential uses, which could create land use compatibility impacts not anticipated in this location under the proposed 2030 General Plan. These impacts would therefore be greater under this alternative.

Impacts related to consistency with Santa Barbara County Land Agency Formation Commission (LAFCo) guidelines would be similar because all four identified expansion areas would still be envisioned for annexation into the City of Lompoc. In addition, because the Wye Residential expansion area is not used for agricultural production, is not under Williamson Act Contract,



and does not contain prime soils or important farmland, impacts related to agricultural conversion on this site would be less than significant regardless of the type of urban development envisioned.

Noise

Although this alternative would facilitate development of the Wye expansion area with 120,000 square feet of commercial space rather than 46 low density residential units, overall site disturbance on the 10 acre parcel would be the same. As a result, construction-related noise impacts would be similar to the 2030 General Plan. However, because this alternative would result in slightly more average daily vehicle trips (refer to *Transportation and Circulation* below), operational noise impacts would be slightly greater than under the 2030 General Plan.

Because this alternative would replace sensitive noise receptors (residences) with non-sensitive uses, impacts related to exposing future residences and other noise-sensitive land uses to noise levels exceeding City standards would be eliminated for the Wye parcel. However, commercial uses would result in stationary sources of noise, which could affect adjacent residential and church uses. Therefore, the noise impacts of this alternative would be both better and worse when compared to the proposed 2030 General Plan.

Population and Housing

The Wye expansion area is currently vacant. Development of this site with either residential or commercial uses would therefore not displace existing residents. However, because this site would be developed with 120,000 square feet of commercial space rather than 46 residential units, this alternative would not provide additional housing opportunities in the area. Similarly, the High Growth Alternative would result in 46 fewer residential units when compared to the proposed 2030 General Plan, exceedance of the Santa Barbara County Association of Governments (SBCAG) population forecasts would be somewhat reduced. However, because development facilitated by this alternative within the existing City Limits and the three other identified expansion areas would be the same, the overall population increase would still exceed forecasts.

As noted in Section 4.10, *Population and Housing*, a jobs/housing ratio within the range of 0.75 to 1.25 evidences a jobs-housing balance. The current jobs/housing ratio in Lompoc is 1.03. Development of the Wye expansion area with 46 residential units (as currently proposed) would reduce the jobs/housing balance to 1.01. The High Growth Alternative would facilitate development of the Wye expansion area with 120,000 square feet of commercial space rather than 46 residential units. Using a standard ratio of one employee per 500 square feet, this commercial development would create approximately 240 new jobs. Development of the Wye expansion in accordance with this alternative would result in a jobs/housing ratio of 1.03. Because this alternative would similarly result in an acceptable jobs/housing ratio, impacts would be similar and *less than significant*.



Public Services

Under this alternative, the Wye expansion area would accommodate up to 120,000 square feet of commercial space, rather than 46 low-density residential units. Based on the citywide average of 2.88 persons per dwelling unit, this change in land use would result in 132 fewer residents being added to the current City of Lompoc population. This reduced population equates to a reduced demand for police protection service (requiring 0.2 fewer police officers), reduced student generation (12 fewer elementary school students, six fewer middle school students and five fewer high school students), reduced library service demand (requiring 79.2 fewer square feet of library space), and reduced demand for hospital services (requiring 0.1 fewer hospital beds). Overall impacts to these public services would therefore be reduced.

Although the Wye expansion area is currently located outside of the five minute fire response zone of the Fire Department, the Department has indicated that the site would be included within this zone upon provision of adequate emergency access. Because adequate emergency access could be provided regardless of the type of development envisioned, impacts related to the provision of fire department services would be similarly less than significant under both alternatives. In addition, commercial development on the Wye parcel would not include buildings in excess of 75 feet. Height-related fire hazard impacts would therefore be similarly less than significant.

As with the proposed 2030 General Plan, payment of in-lieu fees would reduce public service impacts associated with this alternative to a less than significant level.

Recreation

Under this alternative, the Wye Residential expansion area would accommodate up to 120,000 square feet of commercial space, rather than 46 low-density residential units. Based on the citywide average of 2.88 persons per dwelling unit, this change in land use would result in 132 fewer residents being added to the current City of Lompoc population. This reduced population equates to a reduced demand for parkland. Specifically, elimination of residential development on this site would reduce parkland demand by 0.3 acres for neighborhood parkland, 0.7 acres for community parkland, and 0.7 acres for regional parkland. Overall impacts related to parkland demand would therefore be incrementally reduced.

Transportation and Circulation

Under this alternative, the Wye Residential expansion area would accommodate up to 120,000 square feet of commercial space, rather than 46 low-density residential units. Based on trip generation rates from the Institute of Transportation Engineers (ITE) for single family detached housing (9.57 per dwelling unit) and shopping centers (42.92 per 1,000 square feet), residential use of the site as proposed would generate 422 average daily trips (ADT). In contrast, development of the site with 120,000 square feet of commercial space would



generate 5,150 ADT for a net increase of 4,710 ADT under the High Growth Alternative. Overall impacts to traffic and circulation would therefore be somewhat greater under this alternative when compared to the proposed 2030 General Plan.

Utilities and Service Systems

Under this alternative, the Wye expansion area would accommodate up to 120,000 square feet of commercial space, rather than 46 low-density residential units. Based on the citywide average of 2.88 persons per dwelling unit, this change in land use would result in 132 fewer residents being added to the current City of Lompoc population. As noted in Section 4.14, *Utilities and Service Systems*, this population would demand an estimated 16,500 gallons of water per day and would generate an estimated 10,296 gallons of wastewater per day. These figures are based on per capita water and wastewater generation factors ascertained from existing demand and total existing population, and therefore inherently account for non-residential land uses. However, for the purpose of comparison, a commercial water demand factor of 0.145 gallons per square foot per day and a wastewater generation factor of 0.096 gallons per square foot per day were used, based on the 2005 Urban Water Management Plan and 2002 Lompoc Regional Wastewater Reclamation Plant Master Plan, respectively. Based on these factors, development of the Wye expansion area with up to 120,000 square feet of commercial space would generate demand for 17,400 gallons of water per day and would generate 11,520 gallons of wastewater per day for a net increase of 900 gallons of water and 1,224 gallons of wastewater when compared to the proposed 2030 General Plan. Impacts related to water and wastewater services would therefore be greater under the High Growth Alternative.

As noted in Section 4.14, *Utilities and Service Systems*, development of the Wye expansion area with 46 single family residences would generate approximately 0.17 tons of solid waste per day. In comparison, development of the site with 120,000 square feet of commercial uses would generate approximately 1.87 tons per day (based on a rate of 0.0057 tons per square foot per year for commercial uses). Impacts related to solid waste services would therefore be greater than the proposed 2030 General Plan.

Although this alternative would facilitate development of the Wye expansion area with 120,000 square feet of commercial space rather than 46 low density residential units, overall site disturbance and associated impervious surfaces would be similar. Impacts related to increased runoff and the associated need for drainage facilities would therefore be similar.

6.4 ALTERNATIVE 4: MODERATE GROWTH ALTERNATIVE

6.4.1 Description

Under this alternative, the Bailey Avenue Specific Plan expansion area would be removed from consideration for annexation to the City of Lompoc. Under the proposed 2030 General Plan,



this expansion area is envisioned for development of up to 2,184 single-family residences, 534 multi-family residences, and 228,700 square feet of commercial uses on an approximately 270-acre site. Under this alternative, this potential development would be eliminated and the Bailey Avenue Specific Plan site would remain in its current agricultural use.

Development facilitated by the 2030 General Plan within the existing City Limits, including the H Street Corridor Infill area, and the other three identified expansion areas (River, Miguelito Canyon, and Wye Residential) would not change under this alternative. Because the only difference between the proposed 2030 General Plan and the High Growth Alternative is the development potential of the Bailey Avenue Specific Plan expansion area, the following analysis focuses on impacts in this area. Impacts associated with development within the existing City Limits and development of the other three identified expansion areas would be similar to the proposed 2030 General Plan, since this alternative would not change development potential in these areas.

6.4.2 Impact Analysis

Aesthetics

This alternative would eliminate development in the Bailey Avenue Specific Plan expansion area. As discussed in Section 4.1, *Alternatives*, development of this area would have the potential to visually impact adjacent viewsheds, particularly due to the inclusion of multi-story buildings, which would have a higher likelihood of blocking views from nearby roadways. In addition, because there is currently no nighttime lighting of the Bailey Avenue Specific Plan area, the addition of residential and commercial uses would increase ambient nighttime lighting and glare. Similarly, development of the site with relatively dense urban uses would permanently alter the existing agricultural character of the site. Because this development would not occur under the Moderate Growth Alternative, these impacts would be eliminated.

Air Quality

Consistency with the Santa Barbara County Air Pollution Control District (SBCAPCD) 2007 Clean Air Plan (CAP) is determined based on consistency with Santa Barbara County Association of Governments (SBCAG) population forecasts, the rate of increase in vehicle trips and miles traveled, and the inclusion of applicable land use and transportation control measures. Because this alternative would result in 2,718 fewer residential units when compared to the proposed project, exceedance of the Santa Barbara County Association of Governments (SBCAG) population forecasts would be reduced. In addition, overall vehicle trips and miles traveled would be reduced, since development of the Bailey Avenue Specific Plan would be eliminated. Impacts related to Clean Air Plan (CAP) consistency would therefore be reduced when compared to the proposed 2030 General Plan, but would remain *significant and unavoidable*.



Because this alternative eliminates development of the Bailey Avenue Specific Plan expansion areas, construction-related air quality impacts resulting from development of this area would be eliminated, and cumulative construction-related air quality impacts would be substantially reduced. Similarly, because vehicle trips would be somewhat reduced (refer to *Transportation and Circulation* below), operational air quality impacts would also be incrementally reduced.

Because development within the Bailey Avenue Specific Plan expansion area would be eliminated, potential odor impacts that could occur in this area would also be eliminated.

Biological Resources

The Bailey Avenue Specific Plan expansion area encompasses approximately 270 acres of intensively managed row crop agriculture and ruderal habitat. No native or otherwise undisturbed habitats are present within the expansion area, and the high level of disturbance on-site creates conditions unsuitable for the survival of most native plants and animals. Wildlife movement across this area is highly unlikely due to its proximity to existing development, and the highly disturbed nature of the area. The lack of native habitat further reduces the habitat functions and values and discourages use by wildlife.

As discussed in Section 4.3, *Biological Resources*, development within the Bailey Avenue Specific Plan expansion area would not result in impacts to sensitive habitats (because none are present), special status species, or wildlife movement. Although few biological impacts would be anticipated to occur on the property under the 2030 General Plan, elimination of development on the property under the Moderate Growth Alternative would eliminate any incremental impacts.

Cultural Resources

This alternative would eliminate development in the Bailey Avenue Specific Plan expansion area. Cultural resource impacts that would occur in this area would therefore be eliminated, including potential impacts to identified and previously unidentified pre-historical archaeological resources. It should be noted, however, that because the Bailey Avenue Specific Plan expansion area does not contain existing historic structures (refer to Section 4.4, *Cultural Resources*), impacts to historical buildings, structures, and districts would not occur in this area. Therefore, elimination of development in the Bailey Avenue Specific Plan would not reduce overall impacts to historic resources.

Geology

This alternative would eliminate development in the Bailey Avenue Specific Plan expansion area. As a result, geology impacts that would occur in this area would be eliminated. This includes impacts related to groundshaking, soil-related hazards, slope hazards and radon exposure.



Hazards and Hazardous Materials

Although there are no records of previous or existing sources of contamination in the Bailey Avenue Specific Plan expansion area, existing development/use of the site and the presence of railroad tracks may have resulted in contamination (refer to Section 4.6, *Hazards and Hazardous Materials*). Because the Moderate Growth Alternative eliminates development in this area, any potential impacts related to hazardous materials would be eliminated. In addition, due to the proximity of hazardous material transportation corridors, development of 2,718 residential units in this area under the 2030 General Plan could expose future residents to a significant hazard in the event of an accident. In addition, because portions of the site are located in a Moderate Wildland Fire Hazard area, development facilitated by the 2030 General Plan would expose future residents to potential risks from wildfires. Because development in this location would be eliminated, these site-specific impacts would also be eliminated under this alternative.

Hydrology and Water Quality

As discussed in Section 4.7, *Hydrology and Water Quality*, the Bailey Avenue Specific Plan expansion area is outside of the 100-year flood plain and partially within the dam inundation hazard area associated with the Bradbury Dam. However, because development in this area would be eliminated under the Moderate Growth Alternative, impacts related to flooding and dam inundation on the site would be eliminated. In addition, because the 270-acre site would remain in agricultural production under this alternative, impacts related to increased runoff would also not occur.

Existing agriculture operations on the Bailey Avenue Specific Plan site may involve the application of pesticides and other chemicals. Storm runoff from these agricultural fields recharges groundwater and also discharges into the Salinas River and local creeks. The replacement of agricultural land with urban uses, as would be facilitated by the 2030 General Plan, could result in the reduction in discharge of agriculturally-related pollutants, including pesticide runoff, into the nearby surface water-bodies. The retention of agricultural uses in this area would therefore have a potentially detrimental impact to water quality when compared to the proposed 2030 General Plan.

Land Use and Agriculture

Under the proposed 2030 General Plan, the Bailey Avenue Specific Plan expansion area would accommodate development at the periphery of the City of Lompoc, in an area currently used for agriculture. Because this site is directly adjacent to additional agricultural land on the west, potential land use conflicts between proposed urban and existing agricultural land uses could occur. However, the Bailey Avenue Specific Plan would include a 200-foot open space buffer between future residences and agricultural fields to the west, thereby reducing potential conflicts. Because the 270-acre site would remain in agricultural production under this



alternative, existing residences along the western edge of the City in the vicinity of the Bailey Avenue Specific Plan site would continue to experience conflicts with existing agricultural uses. Because these residents do not have the benefit of a 200-foot open space buffer, as would be included in the proposed 2030 General Plan, overall land use conflicts would be greater under the Moderate Growth Alternative.

Impacts related to consistency with Santa Barbara County Land Agency Formation Commission (LAFCo) guidelines would also be eliminated for the Bailey Avenue Specific Plan expansion area because the site would no longer be envisioned for annexation into the City of Lompoc. In addition, because the Bailey Avenue Specific Plan expansion area is currently used for agricultural production, is partially under Williamson Act Contract, and contains prime soils and important farmland, impacts related to agricultural conversion on this site would be eliminated under this alternative.

Noise

This alternative would eliminate development in the Bailey Avenue Specific Plan expansion area. Construction-related noise impacts at this site would therefore be eliminated. In addition, because this alternative would result in fewer average daily vehicle trips than the 2030 General Plan (refer to *Transportation and Circulation* below), overall operational (vehicle) noise impacts would be greatly reduced under this alternative.

Because this alternative would eliminate development in the Bailey Avenue Specific Plan expansion area, it would not expose noise-sensitive receptors (residences) to noise levels exceeding City standards in this location.

Population and Housing

This alternative would eliminate development of the Bailey Avenue Specific Plan expansion area, which could include up to 2,184 single-family residences, 534 multi-family residences, and 228,700 square feet of commercial space. Elimination of this development would reduce the anticipated 2030 General Plan population growth by approximately 7,827 residents (based on a citywide average of 2.88 residents per household) to a total of 8,671 new residents (from buildout within the existing City Limits and the three other identified expansion areas). This reduced population growth would result in a buildout population of 51,628, which still exceeds SBCAG's 2030 population forecast for Lompoc of 48,200. As with the proposed 2030 General Plan, this inconsistency would be addressed in future updated population growth projections and impacts would remain Class III, *less than significant*.

As discussed in Section 4.10, *Population and Housing*, buildout of the Bailey Avenue Specific Plan expansion area would result in a jobs/housing ratio of 0.87, which is within the range of 0.75 to 1.25 identified by the Santa Barbara County Association of Governments (SBCAG). The elimination of development in this area would result in a jobs/housing balance of 1.0, based on



development within the existing City Limits and the other three identified expansion areas. Impacts to the jobs–housing balance under this alternative would therefore be similar and *less than significant*.

Public Services

Under this alternative, the Bailey Avenue Specific Plan expansion area would not be developed with up to 2,184 single–family residences, 534 multi–family residences, and 228,700 square feet of commercial space. Based on the citywide average of 2.88 persons per dwelling unit, this change in land use would result in 7,827 fewer residents being added to the current City of Lompoc population. This reduced population equates to a reduced demand for police protection service (requiring 11 fewer police officers), reduced student generation (722 fewer elementary school students, 383 fewer middle school students and 350 fewer high school students), reduced library service demand (requiring 4,696.2 fewer square feet of library space), and reduced demand for hospital services (requiring 7.8 fewer hospital beds). Overall impacts to these public services would therefore be reduced.

Because no development of the Bailey Avenue Specific Plan expansion area would occur, there would be no impact to fire response times or height–related fire access on the site.

Recreation

Based on the citywide average of 2.88 persons per dwelling unit, the elimination of development on the Bailey Avenue Specific Plan expansion area (including 2,718 residences) would result in 7,827 fewer residents being added to the current City of Lompoc population. This reduced population equates to a reduced demand for parkland. Specifically, elimination of development on this site would reduce parkland demand by 15.7 acres for neighborhood parkland, 39.1 acres for community parkland, and 39.1 acres for regional parkland. Although the Bailey Avenue Specific Plan would provide an additional 59 acres of community parkland, which would not be implemented under the Moderate Growth Alternative, the overall parkland demand impact would be reduced.

Transportation and Circulation

Under this alternative, the Bailey Avenue Specific Plan expansion area would not be developed with up to 2,184 single–family residences, 534 multi–family residences, and 228,700 square feet of commercial space. Based on trip generation rates from the Institute of Transportation Engineers (ITE) for single family detached housing (9.57 trips per dwelling unit), apartments (6.63 trips per dwelling unit), and shopping centers (42.92 trips per 1,000 square feet), this would result in a decrease of approximately 34,000 total average daily traffic with the Moderate Growth Alternative compared to the proposed General Plan 2030. Traffic volumes on the majority of roadway segments modeled in Section 4.13, *Transportation and Circulation*, would decrease accordingly. In particular, average daily traffic on roadways providing primary access



to the Bailey Avenue Specific Plan expansion area would be reduced to the greatest extent. For example, average daily traffic on Ocean Avenue between O Street and H Street would decrease from 22,600 ADT under the proposed 2030 General Plan to 15,600 ADT under the Moderate Growth Alternative.

Overall impacts to traffic and circulation would therefore be reduced under this alternative when compared to the proposed 2030 General Plan.

Utilities and Service Systems

Under this alternative, the Bailey Avenue Specific Plan expansion area would not be developed with up to 2,184 single-family residences, 534 multi-family residences, and 228,700 square feet of commercial space. Based on the citywide average of 2.88 persons per dwelling unit, this change in land use would result in 7,827 fewer residents being added to the current City of Lompoc population. This reduced development equates to a reduced demand for water (demanding 1.02 million fewer gallons of water per day), reduced wastewater generation (generating 610,506 fewer gallons of wastewater per day), and reduced solid waste generation (generating 12 fewer tons of solid waste per day). Overall impacts to these services would therefore be reduced.

In addition, because the 270-acre Bailey Avenue Specific Plan expansion area would remain in agricultural production under this alternative, impacts related to increased runoff and the associated demand for drainage facilities would therefore be reduced.

6.5 ALTERNATIVE 5: LOW GROWTH ALTERNATIVE

6.5.1 Description

Under this alternative, development facilitated by the 2030 General Plan within the existing City Limits, including the H Street Corridor Infill area, would occur as currently proposed. However, the four identified expansion areas (Bailey Avenue Specific Plan, River, Miguelito Canyon and Wye Residential) would be eliminated from consideration for annexation to the City.

Elimination of these four annexation areas would reduce total General Plan buildout by 2,915 total residential units (including 2,255 single-family and 660 multi-family units) and 228,700 square feet of commercial space. Based on a citywide average of 2.88 persons per unit, this reduction in residential development would result in 8,395 fewer residents when compared to the proposed 2030 General Plan buildout.



6.5.2 Impact Analysis

Aesthetics

This alternative would eliminate future City development in the four identified expansion areas but would maintain anticipated buildout within the existing City Limits, including the H Street Corridor Infill area. As discussed in Section 4.1, *Aesthetics*, development on the fringe of existing urban development would result in the greatest impacts to visual resources. Because development in these locations would be eliminated, impacts related to scenic views, light and glare, and visual character occurring in these areas under the proposed 2030 General Plan would not occur. Visual resource impacts would therefore be reduced substantially under this alternative when compared to the proposed 2030 General Plan.

Air Quality

Consistency with the Santa Barbara County Air Pollution Control District (SBCAPCD) 2007 Clean Air Plan (CAP) is determined based on consistency with Santa Barbara County Association of Governments (SBCAG) population forecasts, the rate of increase in vehicle trips and miles traveled, and the inclusion of applicable land use and transportation control measures. Because this alternative would result in 2,915 fewer residential units when compared to the proposed project, exceedance of the Santa Barbara County Association of Governments (SBCAG) population forecasts would be reduced. In addition, overall vehicle trips and miles traveled would be reduced, since development of the four identified expansion areas would be eliminated. However, as discussed under *Population and Housing* below, the overall population increase from development within the existing City Limits would still exceed forecasts. Impacts related to Clean Air Plan (CAP) consistency would therefore be reduced when compared to the proposed 2030 General Plan, but would remain *significant and unavoidable*.

Because this alternative eliminates development of the four identified expansion areas, overall construction-related air quality impacts would be greatly reduced. Similarly, because vehicle trips would be somewhat reduced (refer to *Transportation and Circulation* below), operational air quality impacts would also be incrementally reduced.

Because development in the four expansion areas would be eliminated, any potential odor impacts that could occur in these areas would also be eliminated.

Biological Resources

Because this alternative eliminates development of the four identified expansion areas, direct impacts to sensitive habitats, special status species and wildlife movement in these areas would not occur. In particular, impacts to sensitive habitats and wildlife movement opportunities provided by the Santa Ynez River and San Miguelito Creek riparian corridors from potential future development in the River and Miguelito Canyon expansion areas,



respectively, would not occur. Overall, biological resource impacts would be greatly reduced under this alternative. As with the proposed 2030 General Plan, implementation of draft General Plan policies and the addition of a recommended special status species policy would reduce biological resource impacts associated with this alternative to a less than significant level.

Cultural Resources

This alternative would eliminate development of the four identified expansion areas. As noted in Section 4.4, *Cultural Resources*, the Miguelito Canyon expansion area has been designated a high sensitivity zone, and additional development in this area could affect Native American and Mission-era resources adversely. Similarly, the River and Wye expansion areas have a high archaeological potential. Because site disturbance would not occur in these areas, impacts to identified and previously unidentified pre-historical archaeological resources would be reduced. It should be noted, however, that because none of the expansion areas contain existing historic structures (refer to Section 4.4, *Cultural Resources*), impacts to historical buildings, structures, and districts would not occur in these areas. Therefore, elimination of development in the four identified expansion areas would not reduce overall impacts to historic resources.

Geology

This alternative would eliminate development of the four identified expansion areas. As a result, site-specific geology impacts that would occur in these areas would be eliminated. This includes impacts related to groundshaking, soil-related hazards, liquefaction, slope hazards and radon exposure.

Hazards and Hazardous Materials

Although there are no records of previous or existing sources of contamination on any of the four identified expansion areas, existing development and the presence of railroad tracks of the Bailey Avenue Specific Plan site may have resulted in contamination, and historic agricultural use of the Bailey Avenue and River expansion areas may have resulted in undocumented residual quantities of presently-banned agricultural chemicals (refer to Section 4.6, *Hazards and Hazardous Materials*). Because the Low Growth Alternative eliminates any development in these areas, overall impacts related to hazardous materials would be reduced. Impacts related to risk of upset and wildland fire hazards would similarly be reduced.

Hydrology and Water Quality

As discussed in Section 4.7, *Hydrology and Water Quality*, the River and Miguelito Canyon expansion areas are located partially or completely within the 100-year flood plain associated with the Santa Ynez River and San Miguelito Creek, respectively. In addition, the Bailey Avenue Specific Plan and River expansion areas are partially within the dam inundation hazard area



associated with the Bradbury Dam. Because development in these areas would be eliminated under the Low Growth Alternative, impacts related to flooding and dam inundation would be reduced. In addition, because less overall site disturbance would occur, and therefore less overall impervious surfaces installed, impacts related to increased runoff and increased pollutants loads would also be reduced.

It should be noted, however, that existing agriculture operations on the Bailey Avenue Specific Plan site may involve the application of pesticides and other chemicals. Storm runoff from these agricultural fields recharges groundwater and also discharges into the Salinas River and local creeks. The replacement of agricultural land with urban uses, as proposed as part of the 2030 General Plan, could result in the reduction in discharge of agriculturally-related pollutants, including pesticide runoff, into the nearby surface water-bodies. The retention of agricultural uses in this area would therefore have a potentially detrimental impact to water quality when compared to the proposed 2030 General Plan.

Land Use and Agriculture

Under the proposed 2030 General Plan, the Bailey Avenue Specific Plan and River expansion areas would accommodate development in areas currently used for and/or located adjacent to agricultural production. Potential land use conflicts between proposed urban and existing agricultural land uses could therefore occur. It should be noted, however, that the Bailey Avenue Specific Plan would include a 200-foot open space buffer between future residences and agricultural fields to the west, thereby reducing potential conflicts. Because the 270-acre site would remain in agricultural production under this alternative, existing residences along the western edge of the City in the vicinity of the Bailey Avenue Specific Plan site would continue to experience conflicts with existing agricultural uses. Because these residents do not have the benefit of a 200-foot open space buffer, as would be included in the proposed 2030 General Plan, overall land use conflicts would be greater under the Low Growth Alternative. In addition, because development on existing agricultural land and other prime soil areas would be avoided, impacts to agricultural resources would be avoided as well.

Impacts related to consistency with Santa Barbara County Land Agency Formation Commission (LAFCo) guidelines would be eliminated because none of the expansion areas would be envisioned for annexation into the City of Lompoc.

Noise

This alternative would eliminate development of the four identified expansion areas. Construction-related noise impacts would therefore be reduced. In addition, because this alternative would result in fewer average daily vehicle trips than the 2030 General Plan (refer to *Transportation and Circulation* below), operational (vehicle) noise impacts would also be greatly reduced under this alternative.



Because this alternative would eliminate development of the four expansion areas, it would not expose noise-sensitive receptors (residences) to noise levels exceeding City standards in these locations. Overall noise-related impacts would be reduced when compared to the 2030 General Plan.

Population and Housing

This alternative would eliminate development within the four identified expansion areas, which could include up to 2,915 residential units. Elimination of this development would reduce the anticipated 2030 General Plan population growth by approximately 8,395 residents (based on a citywide average of 2.88 residents per household) to a total of 8,173 new residents. This is an approximate 50.7 percent reduction in total new population growth when compared to the proposed 2030 General Plan. This reduced population growth would result in a buildout population of 51,130, which still exceeds SBCAG's 2030 population forecast for Lompoc of 48,200. As with the proposed 2030 General Plan, this inconsistency would be addressed in future updated population growth projections and impacts would remain Class III, *less than significant*.

As noted in Section 4.10, *Population and Housing*, a jobs/housing ratio within the range of 0.75 to 1.25 evidences a jobs-housing balance. The current jobs/housing ratio in Lompoc is 1.03, and development within the existing City Limits would result in a jobs/housing ratio of 1.02, which is within the range identified by SBCAG. The elimination of the four identified expansion areas would therefore result in similar less than significant impacts with respect to the jobs/housing balance when compared to the proposed 2030 General Plan.

Public Services

Under this alternative, the four identified expansion areas would not be developed with up to 2,915 residential units. Based on the citywide average of 2.88 persons per dwelling unit, this change in land use would result in 8,395 fewer residents being added to the current City of Lompoc population. This reduced population equates to a reduced demand for police protection service (requiring 12 fewer police officers, or 50.4 percent less than the proposed General Plan), reduced student generation (776 fewer elementary school students, 411 fewer middle school students and 376 fewer high school students, or 50.7 percent less than the proposed General Plan), reduced library service demand (requiring 5,037 fewer square feet of library space, or 50.7 percent less than the proposed General Plan), and reduced demand for hospital services (requiring 8 fewer hospital beds, or 50 percent fewer than the proposed General Plan). Because no development of the four identified expansion areas would occur, there would be no impact to fire response times in these locations. Overall impacts to these public services would therefore be reduced.



Recreation

Based on the citywide average of 2.88 persons per dwelling unit, the elimination of development in the four identified expansion areas (including 2,915 residences) would result in 8,395 fewer residents being added to the current City of Lompoc population. This reduced population equates to a reduced demand for parkland. Specifically, elimination of the four expansion areas would reduce parkland demand by 16.8 acres for neighborhood parkland, 42 acres for community parkland, and 42 acres for regional parkland. This equates to an overall 50.7 percent reduction in parkland demand when compared to the proposed 2030 General Plan. Although the Bailey Avenue Specific Plan would provide an additional 59 acres of community parkland, which would not be constructed under the Low Growth Alternative, the overall parkland demand impact would be reduced.

Transportation and Circulation

Under this alternative, the four identified expansion areas would not be developed, thereby decreasing overall buildout by 2,255 single-family units, 660 multi-family units, and 228,700 square feet of commercial space. Based on trip generation rates from the Institute of Transportation Engineers (ITE) for single family detached housing (9.57 per dwelling unit), apartments (6.63 per dwelling unit), and shopping centers (42.92 per 1,000 square feet), this would result in a decrease of 35,775 ADT under the Low Growth Alternative. Overall impacts to traffic and circulation would therefore be somewhat reduced under this alternative when compared to the proposed 2030 General Plan.

Utilities and Service Systems

Under this alternative, the four identified expansion areas would not be developed with up to 2,915 residential units. Based on the citywide average of 2.88 persons per dwelling unit, this change in land use would result in 8,395 fewer residents being added to the current City of Lompoc population. This reduced development equates to a reduced demand for water (demanding 0.87 million fewer gallons of water per day), reduced wastewater generation (generating 654,654 fewer gallons of wastewater per day), and reduced solid waste generation (generating 25.52 fewer tons of solid waste per day). Overall impacts to these services would therefore be reduced.

In addition, because development of the four identified expansion areas would not occur, and therefore less overall site disturbance would occur, less overall impervious surfaces would be installed. Impacts related to increased runoff and the associated demand for drainage facilities would therefore be reduced.



6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As required by CEQA, this section discusses the environmentally superior alternative. Each of the alternatives discussed in this section has certain advantages and disadvantages as compared to the proposed 2030 General Plan, as summarized below.

- The **No Project (No Further Development)** alternative could be considered environmentally superior because it would result in no increase in traffic, air pollution or noise, and no increase in demand for utilities or services. It would result in no physical impacts. On the other hand, this alternative would not meet many of the 2030 General Plan objectives.
- The **No Project (1997 General Plan Buildout)** alternative would allow roughly the same amount of development to occur within the existing City Limits as would be allowed under the proposed 2030 General Plan. However, this alternative would eliminate development of the four identified expansion areas and would include less development along the H Street Corridor. As a result, this alternative would reduce impacts in the identified expansion areas and would reduce overall per capita based impacts. Overall environmental impacts associated with this alternative would be reduced when compared to those of the proposed 2030 General Plan.
- The **High Growth** alternative could incrementally reduce per capita based impacts (including population growth, public services, recreation and utilities) and would result in similar site disturbance related impacts (including construction-related air quality and noise, biological resources, cultural resources, geology and hydrology). Impacts to aesthetics, operational air quality and odors, operational noise, hazardous materials, land use compatibility and transportation would be greater under this alternative.
- The **Moderate Growth** alternative would eliminate development in the Bailey Avenue Specific Plan expansion area and would therefore reduce direct ground disturbance impacts in this area (including construction-related air quality and noise, biological resources, cultural resources, geology and hydrology) as well as reduce all per capita based impacts (including air quality, population growth, public services, recreation, transportation and utilities). Impacts related to aesthetics, hazards, land use and agriculture would also be reduced. Water quality and agricultural land use compatibility impacts may be greater under this alternative, however, due to the continued agricultural use of the Bailey Avenue site.
- The **Low Growth** alternative would eliminate development in the four identified expansion areas and would therefore reduce direct ground disturbance impacts (including construction-related air quality and noise, biological resources, cultural resources, geology and hydrology) as well as reduce all per capita based impacts (including air quality, population growth, public services, recreation, transportation



and utilities). Impacts related to aesthetics and hazards, and impacts related to LAFCo policy consistency would be eliminated.

Although the No Project (No Further Development) alternative is not feasible (from either a legal or practical standpoint) and may not be desirable in many respects, it can be considered environmentally superior overall since it would avoid all impacts associated with future growth. However, it would not meet RHNA requirements or housing needs identified in the City's Housing Element. Among the remaining alternatives, the No Project (1997 General Plan Buildout) and the Low Growth Alternative could be considered environmentally superior because they reduce impacts associated with development of the four identified expansion areas and would facilitate fewer overall new residences. However, neither of these alternatives would meet the objectives of the proposed 2030 General Plan.



Table 6-1 Summary Comparison of 2030 General Plan Alternatives

Issue Area	2030 General Plan	No Project (No Further Development)	No Project (1997 General Plan Buildout)	High Growth Alternative	Moderate Growth Alternative	Low Growth Alternative
Aesthetics	Class III	Class IV / -	Class III / -	Class III / +	Class III / -	Class III / -
Air Quality	Class I	Class IV / -	Class III / -	Class I / +	Class I / -	Class I / -
Biological Resources	Class II	Class IV / -	Class III / -	Class II / =	Class II / -	Class II / -
Cultural Resources	Class I	Class IV / -	Class III / -	Class I / =	Class I / -	Class I / -
Geology	Class II	Class IV / -	Class III / -	Class II / =	Class II / -	Class II / -
Hazards and Hazardous Materials	Class II	Class IV / -	Class II / -	Class II / +	Class II / -	Class II / -
Hydrology and Water Quality	Class II	Class IV / -	Class III / -	Class II / =	Class II / +	Class II / +
Land Use and Agriculture	Class I	Class IV / -	Class III / -	Class I / +	Class I / +	Class III / +/-
Noise	Class II	Class IV / -	Class II / -	Class II / +	Class II / -	Class II / -
Population and Housing	Class III	Class IV / -	Class III / -	Class III / -	Class III / -	Class III / -
Public Services	Class III	Class IV / -	Class III / -	Class III / -	Class III / -	Class III / -
Recreation	Class III	Class IV / -	Class III / -	Class III / -	Class III / -	Class III / -
Transportation and Circulation	Class I	Class IV / -	Class I / -	Class I / +	Class I / -	Class I / -
Utilities and Service Systems	Class II	Class IV / -	Class III / -	Class II / -	Class II / -	Class II / -

Class I = significant and unavoidable impact

Class II = significant but mitigable impact

Class III = less than significant impact

Class IV = no impact

** Impact classifications are shown for the greatest impact within the issue area (i.e., if Class II and III impacts were identified within the issue area, the table indicates the overall impact within that issue area as Class II).*

- impact would be lower than that of the 2030 General Plan

+ impact would be greater than that of the 2030 General Plan



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7.1 REFERENCES

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Raggio, Jim. Chief Executive Officer, Lompoc Valley Medical Center. Personal Communication. December 2008.

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This EIR was prepared by Rincon Consultants, Inc. under contract to the City of Lompoc, with the assistance of Applied Earthworks, Inc., Fehr & Peers, Inc., and AECOM. Ms. Lucille Breese served as project manager for the City of Lompoc. Persons involved in data gathering analysis, project management, and quality control include:

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Appendix A

*Draft 2030 General Plan Land Use Element,
Circulation Element, and Housing Element*



*Attachment 1: Draft 2030 General Plan
Land Use Element*

CITY of LOMPOC

2030 General Plan

LAND USE ELEMENT

INTRODUCTION AND AUTHORITY

The Land Use Element is a mandatory element of the General Plan. Section 65302(a) of the Government Code states that the Land Use Element must designate “the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The Land Use Element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan.”

The Land Use Element of the General Plan establishes Lompoc’s vision and fundamental land use philosophy, including directing development to the most suitable locations, and maintaining the environmental, social, physical, and economic health and vitality of the area. The element therefore focuses on the organization of the community's physical environment into logical, functional, and visually pleasing patterns that are consistent with local social values. Of primary concern are the *type, intensity, location, and character* of land uses that will be permitted in the future.

Lompoc’s land use pattern is well established with major changes to the overall land use pattern not anticipated in this planning period. Future growth will primarily consist of infill development, some build-out of areas at the outer portion of the urban boundary, minor extension of rural residential development, and additional recreational land uses at the edge of the urban area. Nevertheless, as development occurs, the City will continue to face significant challenges. Lompoc’s natural setting and significant environmental features need to be protected and preserved, and at the same time, private property rights must be recognized and respected.



LAND USE ELEMENT

The overall intent of the Land Use Element is to:

- ❖ Direct the amount and location of land uses in conformance with forecasted growth needs, environmental carrying capacities, and the other goals of the General Plan.
- ❖ Within the constraints of these carrying capacities, provide a distribution of land uses that maintains, yet also enhances the environmental, social, physical, and economic well-being of Lompoc.

Specific goals, policies, implementation measures, and definitions of the Land Use Element comprise the balance of this element.

GOALS AND POLICIES

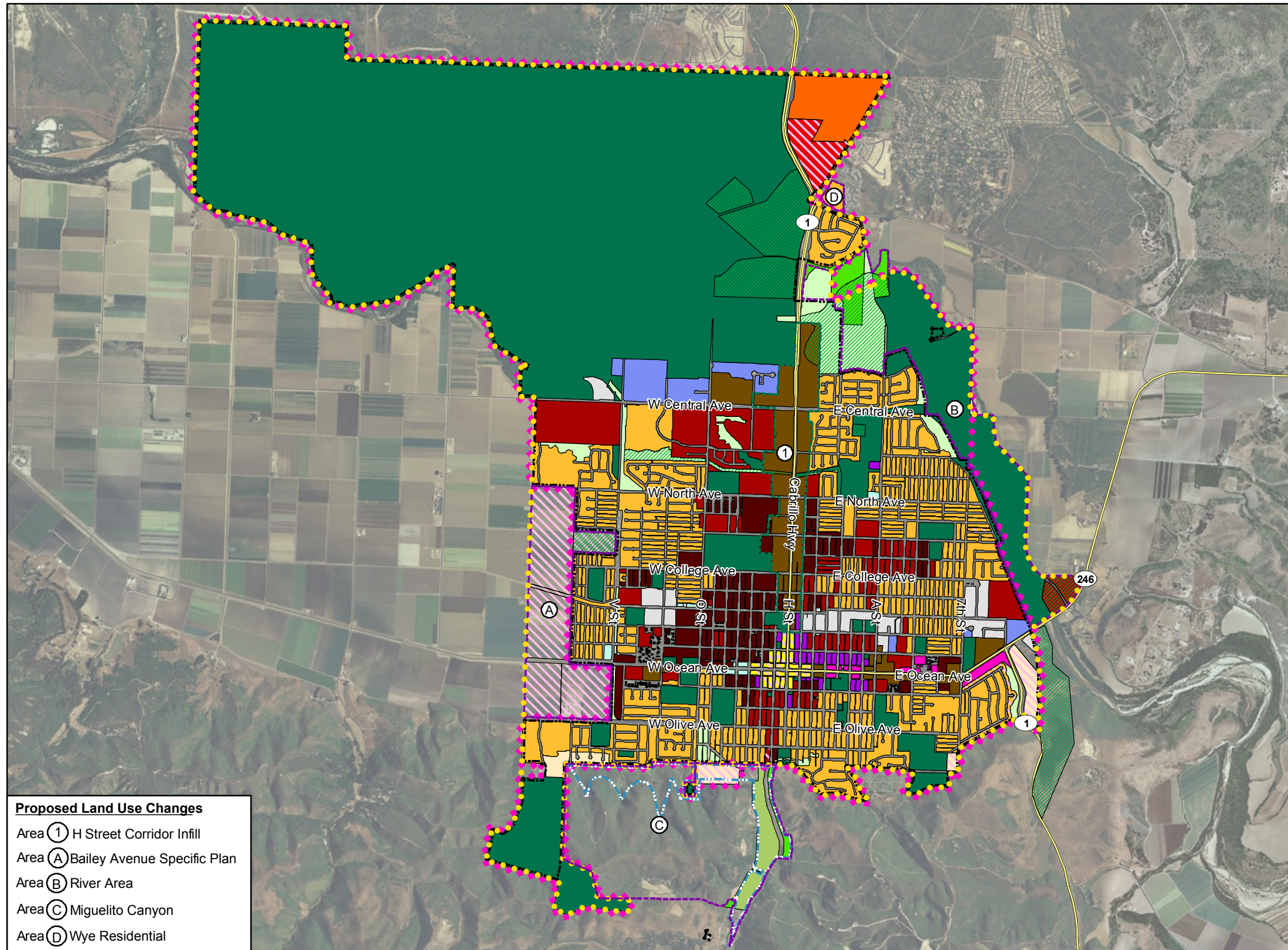
Goal 1

Maintain a compact urban form and growth pattern which provides adequate space to meet housing, employment, business, and public service needs.

Policies

- Policy 1.1 The General Plan Land Use map in Figure LU-1 is hereby adopted. The General Plan Land Use map establishes the future distribution, extent, and geographic locations of the various land uses within the City of Lompoc. The standards applicable to each of the various use categories are set forth in Table LU-1 below.
- Policy 1.2 The City shall maintain a compact urban form by delineating an Urban Limit Line which establishes the ultimate edge of urban development within the City. Refer to Table LU-1 for additional information on the Urban Limit Line.





Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential

- LEGEND**
- H Street Corridor Infill Area
 - Existing City Urban Limit Line
 - Proposed Area to be Added to City Urban Limit Line
 - Draft Annexation Areas (Subject to LAFCO approval)
 - Existing City Limits
 - Existing City Sphere of Influence
 - Park Overlay

- General Plan Land Use Designation**
- Agriculture
 - Open Space
 - Business Park
 - Community Facility
 - General Commercial
 - Neighborhood Commercial
 - Office Commercial
 - Old Town Commercial
 - Mixed Use
 - Industrial
 - Specific Plan
 - Rural Residential
 - Very Low Density Residential
 - Low Density Residential
 - Low Density Residential 2.5 Units Per Acre
 - Low Density Residential 4.6 Units Per Acre
 - Medium Density Residential
 - High Density Residential



Note: This is one of a series of maps and textual material which, combined, constitute the development policies of the city of Lompoc. Allowable land uses for given parcels of land cannot be determined solely by reference to this map.

Base map source: City of Lompoc, 2008. Map images copyright © 2008 ESRI and its licensors. All rights reserved. Used by Permission.

Land Use Element Map

Figure LU-1

LAND USE ELEMENT

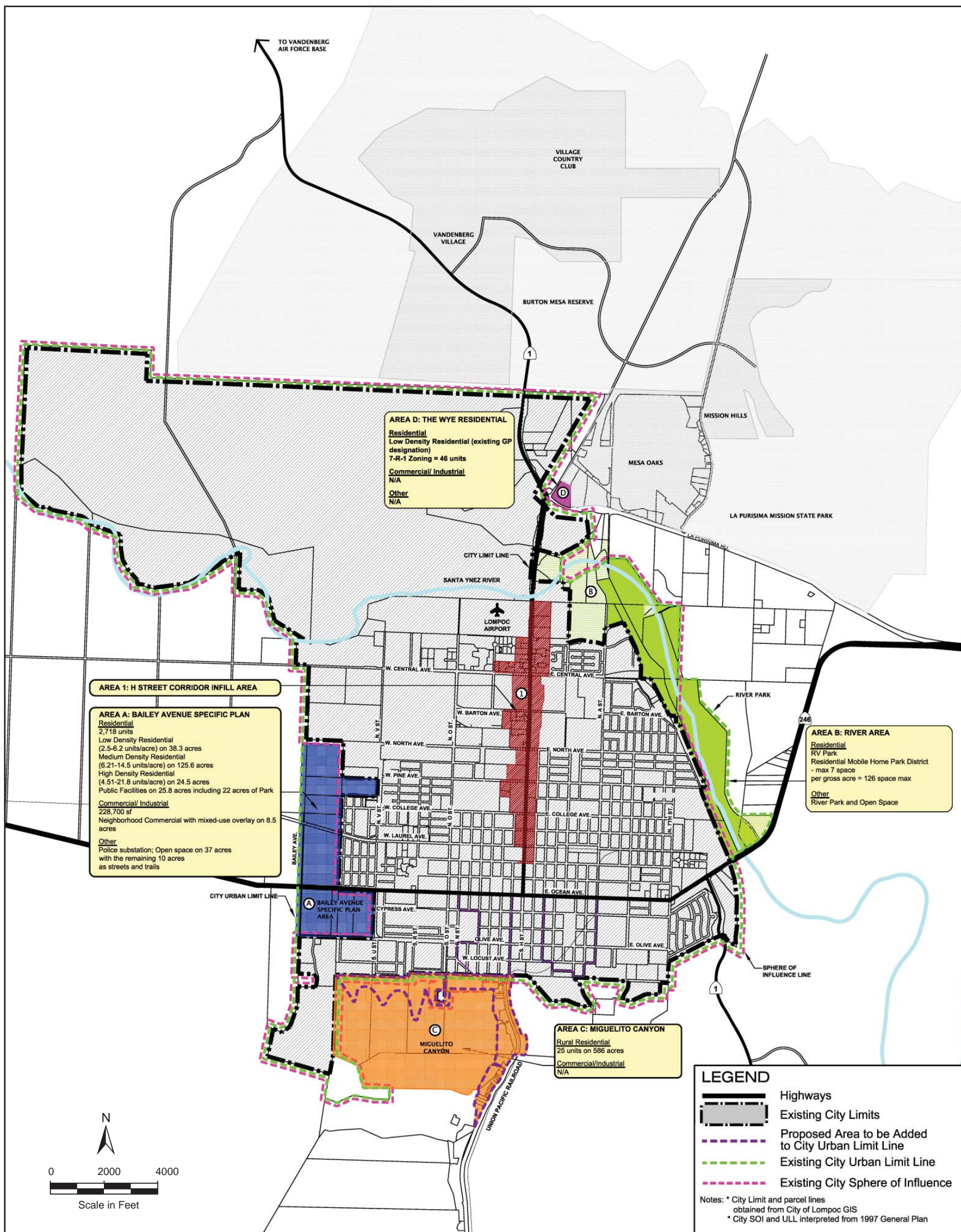
- Policy 1.3 The City shall encourage development of under-developed and vacant land within its boundaries, and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue.
- Policy 1.4 The City shall encourage Santa Barbara County and the Local Agency Formation Commission to plan urbanization within municipalities in order to protect prime agricultural land outside the Urban Limit Line and to efficiently utilize public infrastructure.
- Policy 1.5 The City's Sphere of Influence is depicted on the Land Use Element Map. The Sphere of Influence delineates the probable ultimate physical boundaries and service area of the City. Refer to Table LU-1 for additional information on the Sphere of Influence.
- Policy 1.6 Areas identified by the City for potential annexation and their land use designations are depicted on Figure LU-2. These lands include:
- Expansion Area A: the Bailey Area Specific Plan Area
 - Expansion Area B: the River Area
 - Expansion Area C: the Miguelito Canyon Area
 - Expansion Area D: the Wye Residential Area
- Policy 1.7 The City shall encourage infill development to meet City residential and commercial growth needs. The City designates the H Street Corridor Infill area as shown on Figure LU-2 as particularly suitable to infill development and shall prescribe specific design and zoning standards for this corridor. Additional information on the intent of the H Street Corridor Infill area is provided in Table LU-1.



LAND USE ELEMENT

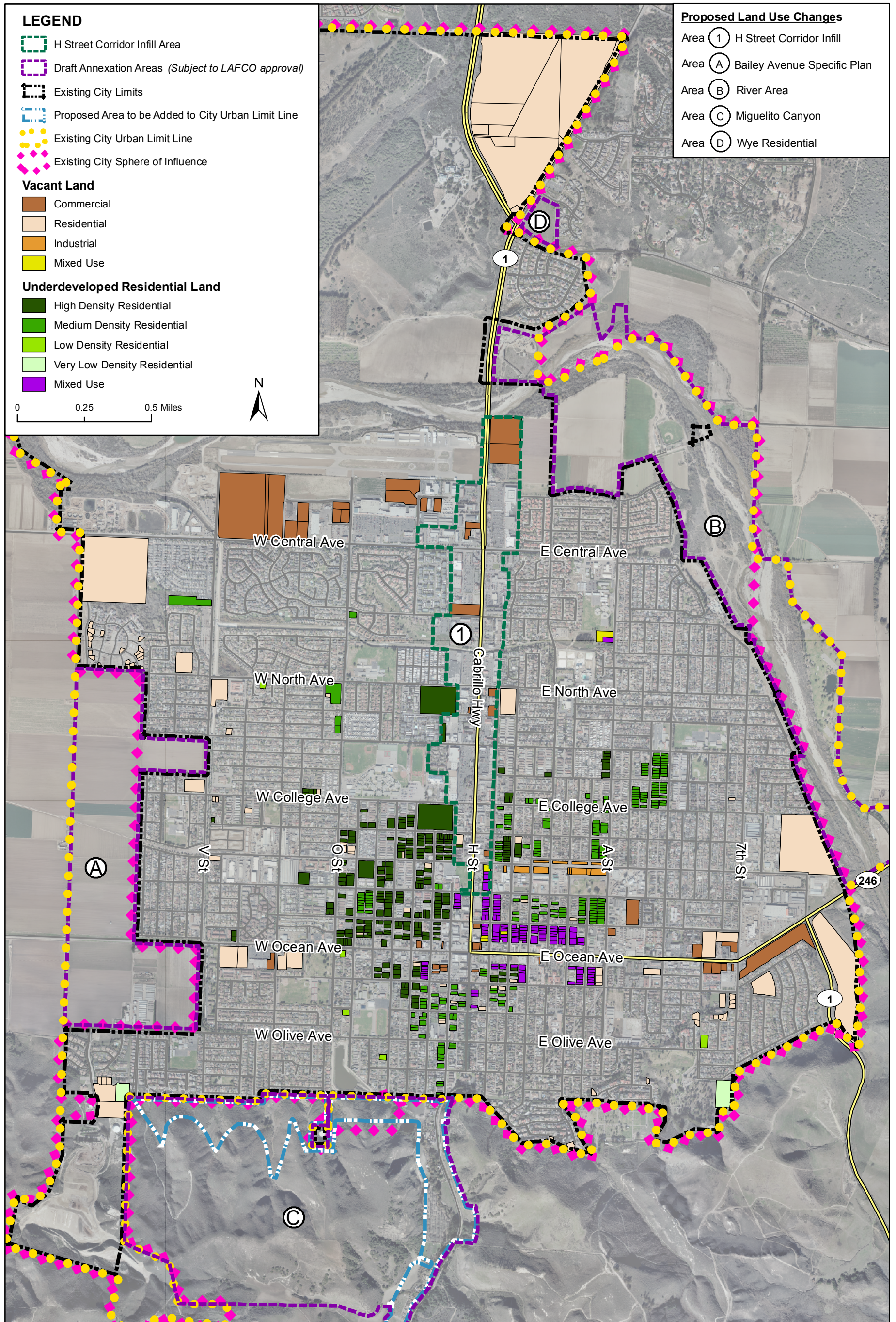
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Proposed Land Use Changes

Figure LU-2
 City of Lompoc



Vacant and Underdeveloped Parcels Map

Figure LU-3
 City of Lompoc

Goal 2

Protect and enhance the quality of life of Lompoc residents through the creation and maintenance of affordable, attractive, and well-served residential and mixed-use neighborhoods.

Policies

- Policy 2.1 The City shall encourage residential developments to provide amenities and features that provide convenient access by pedestrians and bicyclists to commercial areas.
- Policy 2.2 The City shall protect residential neighborhoods from encroachment by adverse or incompatible non-residential uses (for example, intensive agriculture or industry) and impacts associated with those non-residential uses, including impacts to neighborhood character.
- Policy 2.3 The City shall require provision of permanent buffer or transitional areas as part of new residential development adjacent to areas designated for commercial or industrial uses, except where mixed-use development may be appropriate.
- Policy 2.4 The City shall encourage creative and efficient site designs in residential developments which address natural constraints, promote energy efficiency and overall sustainability, protect aesthetic qualities, and maintain neighborhood character.

Goal 3

Encourage economic development by providing and maintaining opportunities for a diversity of commercial and industrial enterprises to meet the goods, services, and employment needs of Lompoc City and Valley residents, as well as to attain a balance of employment and housing within the Lompoc Valley.



LAND USE ELEMENT

Policies

- Policy 3.1 The City shall ensure that a sufficient and balanced supply of land continues to be available for residential, commercial, and industrial uses, with priority given to under-developed and vacant land within the City boundaries.
- Policy 3.2 The City shall encourage mixed-use development in appropriate areas to provide opportunities for a jobs and housing balance at the community and neighborhood level. The H Street Corridor Infill Area is designated as an area appropriate for mixed-use development and redevelopment.
- Policy 3.3 The City shall protect existing commercially- and industrially-designated lands to ensure adequate space for non-residential development, to attract new business and employment centers, and to help achieve a jobs to housing balance in the City.
- Policy 3.4 The City shall continue to offer incentives for new development that provides a substantial benefit to the community, such as the provision of higher-paying jobs, generation of increased transient occupancy taxes, and/or promotion of Lompoc as a visitor destination. Incentives may include City assistance with or pursuit of Community Block Development Grant and Redevelopment Agency funds.
- Policy 3.5 The City shall encourage development and redevelopment of the H Street Corridor Infill Area and Old Town Specific Plan Area to revitalize these areas and provide a diverse and vibrant focal point for business. New commercial and mixed use development should be encouraged, and such new development should incorporate site design and layout that provides an inviting pedestrian-oriented environment in keeping with the Urban Design Element, Old Town Specific Plan, and the H Street Corridor Infill Overlay standards, as applicable, to encourage similar development in these areas. Strategies to revitalize these areas may include the use of redevelopment funds for infrastructure improvements and upgrades to encourage infill development of vacant or underutilized lots.
- Policy 3.6 The unique character of Old Town should be retained, and the City, in its review of expansion and redevelopment of properties within and near Old Town, should encourage projects that further efforts in making Old Town



a destination, one that provides services for residents and visitors alike and that supports unique, independent businesses.

- Policy 3.7 The City shall review and comment on proposals for new commercial or residential development outside of, but in close proximity to, the City limits if such development would have a negative impact on the City's fiscal health.
- Policy 3.8 The City shall consider using a portion of the Transient Occupancy Tax to promote tourism and the visitor industry in Lompoc.

Goal 4

Provide and maintain high-quality public facilities and services.

Policies

- Policy 4.1 The City shall ensure that a sufficient supply of land continues to be available for community facility and institutional uses.
- Policy 4.2 The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development.
- Policy 4.3 The City, in cooperation with the Lompoc Unified School District, shall continue to identify adequate school sites on the Land Use Element map.
- Policy 4.4 The City shall ensure that the impact of airport activities on sensitive land uses (e.g. airport-related noise) is minimized and that land uses in the vicinity of the Lompoc Airport are compatible with current and planned airport operations.
- Policy 4.5 The City shall continue to allow places of religious assembly to locate in areas where traffic, parking, and neighborhood conditions permit.
- Policy 4.6 To ensure that requested annexations do not negatively impact City fiscal health, such requests shall be accompanied by a study that analyzes the fiscal impact to the City presented by the annexation. The City shall not approve annexation requests unless it can be demonstrated: 1) that the annexation promotes orderly development commensurate with available resources; 2) that the annexation proposal would result in a positive



LAND USE ELEMENT

relationship between city facility and service costs and the revenues generated subsequent to the annexation, and 3) that the annexation substantially furthers the City needs for new or expanded parks, open space areas, and/or other public facilities.

Goal 5

Protect the City's and Lompoc Valley's natural resources.

Policies

- Policy 5.1 The City shall maintain Open Space designations for areas used for the preservation of scenic beauty, natural resources, or outdoor recreation; or the managed production of resources, including groundwater recharge; or the protection of public health & safety. Groundwater recharge areas shall be protected from incompatible uses that would substantially inhibit aquifer recharge or degrade groundwater quality..
- Policy 5.2 The City shall protect prime agricultural lands east of the City and west of Bailey Avenue.
- Policy 5.3 To help preserve agriculture on a regional basis, the City shall encourage Santa Barbara County to protect the most productive agricultural soils (Class 1 & 2) in the Lompoc Valley and surrounding areas.
- Policy 5.4 Development proposals in the vicinity of natural objects that have unique aesthetic significance shall not be permitted to block, alter, or degrade existing visual quality without the provision of suitable visual enhancement. This may include open space, eucalyptus groves, or vegetation that serves as a view corridor or has important visual attributes. Development proposals shall be sited to ensure that these features are retained or replaced to the extent feasible, resulting in minimal view impairment.
- Policy 5.5 Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, shall be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors or protect public health, safety, and welfare. If specific trees are removed, such as eucalyptus trees, replacement trees at the appropriate density (native species when



possible) shall be substituted to provide suitable screening while retaining important view corridors.

- Policy 5.6 The City shall limit development on slopes of 20% or greater by designating parcels with a substantial portion of the site containing steep slopes as Open Space, Community Facility (particularly parks), Rural Residential or Very Low Density Residential designations.
- Policy 5.7 Development on slopes exceeding 20% shall be avoided if other less steep areas are available for building sites on a given property. Any development on slopes exceeding 20% shall minimize grading and avoid interruption of ridgelines. Development on slopes exceeding 20% shall also be subject to Architectural Review by the City to minimize potential aesthetic impacts.

Goal 6

Protect the community against natural and man-made hazards.

Policies

- Policy 6.1 The City shall maintain Open Space designations for areas that require special management due to hazardous, safety, or public health considerations.
- Policy 6.2 The City shall maintain an Open Space designation for all areas in which topographic, geologic, or soil conditions indicate a significant danger to future occupants.
- Policy 6.3 The City shall require that all property owners located within an Airport Safety Area identified in the Santa Barbara County Airport Land Use Plan shall be notified, through property disclosure or other legal notice that runs with the land, that the property is within an officially designated Airport Safety Area.

Goal 7

Protect and encourage agriculture and agricultural-support businesses.



LAND USE ELEMENT

Policies

- Policy 7.1 The City shall assist agricultural–support businesses to expand and/or relocate in the Lompoc Valley.
- Policy 7.2 The City shall work with law enforcement agencies from Santa Barbara County to protect agricultural areas from theft and vandalism.
- Policy 7.3 The City shall encourage agricultural education programs conducted by local farming organizations.
- Policy 7.4 The City shall encourage the use of sustainable agricultural practices, including organic farming.
- Policy 7.5 The City should protect and enhance the agricultural industry, as well as other specialty crops that are unique to the region.
- Policy 7.6 The City shall require provision of permanent buffer areas as part of new residential development adjacent to areas designated for agriculture. Such buffer areas are intended to provide a separation of uses and limit interference with agricultural activities while still providing for public safety. (This policy also pertains to [Goals #5 and #6.](#))

Goal 8:

Provide for quality infill development in developed areas of the City, and encourage high–quality infill projects and redevelopment of under–utilized and blighted areas in the City.

- Policy 8.1 The City shall encourage high–quality infill and redevelopment projects to revitalize the community.
- Policy 8.2 The City shall promote infill development, rehabilitation, and reuse that contributes positively to the surrounding area and assists in meeting neighborhood and other City goals.
- Policy 8.3 The City shall promote revitalization of the Old Town Specific Plan Area through attractive redevelopment of public and private facilities, whenever such projects are undertaken.



- Policy 8.4 The City shall promote revitalization of the H Street corridor to serve community needs through attractive redevelopment of public and private properties.
- Policy 8.5 The City shall require commercial, industrial, civic, and institutional development to be designed in ways that minimize conflicts with adjacent homes and neighborhoods.
- Policy 8.6 The City shall encourage co-location of development and mixed uses to enhance the community’s image and convenience within or near public transit facilities.
- Policy 8.7 The City shall encourage development to be pedestrian-friendly and convenient for transit.
- Policy 8.8 The City shall use design guidelines and standards to ensure that development is at an appropriate scale for the neighborhood, has landscaping, and that the façade shows variations in materials and in architectural features.
- Policy 8.9 The City should strive to eliminate regulatory obstacles and create more flexible development standards for infill development.
- Policy 8.10 The City should strive to provide infrastructure improvements to allow for increased infill development potential.
- Policy 8.11 The City should strive to provide focused incentives and project assistance to assist in infill development in target areas and sites.
- Policy 8.12 The City shall engage the community to ensure new infill development addresses neighborhood concerns and to gain greater acceptance and support for infill development.



LAND USE ELEMENT

Table LU-1 General Plan Land Use Categories and Definitions	
Land Use Definitions	
<i>Residential Land Uses</i>	
<p>RDR* Rural Density Residential</p> <p>* Note: this land use designation only applies to the Miguelito Canyon Expansion Area and will be excluded from this table should the Miguelito Canyon Expansion Area not proceed.</p>	<p>Purpose To provide rural residential areas on the fringe of urban development in the Miguelito Canyon Area at densities which provide the selection of appropriate building sites and protect the area's natural features and resources. To provide residential areas suitable for the development of custom homes in a rural setting.</p> <p>Description Large-lot detached single-family homes on properties with steep hillsides, prominent bluffs, or adjacent to farmland. Appropriate uses include light agricultural activities and single-family detached dwellings.</p> <p><i>Allowable Building Density¹:</i> <i>0.2 DU/net acre</i></p> <p><i>Anticipated Maximum Population Intensity²:</i> <i>1 persons/net acre</i></p>
<p>VLDR Very Low Density Residential</p>	<p>Purpose To provide semi-rural residential areas on the fringe of urban development at densities which protect the area's natural features and resources. To provide residential areas suitable for the development of custom homes in a setting which maximizes privacy.</p> <p>Description Large-lot detached single-family homes on properties with prominent bluffs, steep hillsides, or adjacent to farmland. Appropriate uses include light agricultural activities and single-family detached dwellings.</p> <p><i>Allowable Building Density¹:</i> <i>2.2 DU/net acre</i></p> <p><i>Anticipated Maximum Population Intensity²:</i> <i>6 persons/net acre</i></p>



LAND USE ELEMENT

**Table LU-1
General Plan Land Use Categories and Definitions**

<p>LDR Low Density Residential</p> <p>Includes the following sub-categories:</p> <ul style="list-style-type: none"> • LDR-2.5 • LDR-4.6 • LDR-6.2 <p>The number indicated in these sub-categories corresponds to the allowable building density.</p>	<p>Purpose To provide residential areas which promote and encourage a suitable environment for life on a neighborhood basis.</p> <p>Description Residential areas free of physical or natural resource constraints, containing a mixture of housing designs, architectural styles, physical amenities, and recreational opportunities which stimulate a sense of neighborhood identification accessed by local roads and collector streets. Appropriate uses include single family dwellings and mobile homes. The lower density sub-categories (LDR-2.5 and LDR-4.6) apply to the Burton Mesa Specific Plan Area. Additional guidance on development and uses in these sub-categories is provided in the Burton Mesa Specific Plan.</p> <p><i>Allowable Building Density (LDR-2.5): 2.5 DU/net acre</i></p> <p><i>Anticipated Maximum Population Intensity: 7 persons/net acre</i></p> <p><i>Allowable Building Density (LDR-4.6): 4.6 DU/net acre</i></p> <p><i>Anticipated Maximum Population Intensity: 13 persons/net acre</i></p> <p><i>Allowable Building Density (LDR-6.2): 6.2 DU/net acre</i></p> <p><i>Anticipated Maximum Population Intensity: 18 persons/net acre</i></p>
<p>MDR Medium Density Residential</p>	<p>Purpose To provide residential areas which are in close proximity to schools, shopping, and other services; and which are at densities that are responsive to the economic considerations of developing affordable ownership housing and rental housing at various price levels. This category provides a buffer between lower-</p>



LAND USE ELEMENT

Table LU-1 General Plan Land Use Categories and Definitions	
	<p>density detached-housing areas, higher-density multiple-family areas, and commercial areas.</p> <p>Description This designation allows for a mixture of unit types among single-family and multiple-family attached housing options along major roads, generally adjacent to commercial areas. Appropriate uses include mobile homes, townhouses, duplexes, triplexes, four-plexes, and low-rise apartments.</p> <p><i>Allowable Building Density: 6.2-14.5 DU/net acre</i></p> <p><i>Anticipated Maximum Population Intensity: 41 persons/net acre</i></p>
<p>HDR High Density Residential</p>	<p>Purpose To provide residential areas which offer convenient pedestrian access to commercial services and give local residents the opportunity to live near employment centers. This designation can also stimulate reinvestment in older-established areas which can accommodate higher densities.</p> <p>Description This designation provides the greatest proportion of the community's multiple family housing opportunities and is located near shopping centers and centers of employment. Access is provided by major roadways, arterials, and collectors. Appropriate uses include single-story and multi-story apartment buildings and mobile homes.</p> <p><i>Allowable Building Density: 14.5-22.0 DU/net acre</i></p> <p><i>Anticipated Maximum Population Intensity: 62 persons/net acre</i></p>



**Table LU-1
General Plan Land Use Categories and Definitions**

<i>Commercial and Mixed-Use Land Uses</i>	
<p>NC Neighborhood Commercial</p>	<p>Purpose To provide commercial areas which promote a sense of neighborhood identification by satisfying the need for convenient shopping and retail service opportunities on a neighborhood basis. To provide commercial areas adjacent to residential areas which encourage pedestrian travel to meet basic commercial needs.</p> <p>Description Commercial areas which offer shopping and services to satisfy the day-to-day needs of local neighborhoods and work places accessed by local roads and collector streets. Appropriate uses include "mom and pop" food stores, convenience stores, barber or beauty shops, laundromats, cleaners, and shoe repair shops.</p> <p><i>Allowable Building Density:</i> 0.50 FAR <i>Anticipated Maximum Population Intensity:</i> not applicable</p>
<p>OC Office Commercial</p>	<p>Purpose To provide commercial areas for business, medical, and professional offices outside of the Old Town area which are easily integrated into adjacent residential areas. This category provides a buffer between residential areas and major roadways.</p> <p>Description Commercial areas which offer professional and business services to the City and region accessed by major roadways and arterials. Appropriate uses include professional offices, medical clinics and laboratories, and other commercial facilities which provide services rather than goods.</p>



LAND USE ELEMENT

Table LU-1 General Plan Land Use Categories and Definitions	
	<p><i>Allowable Building Density:</i> 0.75 FAR</p> <p><i>Anticipated Maximum Population Intensity:</i> not applicable</p>
<p>OTC Old Town Commercial</p>	<p>Purpose To provide pedestrian-oriented commercial areas made up of street-front stores and offices that have a sufficient variety and depth of goods and services to meet the retail, business, and cultural needs of residents of the City and region. To provide limited residential opportunities which are in close proximity to the area's goods, services, and amenities.</p> <p>Description Commercial areas which provide retail and professional business services to City and regional residents accessed by major roadways and arterials in conjunction with Old Town single-level and multi-level parking areas. Development in these areas will be integrated with public and private open spaces designed to enhance the pedestrian experience. Appropriate uses include general retail, non-retail services, and offices. Commercial uses are allowed on all floors of buildings within this land use designation. Residential uses are also allowed as a secondary use in conjunction with on-site commercial uses. Buildings with H Street or Ocean Avenue frontage shall be commercial on the first floor. Residential units are permitted on upper floors of buildings fronting H Street or Ocean Avenue and on all floors of buildings not fronting H Street or Ocean Avenue. Residential access could be on the first floor but in the rear of the building. This category differs from the General Commercial category by emphasizing pedestrian-oriented businesses.</p>



LAND USE ELEMENT

<p>Table LU-1 General Plan Land Use Categories and Definitions</p>	
	<p><i>Allowable Building Density:</i> 2.0 FAR with up to 50% of floor area available for residential use at 20.0–44.0 DU/net acre</p> <p><i>Anticipated Maximum Population Intensity:</i> 124 persons/net acre</p>
<p>GC General Commercial</p>	<p>Purpose To provide commercial areas for a wide variety of retail, office, and service-oriented enterprises which meet the needs of residents and visitors. To accommodate commercial uses which operate more effectively outside the other commercial areas of the community.</p> <p>Description Commercial areas characterized by a variety of retail, office, and visitor-oriented businesses that rely upon automobile access rather than pedestrian access. This category provides a wide range of goods and services accessed by high volume roadways. Appropriate uses include destination retail, community and regional shopping centers, visitor-oriented businesses, and automobile oriented business.</p> <p><i>Allowable Building Density:</i> 0.50 FAR</p> <p><i>Anticipated Maximum Population Intensity:</i> not applicable</p>
<p>MU Mixed Use</p>	<p>Purpose To provide areas for a mixture of pedestrian-oriented uses (e.g. commercial, residential, civic, cultural, and recreational) where each activity adds to the whole to produce a town center that is economically vibrant and socially inviting.</p> <p>Description Areas which provide a harmonious intermingling of pedestrian-oriented uses to meet the shopping,</p>



LAND USE ELEMENT

**Table LU-1
General Plan Land Use Categories and Definitions**

	<p>business, housing, and entertainment needs of City and regional residents accessed by streets, bicycles, and pedestrian ways in conjunction with shared single-level and multi-level parking areas. Appropriate uses include retail shops; business services; residential units; medical offices; and public and quasi-public uses of a recreational, educational, or religious type. . Buildings with H Street or Ocean Avenue frontage shall be commercial on the first floor. Residential units are permitted on upper floors of buildings fronting H Street or Ocean Avenue and on all floors of buildings not fronting H Street or Ocean Avenue. Residential access could be on the first floor but in the rear of the building.</p> <p><i>Allowable Building Density:</i> <i>All Commercial: 0.75 FAR</i> <i>All Residential: 14.5–44.0 DU/net acre</i> <i>Mixed Use: 1.00 FAR with 25% to 50% of the floor area for residential</i></p> <p><i>Anticipated Maximum Population Intensity:</i> <i>All Commercial: not applicable</i> <i>All Residential: 124 persons/net acre</i> <i>Mixed Use: varies</i></p>
<p>Industrial Land Uses</p>	
<p>BP Business Park</p>	<p>Purpose To provide areas for clean and attractive planned industrial centers on large, integrated parcels of land upon which all activities are conducted indoors.</p> <p>Description Attractive industrial areas for light manufacturing, research and development activities, storage and distribution facilities, administrative offices, and accessory uses. These areas are accessed by arterials and major roadways. Appropriate uses include aerospace-related activities and services, assembly and</p>



LAND USE ELEMENT

**Table LU-1
General Plan Land Use Categories and Definitions**

	<p>repair, industrial services, wholesaling, warehousing (with inside storage only), and administrative facilities. This category differs from the Light Industrial category by including commercial service uses which complement industrial services and operations.</p> <p><i>Allowable Building Density:</i> 0.75 FAR</p> <p><i>Anticipated Maximum Population Intensity:</i> Negligible</p>
<p>I Industrial</p>	<p>Purpose To provide areas for a wide range of industrial uses that may involve outdoor uses.</p> <p>Description Industrial areas which include all uses identified for the Industrial categories as well as manufacturing and distribution activities which require separation from residential areas. This category permits a wide range of industrial activities including manufacturing, assembling, mechanical repair, product storage, wholesale trade, heavy commercial (e.g. lumber yards), and accessory office and services.</p> <p><i>Allowable Building Density:</i> 0.50 FAR</p> <p><i>Anticipated Maximum Population Intensity:</i> Negligible</p>
<p><i>Community Facility, Open Space, and Agriculture Land Uses</i></p>	
<p>CF Community Facility</p>	<p>Purpose To provide areas to meet the public service, educational, recreational, social, and cultural needs of Valley residents.</p> <p>Description Public and quasi-public service facilities that serve the</p>



LAND USE ELEMENT

Table LU-1 General Plan Land Use Categories and Definitions	
	<p>community. Appropriate uses include governmental administrative offices, educational facilities, public safety facilities, hospitals, parks, libraries, museums, transit facilities, airport facilities, utilities, governmental maintenance yards, correctional facilities, and cemeteries. This designation may be provided on individual parcels. Proposed facilities are designated with a dashed border. The location of proposed facilities is intended to indicate the general area within which the respective Community Facility will be located. The specific size, location, and configuration of the Community Facility site will only be finalized through acquisition of a particular parcel.</p> <p><i>Allowable Building Density:</i> <i>1.00 FAR</i></p> <p><i>Anticipated Maximum Population Intensity:</i> <i>Negligible</i></p>
<p>OS Open Space</p>	<p>Purpose To provide areas which preserve scenic beauty; conserve natural resources; protect significant biological and cultural resources; provide opportunities for outdoor recreation and the enjoyment of nature; permit the managed production of natural resources; and protect public health and safety.</p> <p>Description Areas in which sensitive natural resource features, community concerns, or site constraints limit development. These areas provide the community with scenic views; provide groundwater recharge; contain biologically-significant habitats and cultural resource sites; provide outdoor recreation opportunities; are suitable for mineral resource extraction; and are subject to flood, wildland fire, noise, , topographic, soil, or safety hazards. Appropriate uses include recreation, trails, utility corridors, flood control facilities, agriculture, and resource extraction activities. This designation may be used on individual parcels to protect onsite resources or public health. Open Space</p>



LAND USE ELEMENT

**Table LU-1
General Plan Land Use Categories and Definitions**

	<p>setbacks are provided in the following locations, with minimum widths from the channel margins as noted:</p> <ul style="list-style-type: none"> • 100 Feet: Santa Ynez River • 50 Feet: Salsipuedes, San Miguelito, Sloans Canyon, and Davis Creeks <p><i>Allowable Building Density:</i> <i>Not Applicable</i></p> <p><i>Anticipated Maximum Population Intensity:</i> <i>Negligible</i></p>
<p>AG Agriculture</p>	<p>Purpose To provide areas outside the Urban Limit Line for the protection and preservation of agricultural land as well as the long term production of food, fiber, and local specialty crops.</p> <p>Description Cropland and range land which is intended to remain in agricultural use. Land in this category must total at least twenty acres in size (either individual parcels or contiguous parcels). This category includes a wide range of agricultural activities including grazing, cultivation, processing, packing, greenhouses, farm equipment storage, and incidental residential uses.</p> <p><i>Allowable Building Density:</i> <i>1 DU/20 acres</i></p> <p><i>Anticipated Maximum Population Intensity:</i> <i>Negligible</i></p>
<p>Overlay Designations</p>	
<p>HSC H Street Corridor Infill Area</p>	<p>Purpose To encourage development of vacant or underutilized properties along the H Street Corridor to improve the aesthetics of the area and create an economically vibrant and socially inviting environment. The intent is to provide a combination of economic incentives and policy support for the revitalization of this area and</p>



LAND USE ELEMENT

Table LU-1 General Plan Land Use Categories and Definitions	
	<p>for a more efficient, attractive, and pedestrian-friendly built environment. Another intent is to direct additional commercial and residential mixed uses into this corridor in keeping with economic development and urban infill goals and policies while providing enhanced opportunities for development that incorporates smart growth principals.</p> <p>A common feature in the evolution of communities of all sizes, infill refers to the incremental addition of new, renovated or adapted buildings within existing developed areas. Also older shopping centers and strip commercial areas that have failed provide an opportunity for land recycling. The benefits of infill housing include more efficient use of land, infrastructure and services; increased diversity of housing types especially smaller, more affordable units; and reduced pressure to develop previously unsettled areas that offer important ecological and/or recreational values.</p> <p>Description The H Street corridor provides the greatest opportunity for key infill projects in Lompoc. Large vacant and underutilized parcels have the potential to generate retail, office, and housing in mixed-use style developments along the corridor.</p> <p>Areas which provide a harmonious intermingling of pedestrian-oriented uses to meet the shopping, business, housing, and entertainment needs of City and regional residents with accommodations for access by automobiles, bicycles, and pedestrians alike. Vehicular parking is typically provided on-site with single-level and multi-level parking areas while still adhering to aesthetic considerations and design principles that invite pedestrians and bicyclists. Appropriate uses include retail shops; restaurants, hotels, business</p>



LAND USE ELEMENT

**Table LU-1
General Plan Land Use Categories and Definitions**

	<p>services; residential units; medical offices; and public and quasi-public uses of a recreational, educational, or religious type.</p>
<p>P Proposed Park</p>	<p>Purpose To identify proposed sites for the creation of public parks which address existing or anticipated community needs for active and passive recreation opportunities.</p> <p>Description Areas intended for the establishment of public park and recreational facilities to serve neighborhood, community, and regional needs of existing and future Lompoc Valley residents and visitors. Areas with this designation must have the potential to fulfill needs identified in the Parks and Recreation Element. Proposed sites are designated with dashed lines. The location of a proposed site is intended to indicate the general area where the proposed park will be located. The specific size, location, and configuration of the park site will only be finalized upon acquisition of one or more parcels.</p>
<p>S Proposed School</p>	<p>Purpose To provide proposed sites for the creation of public schools which address anticipated educational needs of the community.</p> <p>Description Areas intended for the establishment of public educational facilities to serve Lompoc Valley residents. The location of a proposed site is intended to indicate the general area where the proposed educational facility will be located. The specific size, location, and configuration of the educational facility site will only be finalized upon acquisition of one or more parcels.</p>



LAND USE ELEMENT

Table LU-1 General Plan Land Use Categories and Definitions	
<i>Boundary Lines</i>	
<p>ULL Urban Limit Line</p>	<p>Purpose The Urban Limit Line defines the ultimate edge of urban development within the City of Lompoc in order to: protect the natural features, scenic hillsides, and agricultural economy of the community; protect the health, safety, and welfare of community residents by directing development away from areas with hazards; and ensure that delivery of public services is provided in an efficient and cost-effective manner.</p> <p>Description Areas inside the Urban Limit Line are suitable for the development of residential, commercial, industrial, mixed-use, and community facility land uses. Open space and recreational activities are suitable uses inside and outside of the Urban Limit Line. Agricultural activities are permitted inside the Urban Limit Line as an interim use, pending urbanization. Long-term agricultural activities shall be outside of the Urban Limit Line. Urban development inside and adjacent to the Urban Limit Line shall be designed to incorporate buffer areas with trails or design features which serve to demarcate the urban edge of the community. Buffer areas should be at least 200 feet wide.</p>
<p>SOI Sphere of Influence</p>	<p>Description The probable ultimate physical boundaries and service area of the City, as determined by the Santa Barbara County Local Agency Formation Commission (in accordance with GC Section 56076). The existing Sphere of Influence is shown on the Land Use Element Map for informational purposes only.</p>

Notes:

¹ DU = Dwelling Unit. The DU/net acre describes the number of DU's permitted on an acre of land less the area required for streets and public right-of-way. The densities identified for the VLDR and LDR categories represent the maximum allowable densities in the respective areas. No minimum density is intended to apply to these categories. Densities which are less than those designated may be appropriate in some areas due to



hazards, resources, or the need to achieve land use compatibility. In the MDR and HDR categories, the range sets forth both a minimum and a maximum allowable density in order to ensure a sufficient land supply. FAR = Floor Area Ratio. The FAR indicates the maximum intensity of development of a parcel. The FAR is expressed as the ratio of building space to land area. For the purposes of this document, building space is defined as enclosed gross leasable space.

¹ Average population density indicates the expected number of persons per net acre living within residential areas. It is calculated by multiplying the maximum allowable dwelling units per net acre by the average citywide household size (2.88 according to 2000 census).



LAND USE ELEMENT

IMPLEMENTATION MEASURES

- Measure 1 The City shall amend the mixed-use development standards in the Zoning Ordinance to provide more effective incentives for mixed-use development. [Policy 3.2]
- Measure 5 The City shall amend the Zoning Ordinance to establish standards for the location of child care centers in all appropriate non-residential zones of the city. [Policies 3.1, 3.2]
- Measure 6 A Specific Plan shall be prepared to ensure the coordinated development of the Bailey Avenue Corridor, as shown on the map entitled "Bailey Avenue Corridor Boundaries", prior to approval of any tentative subdivision maps or development plans in the Bailey Avenue Corridor.
- Measure 10 The City shall amend the Zoning Ordinance to allow neighborhood gardens in the Open Space Zone and in recreational areas of residential developments. [Policy 7.4]
- Measure 12 The City shall assist the Lompoc Unified School District, Allan Hancock College, and local farming organizations to acquire funding or resources for the creation of a student experimental farm. [Policies 7.3 and 7.4]
- Measure 14 The City shall contact private land trusts involved in the protection of agricultural land to pursue long-term protection of agricultural land within the Study Area. [Policies 5.4, 7.1, and 8.1]
- Measure 15 The City shall continue to support the downtown farmer's market. [Policy 7.4]
- [Measure 16 The City shall amend the Zoning Code to incorporate Hillside Development Standards for development on parcels containing a substantial portion of slopes of 20% or greater. These Standards may include:
- a. Location of structures to avoid slopes of 20% or more where feasible;
 - b. Where avoidance is infeasible, conformance to the natural topography of the site;



- c. Use of imaginative and innovative building techniques and building designs compatible with natural hillside surroundings, including the use of stepped foundations;
- d. Grading limitations and erosion control techniques; and
- e. Avoidance of ridgeline development and vegetative screening to reduce visibility. [Policies 5.6 and 5.7]

Measure 17 The City shall amend the Zoning Ordinance to require Architectural Review for all structural development on slopes of 20% or greater. The process shall be designed to:

- a. Evaluate possible building site and design alternatives that better meet the goals and policies of the General Plan.
- c. Ensure consistency with Hillside Development Standards (refer to Implementation Measure 7). [Policies 5.6 and 5.7]

Measure 18 The City shall establish development standards that pertain to the H Street Corridor Infill Overlay Area as depicted on Figure LU-2 and shall set forth zoning standards that promote revitalization of this area. The City may identify corridor-specific public improvement projects and establish a funding mechanism and priority system for such improvements. The City may also consider changes to allowable and conditional uses for properties within the overlay area. Concurrent with the establishment of new development standards and uses, the City should consider if there still is a need for inclusion of the Planned Commercial District in the Zoning Ordinance and if such a need is not found, the remaining properties within the Planned Commercial Development District should be rezoned to the appropriate Commercial or Mixed Use zoning. The City should also amend its architectural review guidelines to include additional guidance for this overlay area. [Policy 1.7]

Measure 19 The City shall update development standards in the Zoning Ordinance to reflect changes to allowable building density and other changes that have been made as part of the General Plan update process.

Measure 20 The City shall support new development or redevelopment projects in the H Street Corridor Infill Area by expediting permit processing and review



LAND USE ELEMENT

when such projects are in keeping with standards and guidelines set forth for this area. [Policy 1.7]

Measure 21 The City shall amend the Zoning Ordinance to explicitly allow wine tasting rooms and winery-related facilities in appropriate commercial and industrial districts. [Policy 3.8]

Measure 22 The City shall convene a task force of community business leaders that will establish an economic development committee and prepare an economic development plan to further explore opportunities and constraints to economic development. The economic development committee should provide periodic reports to the City Council.

Measure 23 The City shall update the Old Town Specific Plan to incorporate new policy guidance provided in this element. The update of the Old Town Specific Plan shall also incorporate any changes to allowable density and residential component of mixed use developments to conform to guidance in this element.

Measure 24 The City shall update the design guidelines for the H Street Corridor Infill Area and the Old Town Specific Plan Area to include new or revised development standards.

Measure 25 The City shall investigate establishing a fair share funding mechanism for public improvements along the H Street Corridor Infill Area to provide aesthetic and infrastructure improvements.

Measure 26 The City should conduct an annexation study to identify potential lands for additional future industrial and manufacturing uses.

Infill Development Implementation Measures

Measure 27 The City should identify the market forces that attract the development community to infill areas through preparation of an economic analysis.

Measure 28 The City should revise City plans and ordinances to support infill development goals.

Measure 29 The City should develop an overlay district for infill properties along H Street. Work with Council to refine/define infill overlay boundaries.



- Measure 30 The City should develop a results oriented plan to revitalize H Street. This can be accomplished through preparation of a specific plan, corridor plan, or strategic plan.
- Measure 31 The City should develop strategies to improve the urban form of the H Street corridor. Require new development to place buildings adjacent to H Street with parking areas behind.
- Measure 32 The City should develop incentives to promote quality in-fill and explore other ways Lompoc can assist in providing compatible in-fill development. Sample incentives include:
- a. Allow the residential component of a project to be developed first in order to create customers for the retail component.
 - b. Relax parking requirements for infill projects in the Old Town and along H Street in order to attract investment. This incentive can be tied to a 'sunset' in order to encourage immediate investment.
 - c. Allow on-street parking to count toward the project's parking requirement.
 - d. Provide density bonuses for projects that include senior housing or workforce housing.
- Measure 33 The City should identify the circumstances where single use or mixed-use projects must be sensitive to the character and scale of surrounding neighborhoods.
- Measure 34 The City should use landscape techniques such as buffers, building scale, and other features to provide a soft edge transition to existing development for both residential and non-residential in-fill projects.
- Measure 35 The City should continue to include area residents and property owners in the review of infill projects.





*Attachment 2: Draft 2030 General Plan
Circulation Element*

CITY *of* LOMPOC

2030 General Plan

CIRCULATION ELEMENT

INTRODUCTION AND AUTHORITY

The Circulation Element is required by the Government Code [Section 65302(b)], which states that the Circulation Element must include “the general location and extent of existing and proposed major thoroughfares, transportation route, terminals, and...facilities, all correlated with the land use element of the plan.”

The Circulation Element of the Lompoc General Plan addresses broad issues of physical mobility – how goods and people move about into, out of, and within the community. Meeting the City’s transportation needs is one of the most comprehensive issues of the General Plan, and is related to land use, community design, air quality, energy consumption, and City infrastructure. Moreover, circulation issues are not simply local concerns, but require coordination with regional, state, and federal agencies, as well as adjacent communities.

The overall intent of the Circulation Element is to achieve and maintain a balanced, safe, and problem-free transportation system that:

- ❖ Provides easy and convenient access to all areas of the community
- ❖ Improves present traffic flows while maintaining Lompoc's rural, small town sense of place
- ❖ Protects major environmental features
- ❖ Reduces dependence on single occupant automobile travel by providing a high level of pedestrian, bicycle, and public transit travel opportunities
- ❖ Considers the movement of people and vehicles in the design and operation of transportation systems
- ❖ Recognizes the special mobility needs of seniors, youth, and persons with disabilities



CIRCULATION ELEMENT

- ❖ Preserves a sense of comfort and well-being throughout the community by minimizing the intrusiveness of commercial/business park and regional traffic on neighborhood streets and quality of life

Performance Objectives and Planned Improvements

The City shall maintain intersection traffic levels of service (LOS) at LOS C or better throughout the City, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections shall maintain a LOS in accordance with the most recent CMP standards (at LOS D or better), when it can be demonstrated that all feasible mitigation measures have been applied to the project and LOS C, with said mitigation, cannot be achieved. The standards are based on the actual function of these roadways. The CMP intersection standard reflects the fact that these intersections are subject to regional influences beyond Lompoc's control.

Lompoc will continue to require new developments to mitigate their traffic impacts, either through construction of circulation improvements, reduction in demand for vehicular travel, or payment of mitigation fees, which are to be based on the projected costs for planned system improvements and each new development's proportional share of the total traffic affecting the location where the improvement is planned. Planned improvements will be necessary to mitigate traffic impacts associated with proposed developments so that an acceptable level of service can be maintained. The mitigation requirement will continue to be proportional to the impact created by each new development and will recognize a fee credit to developers who construct portions of ultimate capacity enhancement improvements.

Specific goals, policies, implementation measures, and definitions of the Circulation Element comprise the balance of this element.



GOALS AND POLICIES

Goal 1

Maximize the efficiency, quality, and safety of a multi-modal circulation system which provides for the movement of people, goods, and services to serve the internal circulation needs of the City, while also addressing through-travel needs.

Policies

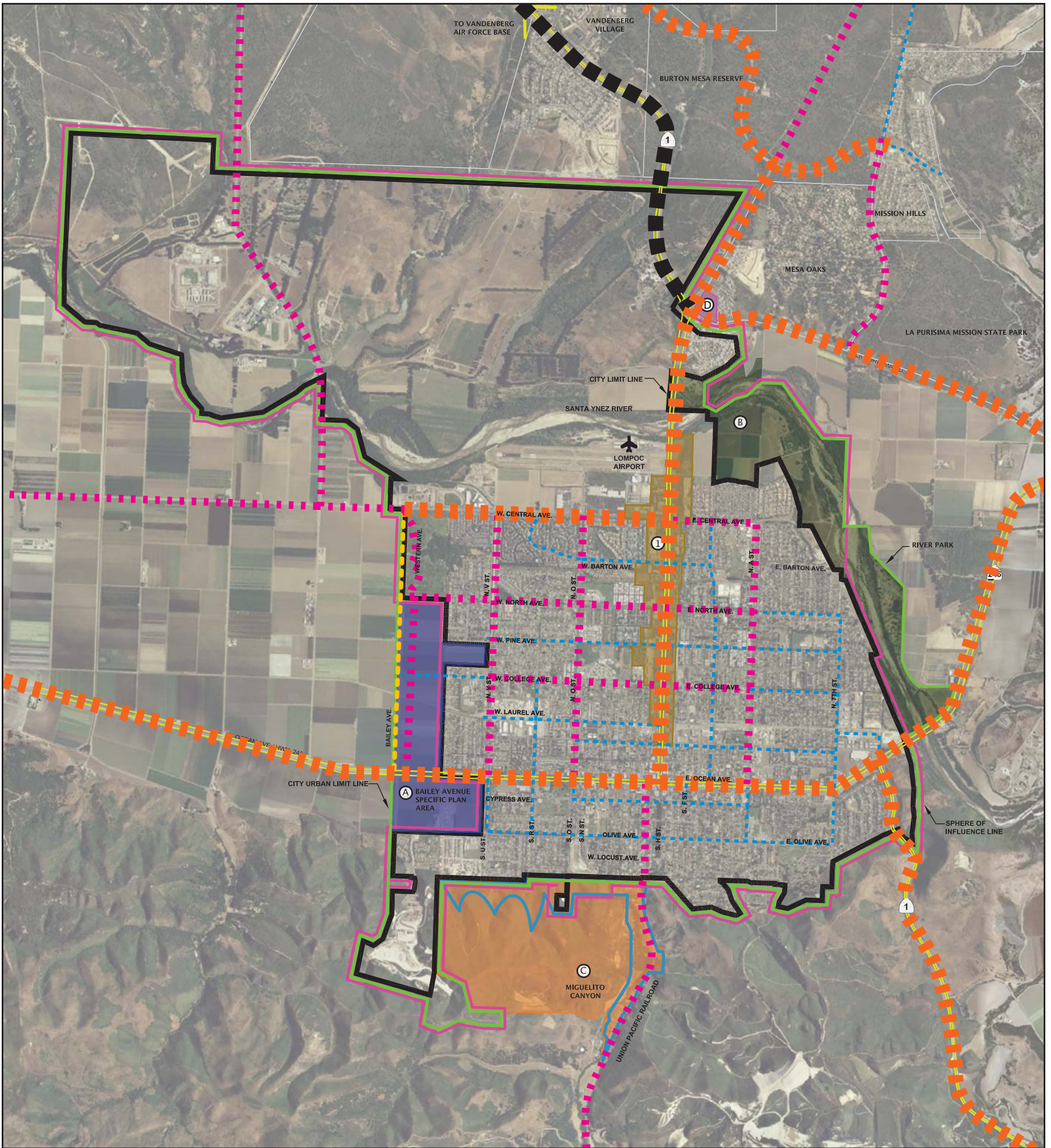
- Policy 1.1 The City shall use the Roadway Designations map, Bikeway Routes map, and Truck Routes map in establishing the location and design of roadways, bikeways, and truck routes, respectively.
- Policy 1.2 The City shall maintain intersection traffic levels of service (LOS) at LOS C or better throughout the City, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections shall maintain a LOS in accordance with the most recent CMP standards (at LOS D or better), when it can be demonstrated that all feasible mitigation measures have been applied to the project and LOS C, with said mitigation, cannot be achieved.
- Policy 1.3 The City shall assure that all improvements to the circulation system necessitated by new development are proportionately financed by the project sponsor.
- Policy 1.4 The City shall only allow development in areas where adequate circulation facilities and/or services, as defined in Policy 1.2, will be available at the time of development.
- Policy 1.5 The City shall maximize movement of through-traffic on expressways and arterials by encouraging efficient utilization of existing roadway capacity, and when necessary providing additional transportation capacity. For arterials, consideration should also be given to planned or future pedestrian and bicyclist facilities so that vehicular improvements are not at the expense of facilities and safety of these other modes of transportation.



CIRCULATION ELEMENT

- Policy 1.6 The City shall continue to require private roadways to be constructed and maintained to City standards.
- Policy 1.7 The City shall vacate or reduce under-utilized rights-of-way, where appropriate, while retaining access to utilities.
- Policy 1.8 The City shall require an adequate supply of private and public off-street parking to meet the needs of residents and visitors to the City [refer to Section 8851 of the Lompoc Zoning Ordinance (Schedule of Off-Street Parking Requirements)].
- Policy 1.9 The City shall ensure that developers of new commercial and mixed use areas provide adequate and convenient pedestrian access ways into adjacent residential neighborhoods.
- Policy 1.10 The City shall control access along expressways and arterials by limiting the number of intersections and driveways entering and exiting these high traffic roadways and by requiring that any development of new private driveways along such roadways does not introduce significant traffic conflicts.
- Policy 1.11 To avoid the creation of new traffic flow hazards, the City should require that future roads and improvements to existing roads be designed to minimize conflicting traffic movements such as overlapping use of turn lanes, curbside parking, and frequent stops.
- Policy 1.12 The City should improve mobility and access for disabled persons.





Base map source: City of Lompoc, 2009.

LEGEND

Roadway Designations

- Expressway
- Major Arterial
- Minor Arterial
- Collector Street
- Rural Road

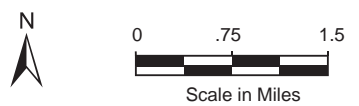
Additional Overlays

- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

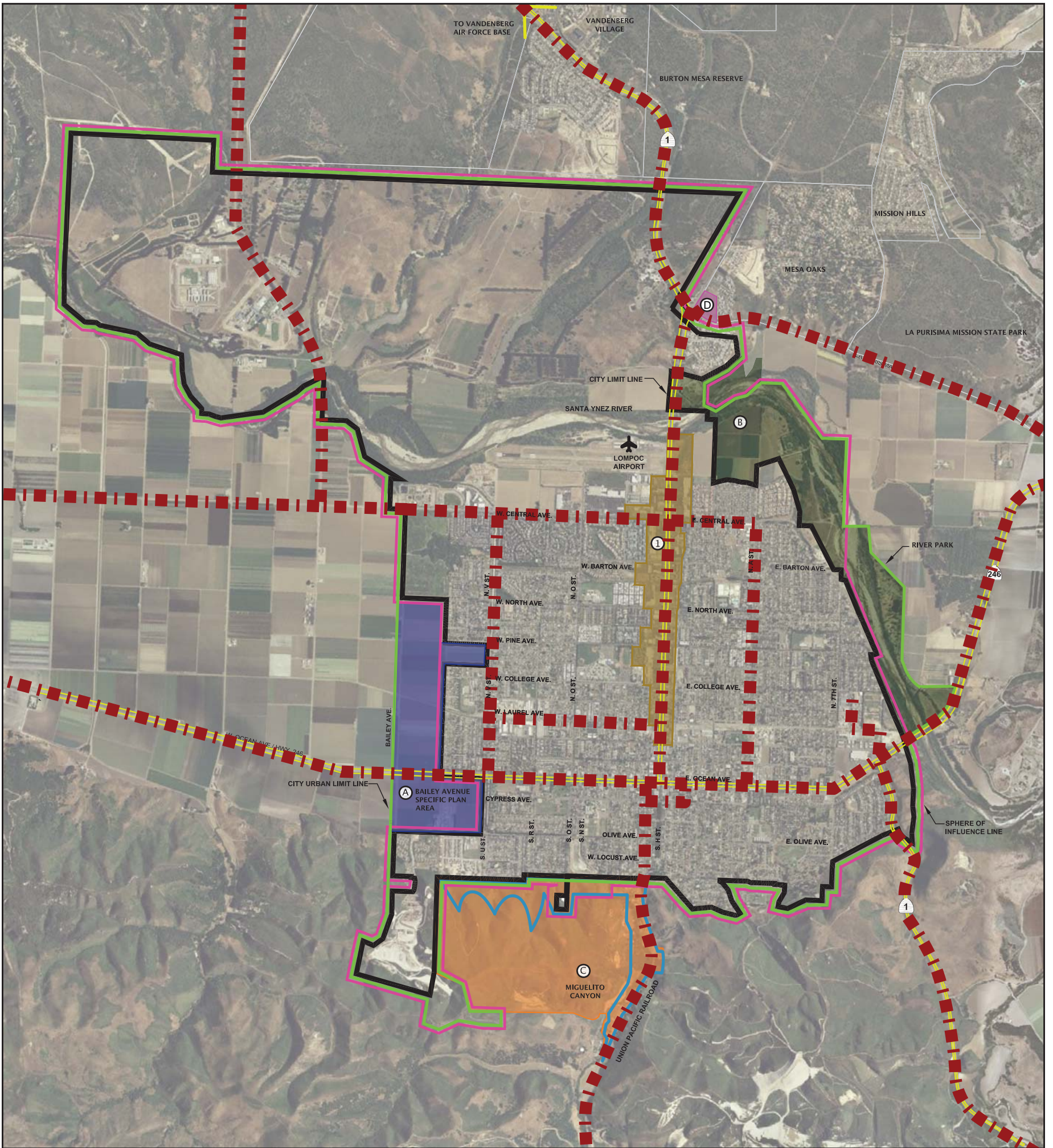
- Area ① H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan Area
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential

Notes: * City Limit and parcel lines obtained from City of Lompoc GIS
* City SOI and ULL interpreted from 1997 General Plan








Roadway Designations

Figure C-1
City of Lompoc



Base map source: City of Lompoc, 2009.

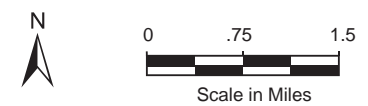
LEGEND

-  Truck Route
- Additional Overlays**
-  Existing City Limits
-  Proposed Area to be Added to City Urban Limit Line
-  Existing City Urban Limit Line
-  Existing City Sphere of Influence

Notes: * City Limit and parcel lines obtained from City of Lompoc GIS
 * City SOI and ULL interpreted from 1997 General Plan

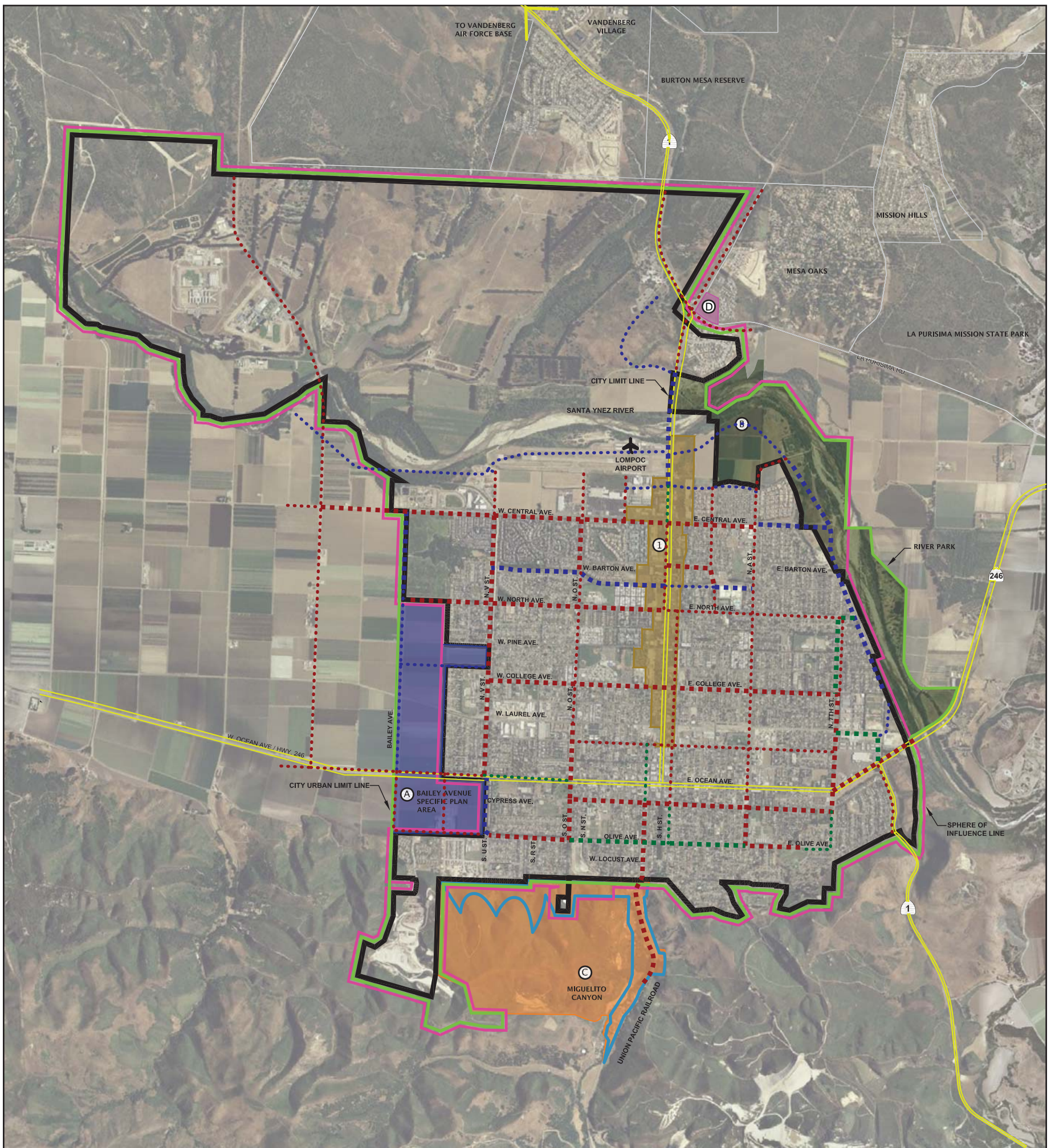
Proposed Land Use Changes

- Area ① H Street Corridor Infill
- Area ② Bailey Avenue Specific Plan Area
- Area ③ River Area
- Area ④ Miguelito Canyon
- Area ⑤ Wye Residential



Truck Routes

Figure C-2
 City of Lompoc



Base map source: City of Lompoc, 2009.

LEGEND

Bikeway Designations

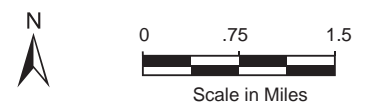
- Existing Class I
- Existing Class II
- Existing Class III
- Planned Class I
- Planned Class II
- Planned Class III

Additional Overlays

- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Proposed Land Use Changes

- Area 1 H Street Corridor Infill
- Area A Bailey Avenue Specific Plan Area
- Area B River Area
- Area C Miguelito Canyon
- Area D Wye Residential



Notes: * City Limit obtained from City of Lompoc GIS
 * City SOI and ULL interpreted from 1997 General Plan

Bikeway Routes

Figure C-3
City of Lompoc

Goal 2

Minimize the public's exposure to circulation-related noise and safety hazards.

Policies

- Policy 2.1 The City's truck routes shall be designated along corridors that minimize traffic-generated noise upon noise sensitive land uses (refer to Figure C-2).
- Policy 2.2 The City shall encourage regulatory agencies to designate routes away from urban and environmentally-sensitive areas for transportation of hazardous and explosive materials.
- Policy 2.3 The City shall ensure that approaches to intersection crosswalks and all adjacent street corners are illuminated by requiring all new commercial, entertainment, school and other pedestrian generating uses to provide lighting for pedestrians, for review and consideration by the City as part of the development review process.
- Policy 2.4 The City should encourage the provision of crosswalks along major access routes to all schools. For newly proposed schools, the City shall work with the school district to ensure the provision of crosswalks as part of development.
- Policy 2.5 As part of the development review process, the City should require a system of sidewalks or pathways for all new development to provide a safe environment for pedestrians and promote pedestrian use.
- Policy 2.6 The City shall consider the extent of vehicular through-traffic on local streets in new residential neighborhoods and should encourage the minimization of such through-traffic.



CIRCULATION ELEMENT

Goal 3

Maximize the use and convenience of alternative transportation modes to reduce reliance on automobile use and reduce the associated vehicular traffic-related emissions.

Policies

- Policy 3.1 The City shall provide and maintain a safe and convenient circulation system that encourages walking and that seeks to provide a continuous network of sidewalks and separated pedestrian paths connecting housing areas with major activity centers such as shopping areas, schools, and recreation.
- Policy 3.2 The City shall provide and maintain a safe and convenient circulation system that encourages bicycle travel.
- Policy 3.3 The City shall encourage programs and strategies including site design features that provide for ridesharing and transit use.
- Policy 3.4 The City shall provide safe and convenient transit service which strives to meet the needs of the transportation-disadvantaged including young, elderly, disabled, and low-income individuals. Such transit service should provide frequent, reliable and efficient service, with service hours that meet the needs of riders to maintain and increase the viability of public transit as an alternative to driving for Lompoc residents and commuting workers..
- Policy 3.5 The City shall encourage regional transportation services to accommodate the needs of commuters and ridesharing.
- Policy 3.6 The City shall facilitate the provision of lockers and secure enclosed long term parking areas for bicycles at appropriate places throughout the City and at multi-modal stations to extend the range of the bicycle commuter.
- Policy 3.7 The City shall continue to support transit including the COLT bus system and shall work cooperatively with appropriate jurisdictions and agencies to encourage the augmentation of roadway and transit facilities, which address local and regional travel needs.



CIRCULATION ELEMENT

- Policy 3.8 The City shall require, during the development review process, the dedication of land and/or construction of appropriate facilities to ensure a safe and efficient public transportation system.
- Policy 3.9 The City should encourage efforts by local employers to offer telecommuting and other work schedule modifications which reduce vehicular use.
- Policy 3.10 The City should require developers to provide bus shelters in high–usage locations, for example, in multi–family developments and within commercial areas. The City should consider the need for bus shelters and other transit facilities in City–sponsored redevelopment projects.
- Policy 3.11 The City shall require the construction of bus turnouts adjacent to new developments in locations which improve transit service, safety, and efficiency.
- Policy 3.12 The City shall encourage the inclusion of facilities that promote alternative modes of transportation, including bicycle lanes and connections, pedestrian and hiking trails, park and ride lots, and facilities for public transit into new development as well as existing development.
- Policy 3.13 The City supports safe and effective connectivity between adjacent neighborhoods for new development and encourages measures that increase connectivity for existing neighborhoods, where necessary and appropriate.



CIRCULATION ELEMENT

Goal 4

Protect and enhance the visual quality of Lompoc's circulation system.

Policies

- Policy 4.1 The City shall consider allowing narrower widths for roadways in hillside areas to minimize the amount of grading where safety, visibility, and traffic conditions permit.
- Policy 4.2 The City should maintain, and enhance where feasible, existing street trees, and shall encourage placement of new street trees in street frontage improvement projects.
- Policy 4.3 The following shall apply in the Old Town Specific Plan Area: The City should support new pedestrian crosswalks that incorporate features (for example, pavers or stamped, stained concrete) that enhance the aesthetics of the streetscape and pedestrian experience, while increasing visibility of the crosswalk and pedestrian safety. Lighting for pedestrian crossings shall be provided by decorative fixtures as set forth in the applicable design guidelines.
- Policy 4.4 The City shall encourage design of on-street parking to include decorative components that improve the appearance of the streetscape. The City shall require adherence to high aesthetic standards for on-street parking in the H-Street Corridor Infill area in accordance with applicable design guidelines.



IMPLEMENTATION MEASURES

- Measure 1 As part of the development review process, the City shall identify and require the paving of incomplete street widths and alleys where necessary to remove safety hazards. [Policies 2.3, 3.1, 3.2 and 3.4]
- Measure 2 The City shall identify locations where sidewalks and ramps are missing, or are in disrepair, and shall prioritize construction and repair of identified locations. Property owners shall be responsible for funding the construction of missing sidewalks and ramps in conjunction with new development. [Policies 1.1, 2.3 and 3.1]
- Measure 3 The City shall amend the Zoning Ordinance to require the provision of adequate bicycle facilities in development projects. [Policies 1.1, 1.2, 1.3, 3.2 and 3.4]
- Measure 4 As part of the development review process, the City shall integrate bicycle lanes or separate bikeways into street projects located along planned bicycle routes. [Policies 1.1, 1.2, 1.3 and 3.2]
- Measure 5 The City shall continue efforts to develop a pedestrian and bicycle trail system which connects major park and wildlife areas within the Lompoc Valley. Segments completed and designated for future development are depicted on Figure C-3 and on trails maps contained in the Parks and Recreation Element. [Policies 3.1 and 3.2]
- Measure 6 The City shall encourage Federal, state, and regional agencies to widen Robinson Bridge on SR 246. The City shall encourage the assurance of safe bicycle and pedestrian use as part of the widening project. [Policies 1.1, 1.2, 1.4, 2.3, 3.1 and 3.2]
- Measure 7 The City shall amend the Zoning Ordinance to allow park and ride facilities. [Policies 1.1, 3.2 and 3.4]
- Measure 8 The City shall review, and update as necessary, the Standard Requirements for the Design and Construction of Subdivisions and Special Developments regarding improvements in the public right-of-way (e.g. roads, bikeways, and sidewalks). [Policies 1.1, 1.2, 1.4, 2.3 and 4.3]



CIRCULATION ELEMENT

- Measure 9 The City shall limit on-street parking where feasible on certain roadways which are designated as bicycle routes in order to create new bicycle lanes and encourage bicycle travel. [Policies 1.1, 1.2 and 3.2]
- Measure 10 The City shall pursue funding from Federal, state, and regional agencies for the development of park-and-ride lots near major arterial roadways in the southeast and northern areas of the City. [Policies 1.1, 3.4 and 3.5]
- Measure 11 The City shall ensure that safe and convenient pedestrian and bicycle access is provided to the Allan Hancock College site. [Policies 1.1, 1.2, 1.3, 1.4, 3.1 and 3.2].
- Measure 12 The City shall examine and, if necessary, amend the Development Impact Fee Resolutions to ensure that transportation improvement necessitated by projects generating additional peak-hour trips are provided and improvements to bicycle lanes are funded. [Policies 2.3, 3.2 and 3.4]
- Measure 13 The City shall pursue funding from Federal, State, and regional agencies for funding maintenance of the City's transportation system.
- Measure 14 The City shall explore traffic calming techniques to enhance pedestrian safety in the Old Town pedestrian-oriented business district and other places of high volume pedestrian uses.
- Measure 15 The City shall identify and evaluate potential local revenue sources and viable state and federal funding sources for financing roadway system projects, and development of transit, pedestrian, and bicycle facility projects.
- Measure 16 The City shall maintain and update as necessary a Bikeway Master Plan. This Master Plan shall include a discussion of strategies to encourage bicycle use and specify the locations of bicycle amenities which would facilitate bicycle use.
- Measure 17 To accommodate the projected buildout traffic demands, Central Avenue shall be widened to its full planned width from O Street to V Street to allow for the required intersection improvements.
- Measure 18 The City shall assess traffic mitigation fees that are charged to new development to determine if these are adequate to help provide roadway,



bikeway, and pedestrian improvements necessitated by such development. If deemed insufficient, the City should revise the traffic mitigation fee structure to provide for such improvements.

- Measure 19 The City shall require a Transportation Demand Management Plan as part of a project proposal for all new, or expanding, non-residential discretionary projects over 100,000 square feet. The plan shall be active throughout the life of the project. The plan shall be site specific for the proposed development, including:
- An analysis of the expected travel behavior of employees and visitors to the site.
 - A description of the existing transportation/circulation system in the project vicinity.
 - A description of all feasible strategies that would be incorporated into the project to support on-site trip reduction efforts. Feasible trip reduction strategies may include:
 - Targets for an increase in average vehicle ridership for employees;
 - Incentives for carpooling, transit ridership, and/or bicycling for employees and/or customers. Such incentives may include reduced work hours to coincide with transit schedules, employer-provided bus passes, and direct monetary compensation for transit ridership;
 - Accommodating local shuttle and regional transit systems;
 - Providing transit shelters.
 - Providing secure storage lockers for bicycles at a ratio of one locker per ten employees.
 - Establishing a park-and-ride lot consisting of no less than twenty spaces to serve the development.
- Measure 20 The City should work with City of Lompoc Transit (COLT) to increase ridership by examining improvements to bussing area coverage and schedules such as modification or simplification of routes serving Lompoc, extension of service later into the evening and night, and need for additional COLT bus stops.



CIRCULATION ELEMENT

- Measure 21 The City shall research the feasibility of funding incentives and mechanisms that provide reduced transit fares.
- Measure 22 The City should ensure that facilities for pedestrians and bicyclists are incorporated into plans to widen the Robinson Bridge (Highway 246 crossing of the Santa Ynez River) and that appropriate crossings or other facilities for bicyclists and pedestrians are provided at the intersection of Highway 1, Burton Mesa Road, and Purisima Road. The City should also consider over- or under-crossings as part of future development in the Wye Expansion Area to provide better connectivity between residential development on the east side of Highway 1 and Allan Hancock College.



CIRCULATION ELEMENT

**Table C-1
Circulation Element Definitions**

<i>Roadways</i>	
Expressways	<p>Purpose To provide for the highest proportion of regional travel by connecting urbanized areas with major activity and employment centers in the County.</p> <p>Description High speed/high capacity roadways which have limited access and at-grade or grade-separated intersections. Expressways are divided roadways with a minimum right-of-way width of 110 feet and at least four auto-lanes.</p>
Major Arterial	<p>Purpose To provide for the highest proportion of travel between and within the communities of the Lompoc Valley by linking Expressways to Minor Arterials, Collector Streets, and Local Streets.</p> <p>Description Medium speed/high capacity roadways with controlled access. Major Arterials, with the exception of Central Avenue, are divided and undivided roadways with a right-of-way width of at least 100 feet and two or four auto-lanes. Central Avenue shall be a divided limited-access roadway with a right-of-way width of at least 110 feet and four auto-lanes.</p>
Minor Arterials	<p>Purpose To provide for travel between and within the communities of the Lompoc Valley by linking Major Arterials to Collector Streets and Local Streets.</p> <p>Description Medium and high speed, medium capacity roadways with controlled roadway access. Minor Arterials are undivided roadways with right-of-way width of at least 80 feet and two auto-lanes.</p>



CIRCULATION ELEMENT

Table C-1 Circulation Element Definitions	
Collector Streets	<p>Purpose To provide for relatively-short distance travel between and within neighborhoods by linking Major and Minor Arterials to Local Streets.</p> <p>Description Low-speed/low volume, undivided, two-lane roadways. Driveway access from individual parcels may be discouraged. Collector Streets have a right-of-way width of at least 64 feet.</p>
Local Streets	<p>Purpose To provide for short distance travel, to discourage through traffic, and to provide direct roadway access to abutting land uses and driveways.</p> <p>Description Low speed/low volume, undivided, two-lane roadways. Driveway access from individual parcels is common. Local Streets have a right-of-way width of at least 60 feet. However, the right-of-way width may be reduced to 56 feet for cul-de-sacs less than 350 feet long.</p>
Rural Road	<p>Purpose To provide for both agricultural vehicles and urban vehicular travel, to act as a buffer between agricultural and urban land uses, to discourage through traffic, to provide direct roadway access to abutting residential land uses and driveways, and to join with the City's existing circulation system.</p> <p>Description Low speed/low volume, undivided, two-lane roadways. Driveway access from individual parcels should be minimal and may be discouraged.</p>



CIRCULATION ELEMENT

**Table C-1
Circulation Element Definitions**

Bikeways

<p>Bikeways</p>	<p>Purpose To provide safe and convenient routes which encourage bicycle travel throughout the City and Lompoc Valley for work, school, shopping, and recreation.</p> <p>Description</p> <ul style="list-style-type: none"> • <u>Class I – Bike Path</u>: Routes which provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians. Cross-flows by motor vehicles are minimized. • <u>Class II – Bike Lane</u>: Routes which provide a right-of-way within the paved area of a roadway, designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited. Cross-flows by pedestrians and motor vehicles are permitted; motor vehicle parking may be permitted. • <u>Class III – Bike Route</u>: Routes which provide a right-of-way within the paved area of a roadway, designated by signs or markings on the pavement. The route is shared with pedestrians and motor vehicles. <p>City bikeways shall be designed in accordance with Caltrans standards.</p>
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Truck Routes

<p>Truck Routes</p>	<p>Purpose To provide safe and convenient transportation corridors for the movement of commercial and industrial goods necessary to meet the needs of businesses throughout the region while protecting the health, safety, and serenity of Lompoc residents.</p> <p>Description Routes along Expressways, Arterials, and portions of</p>
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CIRCULATION ELEMENT

Table C-1 Circulation Element Definitions	
	Collector Streets to provide convenient access to truck-dependent commercial and industrial land uses.

Table C-2 Roadway Classification Cross Reference		
SBCAG Designation	Lompoc Designation	Example Roadways
---	Expressway	Lompoc-Casmalia
Other Principal Arterial	Major Arterial	Ocean Avenue, Central Avenue, H Street
Minor Arterial	Minor Arterial	A Street, West College Avenue
Collector	Collector	Chestnut Avenue
Local Road	Local Street	Berkeley Drive





*Attachment 3: Draft 2030 General Plan
Housing Element*

A Component of
the General Plan



HOUSING ELEMENT UPDATE

Planning Horizon: 2007 to 2014

City Hall
100 Civic Center Plaza
Lompoc, California

ADMINISTRATIVE DRAFT

Housing Element Update for the:

CITY OF LOMPOC

Encompassing:

- Housing Plan
- Community Profile
- Needs Assessment
- Housing Constraints
- Miscellaneous Topics

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Date Prepared:

June 5, 2009

(Updated 10-2-09)

CITY of LOMPOC

2030 General Plan

HOUSING ELEMENT

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HOUSING ELEMENT

INTRODUCTION AND AUTHORITY

Housing is unique among the seven required elements of the City’s General Plan. Unlike all other components, the Housing Element must be updated on a regular basis and conform to the rigors of State law. In its final form, the Housing Element must consist of: (i) an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of those needs; (ii) a statement of the community’s goals, quantified objectives, and policies relative to the maintenance, improvement, and development of housing; and (iii) a program that sets forth a five-year schedule of actions to implement relevant Housing Element policies and achieve stated goals.

Table H-1 Target Income Groups	Household Sizes			
	1 Person	2 Person	3 Person	4 Person
Extremely Low	\$0-	\$0-	\$0-	\$0-
	\$14,100	\$16,100	\$18,150	\$20,750
Very Low	\$14,101-	\$16,101-	\$18,151-	\$20,751-
	\$23,500	\$26,850	\$30,200	\$33,550
Low	\$23,501-	\$26,851-	\$30,201-	\$33,551-
	\$37,600	\$42,950	\$60,400	\$67,100
Moderate	\$37,601-	\$42,951-	\$60,401-	\$67,101-
	\$56,000	\$64,400	\$72,500	\$80,500

Source: Title 25, Section 6932 of the California Code of Administrative Regulations effective March 2007.
Note: 2007 Income Limits are used insofar as 2007 marks the beginning of the current Housing Element cycle.

Housing Element law is codified in Article 10.6 of the California Government Code commencing with Section 65580. Under these statutes, the needs of all economic segments must be considered as part of the Housing Element. However, these statutes place primary emphasis on the needs possessed by extremely low, very low, low and moderate income persons and households (commonly referred to as “Target Income Groups;” see **Table H-1**). In addition, issues specific to Special Needs Population must also be assessed. These population segments include the elderly, disabled, homeless, farmworkers, female-headed households and large families.

A fundamental requirement of Housing Element law is the obligation for each community to address its fair share of regional housing needs (commonly referred to as “RHNA”). The RHNA process is part of a statewide mandate to address housing issues related to future growth in California. The numbers are first generated by the State and then refined by regional planning agencies in cooperation with local government. For the plan-

HOUSING ELEMENT

ning horizon that began on January 1, 2007, and continues to June 30, 2014, the RHNA allocation appears in **Table H-2**. For Lompoc, the RHNA assignment of 516 new dwellings represents a reduction of 42% from the prior housing cycle.

Table H-2 RHNA Goals	Prior Housing Element	2007-2014 RHNA Distribution				
		Total	V. Low	Low	Mod	Above
Buellton	536	279	64	47	46	121
Carpinteria	75	305	70	52	55	128
Goleta	2,388	1,641	377	279	230	755
Guadalupe	83	88	20	15	20	33
Santa Barbara	2,333	4,388	1,009	746	746	1,887
Santa Maria	4,837	3,199	736	544	800	1,120
Solvang	325	170	39	29	25	77
Unincorporated	6,064	1,017	231	172	160	450
Total	17,531	11,603	2,666	1,973	2,205	4,756

Source: Santa Barbara County Association of Governments, RHNA Allocations, June 19, 2008.
Note: Totals may not add up precisely due to rounding. All figures reflect actual numbers adopted by the Santa Barbara County Association of Governments. See Table H-68 for a further breakdown to account for extremely low income pursuant to California Government Code Section 65583(a)(1).

A detailed assessment of available and suitably zoned property shows that the City has a sufficient current land inventory to address its RHNA goals. This means that no additional lands need to be rezoned or intensified in order to evidence Lompoc’s ability to meet its assigned share of regional housing needs. As such, the Housing Element is constructed to reinforce land use goals which emphasize the continuation of existing development patterns through infill development and build-out of areas within the City’s urban boundary. The goals, policies, implementation measures and program schedule which follow are largely a refinement of those adopted in the previous Housing Element cycle and emphasize the needs possessed by special population segments.

HOUSING ELEMENT

GOALS AND POLICIES

- Goal 1** **Provide a choice of housing opportunities for all economic segments of the community.**
- Policy 1.1 The City shall encourage housing development which provides varied housing types, sizes, and tenure opportunities.
- Policy 1.2 The City shall encourage the dispersion of rental and owner-ship housing units for target income groups throughout the City.
- Policy 1.3 The City shall assure that housing units are preserved/reserved for target income groups in publicly assisted developments.
- Policy 1.4 The City shall encourage the development of housing for large families in multi-family residential areas.
- Policy 1.5 The City shall develop incentives which expand housing opportunities for target income groups and special needs population.
- Policy 1.6 The City shall encourage the development and maintenance of an adequate supply of mobile homes and manufactured housing to provide opportunities for target income groups.
- Policy 1.7 The City shall protect the current supply of affordable rental housing by discouraging its conversion to condominium ownership.
- Policy 1.8 The City shall work with the County Housing Authority and non-profit housing groups to pursue affordable housing for target income groups and special needs population, with particular emphasis on the needs of the disabled, homeless and extremely low income.

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- Policy 1.9 The City shall periodically evaluate its development review process for ways to facilitate the production of new sources of affordable housing, while maintaining a commitment to sound planning and environmental protection.
- Policy 1.10 The City shall continue to provide some residential areas with large minimum lot sizes.
- Policy 1.11 With the exception of areas within the Old Town Redevelopment Project, Amendment No. 2 area, in all residential developments of ten units or more, at least 10% of all the units shall be affordable to target income groups. As an alternative to providing affordable housing on-site, the inclusionary requirement may be satisfied through other equivalent measures (e.g., production based on units of like size relative to numbers of bedrooms and bathrooms) including off-site construction, acquisition of affordability covenants on existing dwelling units, donation of land or payment of in-lieu fees. In accordance with State law, residential development projects within the Old Town Redevelopment Project, Amendment No. 2 area shall provide 15% of new housing affordable to low- and moderate-income households with at least 40% of those units to be used by very low income households.
- Policy 1.12 In implementing Policy 1.11: (i) the City may waive any or all of the affordable housing requirements or accept equivalent measures in lieu of on-site construction taking into account market conditions, development proformas, land economics and other substantial evidence; (ii) inclusionary fee collection may be deferred until point of sale; and (iii) a 2:1 density bonus shall be offered for each affordable unit that is constructed on site. Within the Old Town Redevelopment Project, Amendment No. 2 area, exceptions shall only be granted when, based on substantial evidence, on-site construction is deemed infeasible. .

HOUSING ELEMENT

- Policy 1.13 The City shall encourage the development of custom built homes.
- Policy 1.14 The City shall monitor previous commitments for affordable housing developed within the City and actively seek preservation of affordable units at risk of conversion to market rate housing.
- Policy 1.15 The City shall continue to support efforts to promote equal opportunity in housing.
- Policy 1.16 The City shall continue to support efforts to achieve an employment and housing balance within communities throughout Santa Barbara County.
- Policy 1.17 The City shall support efforts which facilitate homeownership.
- Policy 1.18 The City shall work with the Lompoc Redevelopment Agency (RDA), lending institutions, private developers, the County Housing Authority, and non-profit housing sponsors, to make a good faith effort to provide its regional share of affordable housing. To this end, the City shall: (i) participate with the County in meeting housing needs; and (ii) coordinate Housing Element policies and programs with the RDA's Five Year Implementation Plan.
- Policy 1.19 The City shall provide prospective private developers and non profit sponsors with information and technical assistance which expedites the filing of applications and the preparation of plans and studies in order to provide more affordable housing.
- Policy 1.20 The City shall tier environmental information whenever possible, to prevent duplicate studies and reduce the cost of environmental review.
- Policy 1.21 The City shall encourage and facilitate the use of vacant and underdeveloped lands and the use of local, state, and federal monies to help in the development and rehabilitation of long-term affordable housing.

HOUSING ELEMENT

Policy 1.22 The City shall continue to pursue and allocate federal funds eligible for housing projects and social services which benefit target income groups and shall utilize at least 33 percent of these federal monies for the development and rehabilitation of affordable housing.

Policy 1.23 The City annually shall review progress on the provision of its regional fair share of housing units to determine the effectiveness of existing policies and to make necessary changes.

Policy 1.24 The City shall encourage a broad range of rental housing opportunities.

Objective 1A From 2007 to 2014 the City has and shall continue to pursue the following affordability distribution for new residential development:

<u>Household Income</u>	<u>Distribution (%)</u>
Extremely Low	11
Very Low	12
Low	17
Moderate	24
Above Moderate	36
Total	100

Note: The distribution appearing above is derived from Table H-2.

Objective 1B From 2007 to 2014 the City has and shall continue to take steps necessary to encourage the development of 516 additional housing units affordable for target income groups distributed as follows:

<u>Household Income</u>	<u>Distribution (No.)</u>
Extremely Low	60
Very Low	60
Low	89
Moderate	123
Above Moderate	185
Total	516

Note: The distribution appearing above is derived from Table H-2.

HOUSING ELEMENT

Goal 2 Restore, protect, and improve the condition of existing housing and neighborhoods.

Policy 2.1 The City shall pursue funding for housing rehabilitation programs which encourage private and public capital participation, preserve the existing housing stock, and provide housing opportunities for target income groups.

Policy 2.2 The City shall seek financial assistance to help homeowners who may be at risk of losing their homes due to economic hardship and mortgage costs.

Policy 2.3 The City shall protect residential neighborhoods from encroachment by adverse non-residential uses and impacts associated with those non-residential uses.

Policy 2.4 The City shall prohibit land uses within or adjacent to residential neighborhoods when such land uses would adversely affect the character of the neighborhood.

Policy 2.5 The City shall encourage the preservation of existing residential dwellings in non-residentially zoned areas when all of the following conditions are met:

- ❖ dwellings have continually been used for residential purposes;
- ❖ dwellings have received regular maintenance and contain no serious defects which could result in health or safety hazards to residents; and
- ❖ dwellings can provide necessary amenities and a suitable living environment.

Objective 2A From 2007 to 2014 the City has and shall continue to seek financial assistance necessary to rehabilitate at least 250 residential housing units owned by target income groups.

HOUSING ELEMENT

<u>Household Income</u>	<u>Assisted Units</u>
Extremely Low	60
Very Low	65
Low	125
Moderate	0
Above Moderate	0
Total	250

Objective 2B From 2007 to 2014 the City has and shall continue to seek financial assistance necessary to conserve at least 50 assisted residential housing units occupied by target income groups.

<u>Household Income</u>	<u>Assisted Units</u>
Extremely Low	0
Very Low	0
Low	40
Moderate	10
Above Moderate	0
Total	50

Objective 2C From 2007 to 2014 the City shall seek financial assistance to help target income groups who may be at risk of losing their homes due to economic hardship and mortgage costs.

<u>Household Income</u>	<u>Assisted Units</u>
Extremely Low	10
Very Low	15
Low	15
Moderate	10
Above Moderate	0
Total	50

HOUSING ELEMENT

Goal 3 Locate and design housing so as to assure an attractive and high quality living environment.

- Policy 3.1 The City shall not compromise community design standards, quality of life, aesthetics, and access to public services when providing affordable housing.
- Policy 3.2 The City shall encourage a diversity of housing types to maintain and increase opportunities for affordable housing, provided that the design of the development is compatible with the surrounding uses.
- Policy 3.3 The City shall utilize the following criteria when evaluating sites for housing:
- ❖ access to adequate public services and facilities;
 - ❖ compatibility with adjacent land uses;
 - ❖ access to employment centers, neighborhood commercial facilities, schools, and recreational facilities; and
 - ❖ avoidance of environmental hazards or sensitive resource areas.
- Policy 3.4 The City shall encourage the location of affordable housing in or near the Old Town area which supports redevelopment goals and requirements.
- Policy 3.5 The City shall continue to provide incentives to encourage the development of new housing units which replace demolished or dilapidated units in residential areas.
- Policy 3.6 Affordable dwellings, when constructed as part of a larger project, shall be comparable in exterior appearance and overall quality of construction to non-restricted units. The size and interior features of affordable units of affordable units need not be the same

HOUSING ELEMENT

as or equivalent to those in non-restricted units in the same project, so long as they are of like size relative to numbers of bedrooms and bathrooms. To the extent feasible, affordable units shall be dispersed throughout the project and not concentrated in a single location.

Goal 4 Maximize energy efficiency in existing and future residential development.

Policy 4.1 The City shall continue to encourage the design and installation of energy conservation, water conservation, and solid waste reduction measures in all construction and rehabilitation projects.

Policy 4.2 The City shall provide financial and technical assistance based upon the availability of funding to property owners who desire to improve energy and water efficiency of their housing units but are unable to afford improvement costs.

Policy 4.3 The City shall encourage the use of active and passive solar energy in the design of all new construction projects.

Policy 4.4 The City shall consider the development of green building standards for possible application to new residential development, including affordable housing.

Summary of Quantified Objectives

	New Construction	Housing Rehabilitation	Conservation/ Preservation
Extremely Low	60	60	10
Very Low	60	65	15
Low	89	125	55
Moderate	123	0	20
Above Moderate	185	0	0
Total	516	250	100

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IMPLEMENTATION MEASURES

The following measures constitute a five-year program schedule of actions (2009 – 2014) to implement the policies and objectives set forth within this element. An implementation schedule is included to provide specific information regarding the implementation of the measures listed.

Measure 1 The City shall work with the Lompoc Housing and Community Development Corporation (“LHCDC”), and other non-profit organizations and individuals to identify housing priorities through the Community Development Department’s Needs Assessment process and obtain funding, when available, from the State Department of Housing and Community Development and California Housing Finance Agency to address the identified priorities:

- a. Construction of rental units affordable to target income groups. [Policies 1.1, 1.2, 1.3, 1.4, 1.5, 1.8, 1.11, 1.17, 1.20, 1.23, 1.24, 3.1, 4.1, 4.3]
- b. Rehabilitation or acquisition and rehabilitation of substandard target income rental housing. [Policies 1.24, 2.1, 2.2, 2.5, 3.2, 4.1, and 4.2]
- c. Preservation of existing affordable housing at risk of conversion to market rate housing. [Policy 1.14]
- d. Production, conservation and preservation of housing for special needs population, with particular emphasis on the needs of the disabled, homeless and extremely low income [Policy 1.8]

Measure 2 The City shall amend the Zoning Ordinance to (i) consolidate care homes and group dwellings under a single term “residential care homes” and broaden the definition to include orphanages, rehabilitation centers, self-help group homes, agricultural employee housing and congregate care facilities; (ii) include transitional and supportive housing as an allowed residential use in all residential zone districts (, only subject to those restrictions that

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apply to other residential uses of the same type in the same zone; (iii) codify objective management and development standards for all residential care homes, comparable to those specified in Government Code Section 65583(a)(4); (iv) allow residential care homes serving six or fewer persons as a permitted use in all residential zone districts, and residential care homes serving seven or more persons by conditional use permit; (v) remove the conditional use requirement for second dwellings and farmworker housing (for six or fewer persons); (vi) allow emergency homeless facilities by conditional use permit in all zone districts; (vii) acknowledge that the occupants of residential care homes, transitional houses and supportive housing are permitted without regard to familial status, disability or other population segment stipulated in fair housing statutes (e.g., individuals with Alzheimer's, AIDS/HIV, and homeless); (viii) broaden the range of zone districts allowing rest and nursing homes by conditional use permit to include the medium and high density residential zones (R-2 and R-3); (ix) acknowledge extremely low income households as a target income group for purposes of inclusionary housing; and (x) add a definition of single room occupancy and allow such use within all commercial zone districts subject to issuance of a Conditional Use Permit. [Policies 1.1, 1.5, 1.8 and 1.15]

Measure 3

The City shall establish an Emergency Shelter Overlay Zone ("ESOZ") that applies to all commercially zoned land with a C-2, C-O or C-C designation. Under the ESOZ: (i) emergency shelters shall be a permitted use without the requirement for a conditional or discretionary approval; (ii) a cap of 82 emergency shelter beds shall be imposed for the period of January 1, 2007, through June 30, 2014, corresponding to the unmet need identified for Lompoc for the current Housing Element cycle ("ESB Cap"); (iii) the ESOZ shall sunset once the ESB Cap is reached; and (iv) objective management and development standards shall be codified consistent with the provisions of Government Code Section 65583(a)(4).¹ The ESOZ zoning regulations shall expressly provide that: (i) shelter facilities lawfully permitted under the ESOZ shall be deemed to

¹ See Section 12.1.2 and Table H-64 for an explanation of the 82-bed cap.

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be a conforming use under the City's Zoning Ordinance following expiration of the ESOZ; and (ii) the ESOZ may be extended and the ESB Cap may be increased upon a finding by the City Council that unmet homeless needs assignable to the City persist. [Policies 1.1, 1.5, 1.8 and 1.15]

Measure 4

The City shall work in cooperation with LHCD, Habitat For Humanity, and other non-profit organizations to identify housing priorities through the Community Development Department's Needs Assessment process and obtain funding from the following federal and local programs to address the identified priorities:

- a. Section 202, Section 811 and comparable programs to expand the supply of housing with supportive services for elderly persons and persons with disabilities.
- b. Homeownership For People Everywhere (HOPE) Program to expand homeownership opportunities for target income groups.
- c. Community Development Block Grant (CDBG) and Home Investment Partnership Act (HOME) funds to expand the supply of housing for target income groups.
- d. State HCD and CalHFA funds, local redevelopment housing setaside funds and Lompoc Housing Trust Fund (LHTF).

[Policies 1.1, 1.3, 1.5, 1.8, 1.18, 1.19, 1.21, 1.23, 1.24, 2.1, 2.5, 3.1, 3.2, 3.4, 3.5, and 4.1]

Measure 5

The City shall work in cooperation with mobilehome park resident organizations to pursue State Mobilehome Park Resident Ownership Program (MPROP) funds (when available) to preserve housing affordability for target income groups. [Policies 1.1, 1.3, 1.6, and 1.19]

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- Measure 6 The City shall notify mobilehome park managers of the City’s Needs Assessment hearings by providing flyers to post in common areas to facilitate the involvement of mobilehome park residents in the Needs Assessment process to consider the feasibility of applying for State Mobilehome Park Resident Ownership Program (MPROP) funds (when available) in order to preserve housing affordability for target income groups. [Policies 1.1, 1.3, 1.6, and 1.19]
- Measure 7 The City shall cooperate with the County of Santa Barbara, the Housing Authority of Santa Barbara, the City of Santa Maria, LHDCDC and other faith-based and community organizations in the County’s Continuum of Care program to pursue HUD, Emergency Shelter Grant Program (ESGP) and Supportive Housing Program (SHP) funds (when available), to help prevent homelessness in Lompoc. [Policies 1.1, 1.5, 1.8and 2.1]
- Measure 8 The City shall cooperate with the County of Santa Barbara, the Housing Authority of Santa Barbara, the City of Santa Maria, LHDCDC, and other faith-based and community organizations in the County’s Continuum of Care program to obtain HUD, Shelter Plus Care Homeless Rental Housing Assistance (S+C/HRHA) Program, Supportive Housing Program (SHP), and Single Room Occupancy Program (SROP) funds, to provide rental housing assistance for homeless persons in Lompoc. [Policies 1.1, 1.5, 1.81.24, and 2.1]
- Measure 9 The City shall work with the Santa Barbara County Housing Authority to:
- a. Encourage the rehabilitation of rental property in order to meet the minimum requirements of the Section 8 Program. [Policies 1.2, 1.3, 1.5, 1.8, 1.24, 2.1, 3.4, and 4.1]
 - b. Secure additional HUD, Section 8 Housing Assistance Program certificates and vouchers to aid target income groups in obtaining affordable rental housing. [Policies 1.2, 1.5, 1.8, 1.18, 3.1, 3.2, and 3.4]

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- Measure 10 The City shall maintain its status as a member of the Santa Barbara County HOME Consortium and utilize federal HOME funds to retain and expand the supply of affordable housing. [Policies 1.3, 1.4, 1.5, 1.8, 1.19, 1.23, 2.1, and 3.5]
- Measure 11 The City shall work with the Housing Authority of Santa Barbara County through the Community Development Department’s Needs Assessment process to consider the feasibility of participating in HUD’s Reverse Equity Mortgage Program in order to help elderly homeowners continue to stay in their longtime residences. [Policy 1.5]
- Measure 12 The City shall continue to market housing rehabilitation programs to target income senior households to make necessary upgrades and structural modifications to their homes to facilitate independent living. [Policies 1.5, 2.1, 2.2 and 2.5]
- Measure 13 The City’s Community Development Department will continue to monitor its development review process for ways to facilitate the production of new sources of affordable housing. [Policy 1.9]
- Measure 14 The City shall evaluate and pursue funding available through the federal Housing and Economic Recovery Act, California Senate Bill 1065 and companion legislation as a means of providing mortgage relief for “at risk” homeowners and enabling them to remain in their homes. [Policies 1.17 and 2.2]
- Measure 15 The City shall research previously-approved assisted-housing units to determine compliance with assisted-housing requirements and approved rent levels. Conditions of approval shall be placed on future assisted-housing projects requiring applicants to supply periodic compliance reports. [Policy 1.14]
- Measure 16 The City shall work in cooperation with local non-profit corporations to identify housing priorities through the Community Development Department’s Needs Assessment process and obtain California Self-Help Housing Program (CSHHP) funds (when available)

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- to assist target income groups build and rehabilitate their homes with their own labor. [Policies 1.17, 1.19, 2.1, 2.5, 3.4, and 4.2]
- Measure 17 The City shall prepare an annual progress report on the provision of its regional fair share of housing units to monitor the effectiveness of existing policies. [Policy 1.23]
- Measure 18 The City shall continue to pursue and loan funds through State HCD and CalFHA (when available) for the rehabilitation of homes owned and occupied by target income groups. [Policies 2.1, 2.2, 2.5, 3.2, 4.1, and 4.2]
- Measure 19 The City shall amend the Zoning Ordinance to: (i) implement the requirements of recent State legislation (Senate Bill 1818 amending Government Code Section 65915) that significantly broadens and strengthens density bonus requirements; (ii) institute a new abbreviated variance procedure, expressly designed to accommodate adaptive retrofit requests for disabled persons; and (iii) codify inclusionary housing policies with specific appeal provisions that allow partial or complete relief. [Policies 1.5, 1.11, 1.12 and 1.15]
- Measure 20 The City and Lompoc Redevelopment Agency shall encourage and support LHCD and/or other non-profit corporation's utilization of state and federal tax credit programs for affordable housing projects within the City. [Policies 1.1, 1.2, 1.3, 1.5, and 1.24]
- a. Utilizing the Lompoc Redevelopment Agency as the local reviewing agency (as opposed to an outside agency) for tax credit applications as required by the California Tax Credit Allocation Committee (TCAC).
 - b. Working with tax credit applicants to identify matching funds and additional funding sources.

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- c. Providing gap financing through City/Redevelopment Agency funding and programs.
- d. Providing letters of support and technical assistance.

Measure 21 The City shall continue to promote energy efficiency and water conservation. As a complementary measure, the City shall review its obligations under Government Code Section 65589.7 and establish specific procedures and grant priority water and sewer service to developments with units affordable to target income groups (if such procedures are not presently in place). [Policy 4.1]

Measure 22 The City shall amend the Zoning Ordinance to require a finding for any zone changes within or adjacent to residential areas that the zone change is compatible with the character of the affected residential neighborhood. [Policies 2.3 and 2.4]

Measure 23 The City shall disseminate fair housing information to the public and continue to fund fair housing services which promote equal housing opportunity within the community. In furtherance of these objectives, the City shall amend its Zoning Ordinance to revise the definition of “family” by eliminating distinctions and numeric restrictions in related and unrelated individuals. In addition, the City shall implement a ministerial process, with minimal or no fee, to accept requests and grant exceptions to Municipal Code regulations (including zoning, building and subdivision requirements) in order to make reasonable accommodations for disabled persons subject to meeting the following criteria: (i) the request for reasonable accommodation will be used by an individual with a disability protected under fair housing laws; (ii) the requested accommodation is necessary to make housing available to an individual with a disability protected under fair housing laws; (iii) the requested accommodation would not impose an undue financial or administrative burden on the City; and (iv) the requested accommodation would not require a fundamental alteration in the nature of the City's land-use and zoning program. [Policy 1.17]

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- Measure 24 The City shall conduct a detailed analysis of the Old Town Commercial (“OTC”) zone district to ascertain what development standards (if any) may impede the development of residential uses within mixed use projects and identify incentives that might assist in facilitating this goal.
- Measure 25 The Redevelopment Agency shall actively pursue opportunities for public/private collaboration with particular emphasis on consolidating small and irregularly sized parcels, facilitating the development of underutilized property and fostering mixed-use development. [Policy 1.21]
- Measure 26 The Redevelopment Agency shall update the 5-Year Implementation Plan for the Old Town Redevelopment Project to: (i) fully integrate redevelopment and Housing Element production goals and programs; (ii) require that all housing set aside expenditures comply with proportionality requirements and expenditure timetables required in redevelopment law; (iii) acknowledge extremely low income among the other target income groups for whom housing setaside funds are allocated (as a subset of very low income in accordance with the provisions of AB 2634); and (iv) grant priority occupancy preference to extremely low income households and special needs population segments (e.g., farmworkers, disabled, etc.) in regard to placement in affordable housing developed under the Plan (including inclusionary units). [Policy 1.18]

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**Table H-3
Housing Element Implementation Schedule
2007-2014**

Public Participation

Element Adoption: The Housing Element has been updated as part of broader review of the entire General Plan. To help guide the process, extensive public outreach was conducted during the later part of 2007 into early 2008 consisting of 22 stakeholder interviews, a neighborhood meeting, one public forum and three educational workshops. This process allowed for a narrowing of issues specific to each Element of the General Plan, including housing. A detailed accounting the public outreach process and resulting issue identification is described in **Appendix A**. Concurrent with submittal of the Draft Housing Element to HCD, the following parties were notified of the document’s availability and invited to submit comments to the State and City within the 60-day statutory time period allowed for HCD review: (i) non-profit housing providers operating within Santa Barbara County; (ii) California Rural Legal Assistance; (iii) Central Coast Homebuilders Association; and (iv) parties listed in Government Code Section 65352(a). Following HCD comment and review, these same parties will be notified and invited to submit comments for consideration in connection with formal public hearings required by the California Government Code in connection with General Plan amendments.

Ongoing Implementation: The primary sources of revenue that are available to affirmatively further the preservation, improvement and expansion of affordable housing and related initiatives under the Housing Element include federal Community Development Block Grant (CDBG) and Home Investment Partnership Act (HOME) funds, various programs operated through the California Housing Finance Agency (CalHFA) and State HCD, local Redevelopment (RDA) housing set-aside and Lompoc Housing Trust Fund (LHTF). The City receives annual allocations of federal CDBG and HOME funds and are allocated to human service and non-profit organizations on the basis of needs assessment hearings and formal application process conducted each year. State funding is variable and obtained on an as needed/as available basis for specific housing programs and project sponsors. RDA housing set-aside and LHTF monies are generally allocated on an on-going, project-specific basis. These funding sources, setting of priorities and continued involvement of the public throughout the implementation phase of the Housing Element are outlined in the Action Plan that follows.

Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
I - A	4c and 10 Regional Consortia for HOME Funds	Community Development Department (CDD)	CDBG	Ongoing -2007 -2014
	<p>Action: The City will maintain its status as a member of the Santa Barbara County HOME Consortium through an agreement that is reviewed and approved by Lompoc's City Council. The agreement is renewable every three years. As a member of the Santa Barbara County HOME Consortium the City will maintain its eligibility to receive federal Home Investment Partnership Act (HOME) funds.</p> <ul style="list-style-type: none"> ❖ The City will designate the Community Development Program Manager as the City's representative to biannual Consortium Membership Meetings. ❖ The City will issue a Request For Proposal for HOME funds during the annual Needs Assessment Hearing process. ❖ The City will sponsor joint City/County monitoring site visits of current and proposed HOME funded projects. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible De- partment	Potential Funding Source	Timeframe
I - B	5 Mobilehome Park Resident Ownership Program Funds	CDD City Attorney	Local MPROP	Ongoing 2007 -2014
	<p>Action: The City will notify mobilehome park residents and managers annually of the Needs Assessment Hearings.</p> <ul style="list-style-type: none"> ❖ The City will provide flyers to mobilehome park managers to post in common areas of the mobilehome park to facilitate the involvement of mobilehome park residents of the Needs Assessment Hearing. The flyer will specify the date, time, location, and purpose of the Needs Assessment Hearing. ❖ The City will consider the feasibility of applying for State Mobile home Park Resident Ownership Program ("MPROP") funds annually during the Needs Assessment process. 			
I - C	4b Lower-Income Homeownership (HOPE) Funds	CDD	HOPE	Ongoing 2007 -2014
	<p>Action: The City will work with LHCDC, Habitat For Humanity, or other non-profit organizations through the Community Development Department's Needs Assessment process to obtain funding for housing for target income groups.</p> <ul style="list-style-type: none"> ❖ The City will consider the feasibility of applying for Homeownership For People Everywhere (HOPE) funds annually during the Needs Assessment process ❖ The City will assist LHCDC, Habitat For Humanity, or other non-profit organizations in accessing HOPE funds by providing needed information for funding applications or by serving as the applicant if the City qualifies for the funding. ❖ The City will provide letters of support and technical assistance for applicants of HOPE projects. 			
I - D	20 Support use of Tax Credits	Administration CDD	CDBG, HOME, RDA and LIHTF	Ongoing 2007 -2014
	<p>Action: The City and the Lompoc Redevelopment Agency (RDA) will encourage and support LHCDC, Habitat For Humanity, or other non-profit organization, corporations, and individuals in utilization of State and Federal Tax Credit Programs for affordable housing projects within the City and project area.</p> <ul style="list-style-type: none"> ❖ The Agency will review tax credit applications. ❖ The Agency and City will work with LHCDC, Habitat For Humanity, or other non-profit organization, corporations, and individuals to identify matching funds and additional sources for financing development projects. ❖ The City and Agency will provide additional gap financing for low-income housing tax credit (LIHTC) projects. ❖ The City and Agency will provide letters of support and technical assistance for applicants of LIHTC projects. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
I - E	18 Owner-Occupied Rehabilitation Funds	CDD	HCD and CalHFA	Ongoing 2007 -2014
	<p>Action: The City will work with LHCD, Habitat For Humanity, or other non-profit organizations and individuals through the Community Development Department's Needs Assessment process to continue to pursue and loan funds through HCD and CalFHA for the rehabilitation of homes owned and occupied by lower-income households.</p> <ul style="list-style-type: none"> ❖ The City will consider the feasibility of applying for State funds annually during the Needs Assessment process. ❖ The City will assist non-profit organizations and individuals in accessing funds by providing needed information for funding applications or by serving as the applicant if the City qualifies for the funding. ❖ The City will provide letters of support and technical assistance for applicants seeking State funds. 			
I - F	1b Renter-Occupied Rehabilitation Funds 1d Special Needs Housing	CDD	CDBG and HOME	Ongoing 2007 -2014
	<p>Action: The City will work with LHCD, Habitat For Humanity, or other non-profit organizations and individuals through the Community Development Department's Needs Assessment process to obtain funding for: (i) the rehabilitation or acquisition and rehabilitation of substandard low-income rental housing; and (ii) production, conservation and preservation of housing for special needs population, with particular emphasis on the needs of the disabled, homeless and extremely low income.</p> <ul style="list-style-type: none"> ❖ The City will consider the feasibility of applying for State funds annually during the Needs Assessment process. ❖ The City will assist LHCD, Habitat For Humanity, or other non-profit organizations and individuals in accessing State funds by providing needed information for funding applications or by serving as the applicant if the City qualifies for the funding. ❖ The City will provide letters of support and technical assistance for applicants seeking State funds. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
I - G	15 Monitor Assisted Housing (Required)	CDD	General Fund and RDA	Ongoing 2007 -2014
	<p>Action: The City will annually monitor "at-risk" housing units through communications with HUD or other agency responsible for tracking assisted housing units and through a data base established by the City (for units assisted with Federal, State and LHTF funds) and the RDA (for units assisted with housing set-aside in compliance with AB 987) and prepare a feasibility plan for the preservation of these units as affordable rental housing. The plan will state the City's proposed actions for assisting the current property owner in preserving the affordable units or assisting in the acquisition of the affordable units by a non-profit organization to permanently preserve the affordability of the units.</p>			
I - H	1a Affordable Rental Housing Construction 1c Preservation of At Risk Dwellings	CDD	CDBG, HOME, HCD and CalFHA	Ongoing 2007 -2014
	<p>Action: The City will work with LHCD, Habitat For Humanity, or other non-profit organizations and individuals through the Community Development Department's Needs Assessment process to obtain funding for the construction and preservation of rental units affordable to target income groups.</p> <ul style="list-style-type: none"> ❖ The City will consider the feasibility of applying for Rental Housing Construction Program (RHCP) funds annually during the Needs Assessment process. ❖ The City will assist LHCD, Habitat For Humanity, or other non-profit organizations and individuals in: (i) accessing RHCP funds by providing needed information for funding applications or by serving as the applicant if the City qualifies for the funding; and (ii) accessing funds for purchase of affordable units at risk of conversion to market rate. 			
I - I	4c Rental Property 9a Rehabilitation Funds	CDD	CDBG and HOME	Ongoing 2007 -2014
	<p>Action: The City will work with the Housing Authority of Santa Barbara County (HASBC) to encourage the rehabilitation of rental property to meet the minimum requirements of the Section 8 Program.</p> <ul style="list-style-type: none"> ❖ The City will review and provide comments to the HASBC on its Draft Annual Plan. ❖ The City will provide letters of support and cooperation on applications prepared by HASBC. ❖ The City will partner with HASBC on housing development projects through the use of HOME, CDBG, and other federal funding. ❖ The City will market its Multifamily Rehabilitation Loan Program to landlords referred by HASBC. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
I - J	23 Reasonable Accommodations	CDD	General Fund	2010
	<p>Action: The City shall implement a ministerial process, with minimal or no fee, to accept requests and grant exceptions to Municipal Code regulations (including zoning, building and subdivision requirements) in order to make reasonable accommodations for disabled persons subject to meeting the following criteria:</p> <ul style="list-style-type: none"> ❖ The request for reasonable accommodation will be used by an individual with a disability protected under fair housing laws. ❖ The requested accommodation is necessary to make housing available to an individual with a disability protected under fair housing laws. ❖ The requested accommodation would not impose an undue financial or administrative burden on the City. ❖ The requested accommodation would not require a fundamental alteration in the nature of the City's land-use and zoning program. 			
I - H	23 Definition of Family	CDD	General Fund	2010
	<p>Action: The City shall amend its Zoning Ordinance to revise the definition of "family" by eliminating distinctions and numeric restrictions in related and unrelated individuals.</p>			
II - A	17 Prepare Annual Progress Report (Required)	CDD	General Fund	Ongoing 2007 -2014
	<p>Action: The City will prepare an annual progress report on the provision of its regional fair share of housing units to monitor the effectiveness of existing policies.</p> <ul style="list-style-type: none"> ❖ The City will tabulate housing starts on a monthly basis to determine the applicable affordability category and compare to targets. ❖ The City will review housing proposals for consistency with housing targets. ❖ The City will prepare a table in its Annual Report showing its progress in housing starts. ❖ The City will monitor its housing policies to determine progress in meeting its regional fair share of housing units in each affordability category. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
II - B	2 Amend Zoning Ordinance for Special Needs Population	CDD	General Fund	2010
	<p>Action: The City will amend the Zoning Ordinance to accomplish the following</p> <ul style="list-style-type: none"> ❖ Broaden and clarify residential care homes, allow such uses serving six (6) or fewer persons as a permitted use in all residential zones, and allow such uses serving seven (7) or more persons by conditional use permit. ❖ Allow transitional and supportive housing as a permitted use in all residential zone districts, only subject to those restrictions that apply to other residential uses of the same type in the same zone. ❖ Codify objective management and development standards for all residential care homes, comparable to those specified in Government Code Section 65583(a)(4). ❖ Remove conditional use permit requirements for second dwellings and farmworker housing (for six or less persons). ❖ Broaden the range of zone districts allowing rest homes and nursing homes by conditional use permit. ❖ Acknowledge extremely low income households as a target income group for purposes of inclusionary housing. ❖ Add a definition of single room occupancy and allow such use within all commercial zone districts subject to issuance of a Conditional Use Permit. 			
II-C	3 Emergency Housing in Commercial Zones	CDD	General Fund	2010
	<p>Action: The City will amend the Zoning Ordinance to establish an Emergency Shelter Overlay Zone ("ESOZ") that applies to all commercially zoned land with a C-2, C-O or C-C designation and accomplishes the following:</p> <ul style="list-style-type: none"> ❖ Emergency shelters shall be a permitted use without the requirement for a conditional or discretionary approval. ❖ A cap of 82 emergency shelter beds shall be imposed, corresponding to the unmet need identified for Lompoc, and the ESOZ shall sunset upon reaching this cap ("ESB Cap"). ❖ Objective management and development standards shall be codified consistent with the provisions of Government Code Section 65583(a)(4). ❖ Shelter facilities lawfully permitted under the ESOZ shall be deemed to be a conforming use under the City's Zoning Ordinance following expiration of the ESOZ. ❖ The ESOZ may be extended and the ESB Cap may be increased upon a finding by the City Council that unmet homeless needs assignable to the City persist. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
II - D	4c Pursue Rental Housing 9b Subsidies	CDD	General Fund and RDA	Ongoing 2007 -2014
	<p>Action: The City will work with the Housing Authority of Santa Barbara County (HASBC) to encourage the rehabilitation of rental property to meet the minimum requirements of the Section 8 Program.</p> <ul style="list-style-type: none"> ❖ The City will review and provide comments to the HASBC on its Draft Annual Plan. ❖ The City will provide letters of support and cooperation on applications prepared by HACSB. ❖ The City will partner with HASBC on housing development projects through the use of HOME, CDBG, and other federal funding. ❖ The City will market its Multifamily Rehabilitation Loan Program to landlords referred by HACSB. 			
II - E	13 Monitor Development Review Process	CDD	General Fund	Ongoing 2007 -2014
	<p>Action: The City will monitor its development review process for ways to facilitate the production of new sources of affordable housing.</p> <ul style="list-style-type: none"> ❖ The City will use a proactive approach with housing developers to provide information concerning the features in the Zoning Ordinance, such as the Planned Development District and density bonus program, which encourage and facilitate affordable housing. ❖ The City will assist housing developers in accessing state or federal funding by providing needed information for funding applications. 			
II - F	23 Evaluate OTC Zoning Regulations	CDD	General Fund	2010
	<p>Action: The City will: (i) evaluate the effectiveness of existing regulations within the OTC zone district relative to the production of residential dwellings in connection with mixed use projects; (ii) develop and adopt amendments to the Zoning Ordinance to remove impediments to such production; and (iii) devise incentives to facilitate mixed use objectives.</p>			
II - G	25 Facilitate Land Use Intensification	CDD	Tax Increment	Ongoing 2007 -2014
	<p>Action: The Redevelopment Agency shall actively pursue opportunities for public/private collaboration with particular emphasis on consolidating small and irregularly sized parcels, facilitating the development of underutilized property and fostering mixed-use development.</p>			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
III - A	4a Elderly and Disabled Housing Funds	CDD	Section 202, Section 811 and Comparable Programs	Ongoing 2007 -2014
	<p>Action: The City will work with LHCDC, Habitat For Humanity, or other non-profit organizations through the Community Development Department's Needs Assessment process to obtain funding for housing with supportive services for elderly persons and persons with disabilities.</p> <ul style="list-style-type: none"> ❖ The City will consider the feasibility of applying with community partners for Section 202, Section 811 and other comparable program funds. ❖ The City will assist LHCDC, Habitat For Humanity, or other non-profit organizations in accessing Section 202, Section 811 and comparable program funds by providing needed information for funding applications or by serving as the applicant if the City qualifies for the funding ❖ The City will provide letters of support and technical assistance for applicants of Section 202, Section 811 and comparable programs, if applicable. 			
III - B	7 Homelessness Prevention Funds	CDD	CDBG	Ongoing 2007 -2014
	<p>Action: The City will cooperate with the County of Santa Barbara, the Housing Authority of Santa Barbara, the City of Santa Maria, LHCDC, and other faith-based and community organizations in the County's Continuum of Care program planning process.</p> <ul style="list-style-type: none"> ❖ The City will designate the Community Development Program Manager as the City's representative on the Countywide Continuum of Care Application Review Committee. ❖ The City will consider and, if consistent with the City's HUD approved Consolidated Plan, approve "Certificates of Consistency With Consolidated Plan" for homeless funding applications for projects in Lompoc submitted by LHCDC and other local homeless service providers. ❖ The City will explore opportunities for participation in HUD's Emergency Shelter Grant Program (ESGP) and Supportive Housing Program (SHP) in coordination with service providers and/or advocacy groups for homeless persons. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
III - C	8 Rental Housing Assistance To Homeless Persons	CDD	S+C/HARHA, SHP AND SROP	Ongoing 2007 -2014
	<p>Action: The City will cooperate with the County of Santa Barbara, the Housing Authority of Santa Barbara, the City of Santa Maria, LHCDC, and other faith-based and community organizations in the County's Continuum of Care program planning process</p> <ul style="list-style-type: none"> ❖ The City will designate the Community Development Program Manager as the City's representative on the Countywide Continuum of Care Application Review Committee. ❖ The City will consider and, if consistent with the City's HUD approved Consolidated Plan, approve "Certificates of Consistency With Consolidated Plan" for homeless funding applications for projects in Lompoc submitted by LHCDC and other local homeless service providers. ❖ The City will consider the feasibility of participating in HUD's Shelter Plus Care Homeless Rental Housing Assistance (S+C/HRHA) Program, Supportive Housing Program (SHP), and Single Room Occupancy Program (SROP) should service providers and/or advocacy groups for homeless persons raise the need for homeless shelter projects during the annual Needs Assessment Hearing process. 			
III - D	12 Deferred Single Family Rehabilitation Loan Programs	CDD	CDBG	Ongoing 2007 - 2014
	<p>Action: The City will continue to market the Deferred Single Family Rehabilitation Loan Program to target income senior and disabled households to make necessary upgrades and structural modifications to their homes to facilitate independent living.</p> <ul style="list-style-type: none"> ❖ The City will work with and assist community based non-profit organizations, advocacy groups, and/or individuals to access funding in the City's Deferred Single Family Rehabilitation Loan Program ❖ The City will continue to post the Deferred Single Family Rehabilitation Loan Program on the City's website at www.CityofLompoc.com under Community Development. ❖ The City will administer a contract with Catholic Charities to operate an Emergency Repair Grant Program for minor repairs under \$5,000 for elderly and disabled homeowners of single family residences and mobilehomes 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
III – E	11 Participation in Reverse Equity Mortgage Program	CDD	Reverse Equity Program	Ongoing 2007 – 2014
	<p>Action: The City will work with the Housing Authority of Santa Barbara County (HASBC) through the Community Development Department's Needs Assessment process to consider the feasibility of participating in HUD's Reverse Equity Mortgage Program to help elderly homeowners continue to stay in their longtime residences</p> <ul style="list-style-type: none"> ❖ The City will consider the feasibility of participating in HUD's Reverse Equity Mortgage Program should senior adults and/or senior advocacy groups raise this need during the annual Needs Assessment Hearing process. 			
III – F	14 Mortgage Relief for Homeowners	CDD	General Fund	Ongoing 2007 – 2014
	<ul style="list-style-type: none"> ❖ Action: The City shall evaluate and pursue funding available through the federal Housing and Economic Recovery Act, California Senate Bill 1065 and companion legislation as a means of providing mortgage relief for "at risk" homeowners and enabling them to remain in their homes. 			
III – G	16 Self-Help Housing Construction and Rehabilitation Funds	CDD	CSHHP	Ongoing 2007 – 2014
	<p>Action: The City will work in cooperation with local non-profit corporations such as Habitat for Humanity to obtain California Self-Help Housing Program (CSHHP) funds to assist target income groups build and rehabilitate their homes with their own labor.</p> <ul style="list-style-type: none"> ❖ The City will assist non-profit organizations in accessing CSHHP funds by providing needed information for funding applications or by serving as the applicant if the City qualifies for the funding. ❖ The City will provide letters of support and technical assistance for applicants of CSHHP projects. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
III - H	19 Amend Zoning Ordinance for Density Bonus, Adaptive Retrofit and Inclusionary Housing Programs	CDD	General Fund	2010
	<p>Action: The City will amend the Zoning Ordinance to accomplish the following:</p> <ul style="list-style-type: none"> ❖ Implement the requirements of Senate Bill 1818 that significantly broadens and strengthens density bonus requirements. ❖ Institute a new abbreviated variance procedure, expressly designed to accommodate adaptive retrofit requests for disabled persons. ❖ Codify inclusionary housing policies with specific appeal provisions that allow partial or complete relief. 			
III - I	21 Promote energy efficiency and water conservation	Building Division and Utility Department/Water Conservation Division	General Fund/Utility Division Funds	Ongoing 2007 - 2014
	<p>Action: The City will promote energy efficiency and water conservation in existing and future residential development.</p> <ul style="list-style-type: none"> ❖ The City will continue to utilize and enforce the latest editions of the California Administrative Codes including the California Building Code and California Title 24 Building Energy Efficiency Standards. ❖ The City will continue to conduct energy audits and provide technical assistance to Lompoc residents interested in reducing their household utility consumption. ❖ The City will continue to administer the low-income electric bill assistance program. ❖ The City will continue to implement the rebate program to replace energy-inefficient equipment, such as refrigerators, dishwashers, and clothes washers, provided funding is available. ❖ The City will continue to implement the refrigerator/freezer buy back program provided funding is available. ❖ The City will continue to administer the retrofit program, provided funding is available, for replacing existing non-conserving toilets, showerheads and bathroom and kitchen faucet aerators with low flow fixtures. ❖ The City shall review its obligations under Government Code Section 65589.7 and establish specific procedures and grant priority water and sewer service to developments with units affordable to target income groups (if such procedures are not presently in place). 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
III - J	22 Amend Zoning Ordinance to require compatibility finding for any zone change	CDD	General Fund	2010
	Action: The City will amend the Zoning Ordinance to require a finding be made that zone changes, within or adjacent to residential areas, are compatible with the character of the affected residential neighborhood.			
III - K	23 Disseminate Fair Housing Information and help fund fair housing services which promote equal housing opportunity	CDD	CDBG	Ongoing 2007 - 2014
	<p>Action: The City will disseminate fair housing information to the public and continue to help fund fair housing services which promote equal housing opportunity within the community.</p> <ul style="list-style-type: none"> ❖ The City will continue to contract with the Legal Aid Foundation to provide fair housing services in the City. ❖ The City will promote equal housing opportunities through availability of pamphlets on Fair Housing in City Hall ❖ The City will refer complaints on housing discrimination to the Legal Aid Foundation. ❖ Progress in the area of equal housing opportunities will be included in the Consolidated Plan for Community Development Block Grant funding. 			

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Table H-3 Housing Element Implementation Schedule 2007-2014				
Priority	Measure	Responsible Department	Potential Funding Source	Timeframe
III - L	26 Amend 5-Year Implementation Plan for OT Redevelopment Project	CDD	RDA	2010
	<p>Action: The RDA will amend the 5-Year Implementation Plan (and component Housing Compliance Plan) for the Old Town Redevelopment Project to accomplish the following:</p> <ul style="list-style-type: none"> ❖ Achieve internal consistency with the Housing Element and provide for proportional expenditures and housing production relation to RHNA goals and community demographics. ❖ Acknowledge extremely low income among the other target income groups for whom housing setaside funds are allocated (as a subset of very low income in accordance with the provisions of AB 2634). ❖ Grant priority occupancy preference to extremely low income households and special needs population segments (e.g., farmworkers, disabled, etc.) in regard to placement in affordable housing developed under the Plan (including inclusionary units). 			

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COMMUNITY PROFILE

1.0 Introduction

1.1 Information Sources

The U.S. Department of Commerce, Bureau of the Census, provides the primary data source for constructing community profiles. Other contributing sources include: (i) University of California at Santa Barbara, UCSB Economic Forecast Project; (ii) Santa Barbara County, Consolidated Plan and County Assessor Public Information Parcel Database; (iii) U.S. Department of Housing and Urban Development, Income Limits and HOME/CDBG Program Guidelines; (iv) Lompoc Redevelopment Agency, Income Limits and Housing Affordability; (v) Santa Barbara County Association of Governments, Growth Forecast; and (vi) State of California, Departments of Finance, Employment Development and Housing and Community Development, Housing and Demographic Statistics. Statistics available through the U.S. Census provide the most detailed accounting of housing and demographic trends. However, this data is only updated once every ten years and was last published for 2000. Wherever possible, census data is supplemented with other data sources to provide an accounting of trends as of January 1, 2007, which is the beginning date of the planning horizon for the current Housing Element.

1.2 Geographic Orientation

The purpose of the Community Profile is to provide an understanding of characteristics that affect the current demand for housing and influence future housing needs. The demographic information provided in this section covers the City of Lompoc. However, demographic information for unincorporated areas of the Lompoc Valley is provided in instances which affect conditions and circumstances within the City. For demographic and socio-economic information, the U.S. Census County Division (CCD) is used to define the Lompoc Valley (see **Figure H-1**). The Lompoc Valley CCD is coterminous with the "Lompoc Market Area" used for analysis purposes by the Santa Barbara County Association of Governments and Santa Barbara County. A housing market area (HMA) is defined as a geographical area which meets the social and economic requirements of a community and provides its residents with facilities such that commuting to other housing market areas in order to work or shop is generally unnecessary. The majority of the population and housing of the Lompoc HMA is within the City of Lompoc. The remaining urban areas within the Lompoc Valley HMA are Vandenberg Village, Mission Hills, and Vandenberg Air Force Base (AFB). The expansive rural areas of the Lom-

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poc Valley HMA contain relatively low numbers of housing units. The General Plan Study Area is contained entirely within the Lompoc Valley HMA (see Figure H-2). Lompoc Market Area

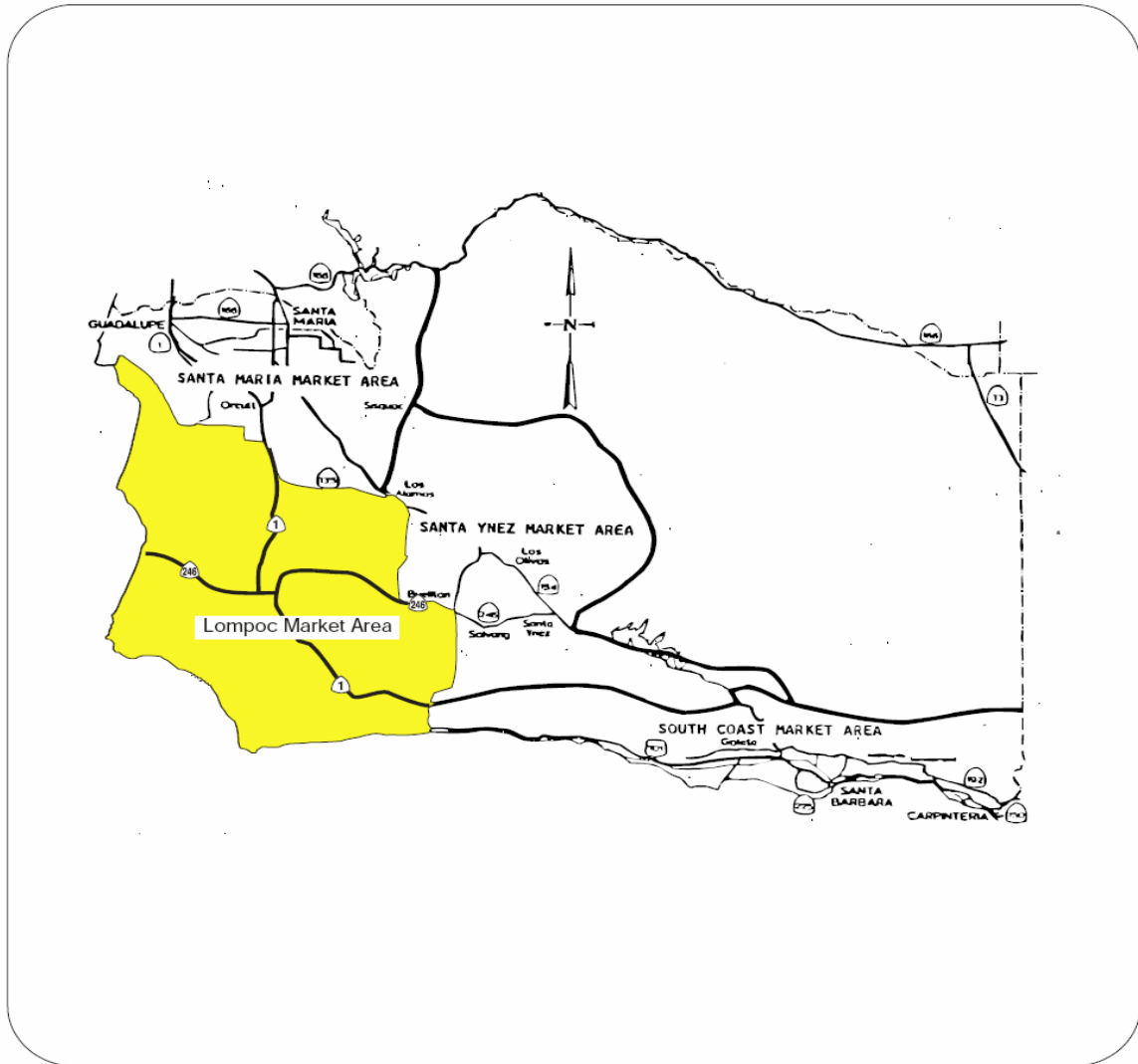


Figure H-1
Lompoc Housing Market Area

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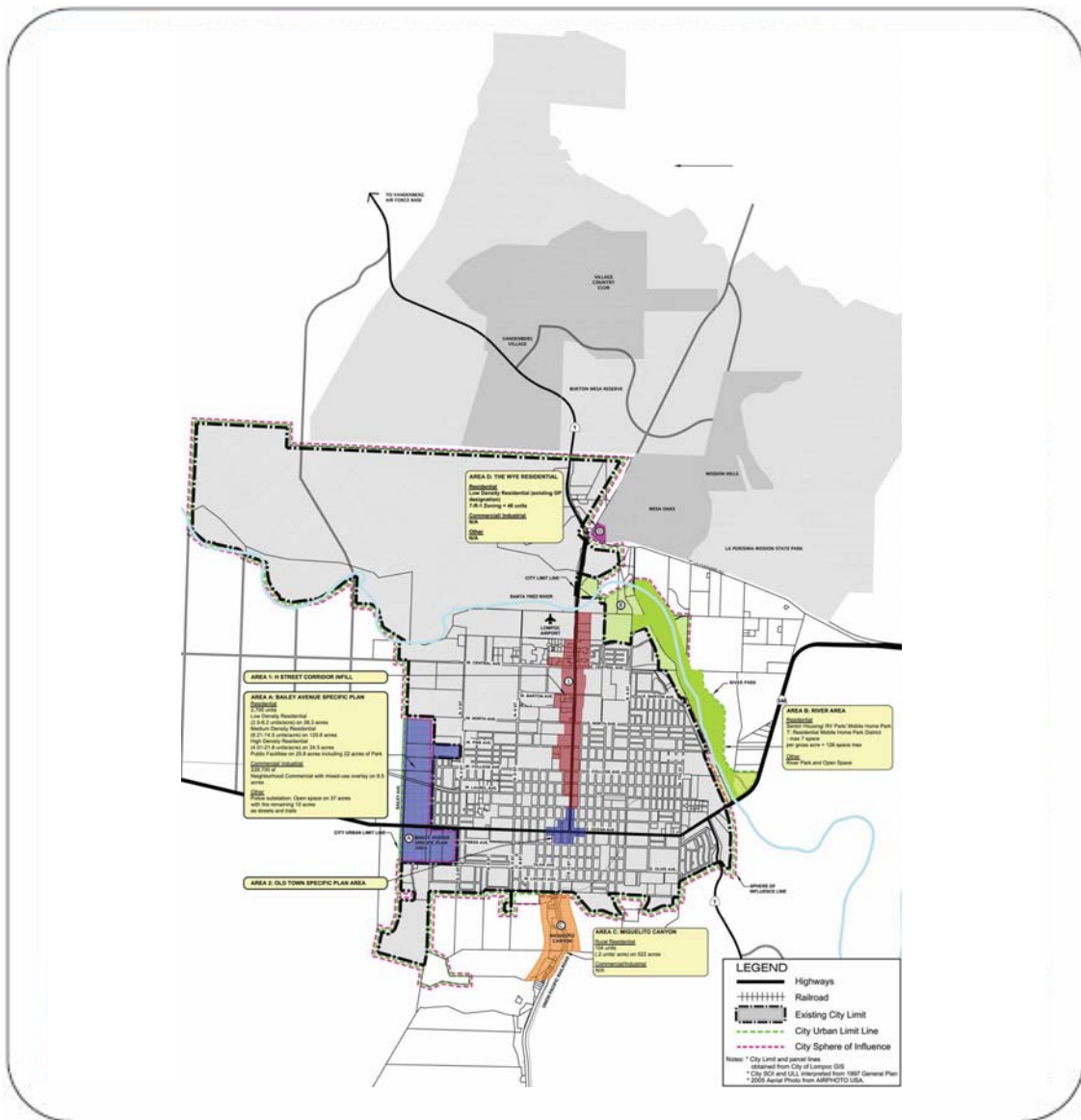


Figure H-2
General Plan Study Area
City of Lompoc General Plan

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2.0 Population Characteristics

2.1 Summary

The City of Lompoc is a predominately residential community contained within 11.65 square miles surrounded by equestrian ranches, farms, vineyards and rolling hills. Residential land uses comprise 46% of the City’s total area, excluding public rights-of-way and federal property. Since 2000, the City’s population has remained virtually unchanged, growing at an annual rate of less than 0.30 percent; the lowest rate of growth the City has experienced over the past 45 years. Comparatively speaking, Lompoc has a youthful and racially diverse population whose economic well being is largely influenced by the presence of large government institutions; most notably, Vandenberg Air Force Base (“AFB”).

Table H-4 Population Profile	Comparative Attributes		
	City of Lompoc	Santa Barbara County	Trend
Growth Rate			
Actual	0.93% Annual Inc.	0.61% Annual Inc.	Declining
Forecasted	0.77% Annual Inc.	0.67% Annual Inc.	Declining
Demographics			
Median Age	32.2 Years	33.4 Years	Increasing
Minorities	34%	27%	Increasing
Unemployment Rate	12.7%	7.2%	Increasing
Source: U.S. Census, Department of Commerce, 1990 – 2000. Employment Development Department, State of California, January 2009. Also see Tables H-5 through H-7 and Figures H-3 through H-5.			
Notes: Forecasted Growth Rate is derived from Table H-5.			

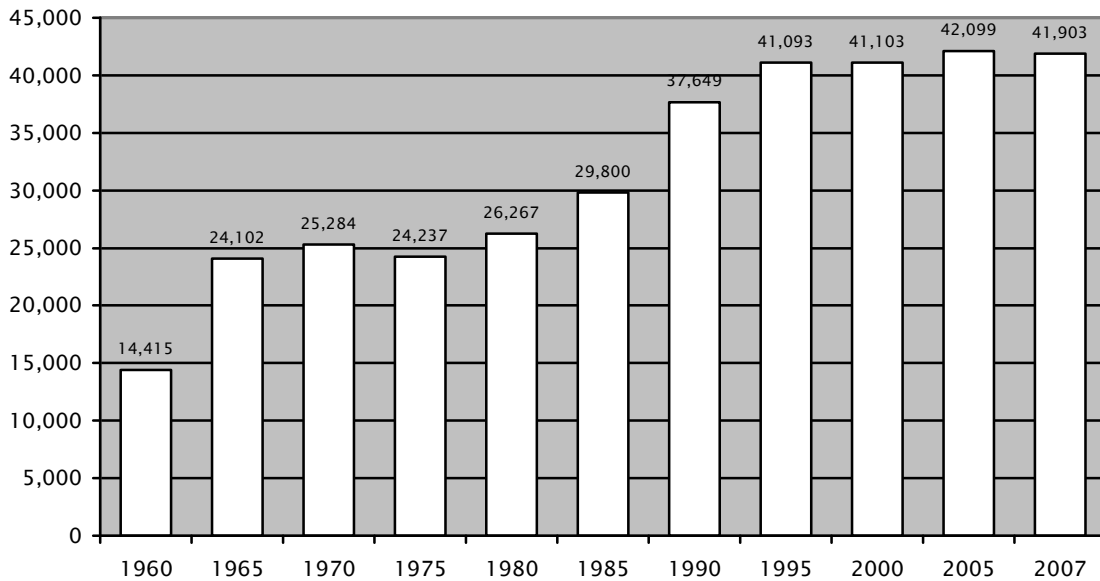
2.2 Growth Profile

Historically, the population of Lompoc has experienced periods of rapid growth as portrayed in **Figure H-3**. From the late 1950’s through the mid-1980’s, the growth was primarily generated by employment at Vandenberg AFB. The most recent episode of rapid population growth for Lompoc in conjunction with Vandenberg AFB occurred from 1978 to the mid-1980’s when plans were underway for Space Shuttle launches. However, after the Space Shuttle Challenger Disaster in 1986 plans for shuttle launches from Vandenberg AFB were discontinued. Consequently, employment at Vandenberg AFB was not as dominant a factor in the City’s growth rate as it had been prior to 1986. Beginning in the late 1980’s employment growth in the Santa Barbara-Goleta

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area, combined with lower housing costs in Lompoc, triggered accelerated population growth.

**Figure H-3
Historic Population Trends
City of Lompoc
1960 - 2007**



Sources: United States Department of Commerce, U.S. Census Bureau, Census 1960-1990 State Department of Finance, 1995 - 2007 Santa Barbara County Association of Governments, Regional Growth Forecast 2000-2030

2.3 Population Projections

Rapid population growth took place between 1960 and 1965 when the City grew approximately 10.83 percent annually. By the end of the 1960's the City had an annual growth rate of 5.78 percent for the decade. In the 1970's the annual growth rate was approximately 0.40 percent. The City's population again increased rapidly during the 1980's with an annual growth rate of 3.67 percent. From 1990 to 2000, the City's population increased at an annual rate of 0.90 percent. Since 2000, the City's population has remained virtually unchanged, growing at an annual rate of less than 0.30 percent; the lowest rate of growth the City has experienced over the past 45 years

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The population projections for the City of Lompoc and Lompoc Valley, which reflect 2000 Census data, are presented in **Table H-5**. The City is projected to grow by approximately 2,600 people during the time period 2005 - 2015, or approximately 6.2 percent. Population growth within the overall market area is expected to be slower than the City. The Lompoc Valley HMA is projected to grow by 3,200 people, or 5.4 percent. The County's population is projected to increase by 27,400 persons, or 6.6 percent, during this same time period. The 2007 City of Lompoc population is estimated at 41,930 persons.

Table H-5 Population Projections	Persons				
	2005	2010	2015	2020	2025
City of Lompoc	41,800	43,300	44,400	45,700	46,900
Unincorporated Area	17,700	18,000	18,300	18,600	18,900
Lompoc Valley HMA	59,400	61,200	62,600	64,200	65,800
Santa Barbara County	417,500	430,200	444,900	459,600	473,400

Source: Regional Growth Forecast 2000 - 2030, Santa Barbara County Association of Governments, August 2007.

2.4 Age Distribution

Examining the age distribution of the population is helpful in assessing the demand for different housing types. For example, an older population might require smaller housing units, which are easier to maintain and which accommodate one or two persons per household. A younger population requires a wider variety of housing unit types. These housing types may include large units for couples with children which can accommodate three or more persons per household or smaller units more suitable for young childless couples and single unrelated adults which can accommodate three persons or less per household.

The existing age distribution for the City of Lompoc is provided in **Figure H-4**. The median age of Lompoc residents is approximately 32 years. Approximately 30 percent (12,310) of the City residents are 17 years or less and approximately 9 percent (3,856) are 65 years or more. Nearly 65 percent (26,176) of the City's population is under 40 years and approximately 19.5 percent of the population is 22 to 34 years of age.

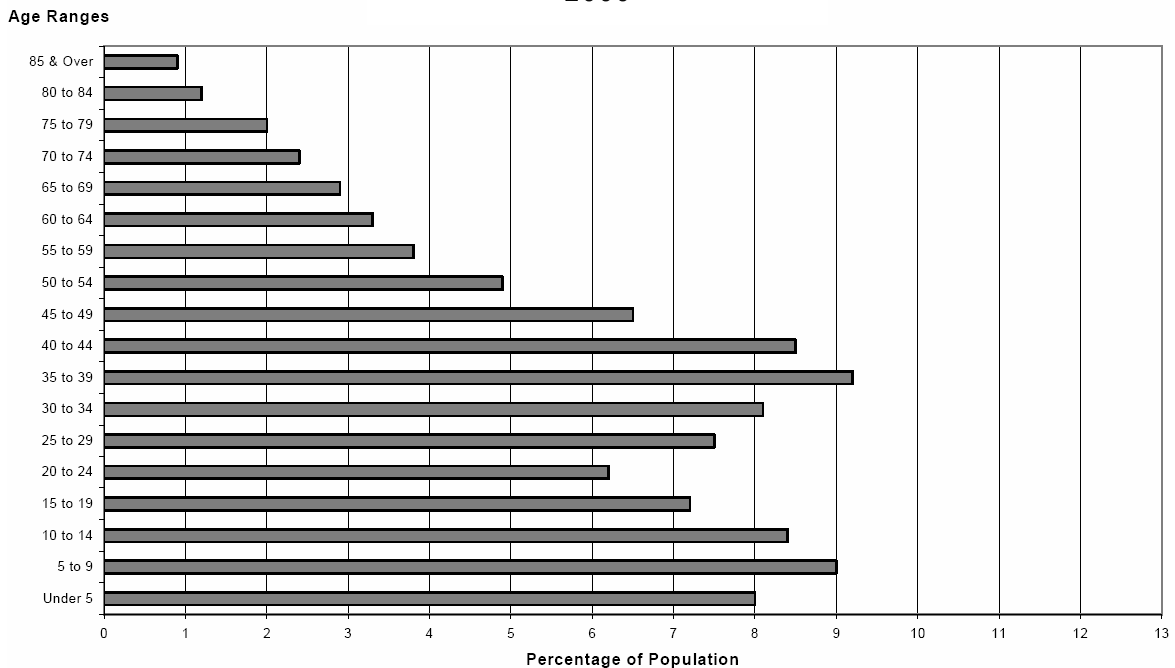
The overall youthfulness of the community and large proportion of the population aged 22 to 34 indicates a need for affordable family housing units which can accommodate three or more individuals and affordable housing units for single adults.

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City residents aged 17 or under typically reside in housing units with their parents or guardians. Residents aged 22 to 34 typically earn less than older members of the work force and are creating new households, starting families and having children. In 1990 females between the ages of 20 and 34 accounted for approximately 78 percent of the annual births within Santa Barbara County. This trend continued into 1995 decreasing only slightly to approximately 74 percent of the annual births. In 1995 births by females age 40 and older increased slightly from approximately 10 percent of the annual births in Santa Barbara County to approximately 13 percent.

Figure H-4

**Age Distribution
City of Lompoc
2000**



Source: U.S. Census Bureau, Census 2000

2.5 Race and Ethnicity

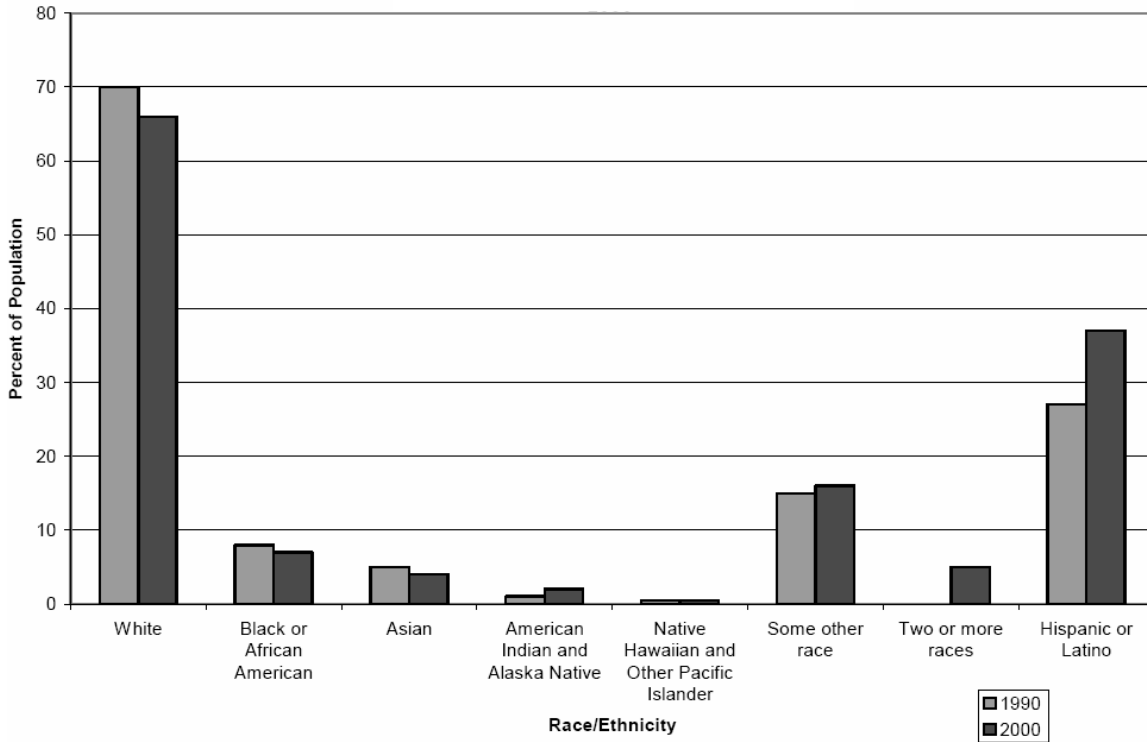
Generally, the number of minority residents decreased slightly between 1990 and 2000. The City of Lompoc population is primarily comprised of persons classified as White (65.8 percent) and not of Hispanic or Latino origin, as shown in the

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Population Ethnicity chart, **Figure H-5**. Approximately 7.3 percent of the population is Black or African American, 3.9 percent is Asian, 0.3 percent is Native Hawaiian/Other Pacific Islander, 1.6 percent is American Indian and Alaska Native, and 15.7 percent is Other. The number of Hispanic or Latino residents increased between 1990 and 2000 from 27 percent to 37 percent. The largest percentage of the Hispanic or Latino population is from Mexico (31.6 percent).

Figure H-5

**Race/Ethnicity
 City of Lompoc
 2000**



Source: U.S. Census Bureau, Census 2000

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2.6 Employment Characteristics

Another factor which contributes significantly to the demand for housing in Lompoc is the amount and type of employment located within the Planning Area and at Vandenberg AFB. As shown in **Table H-6**, government employment accounts for the overwhelming majority of jobs held by Lompoc residents. This statistic is further borne by **Table H-7** that shows federal and local government as the four top employers in the region.

Table H-6 Employment Trends	Jobs				
	2005	2010	2015	2020	2025
Agriculture	980	1,044	1,104	1,164	1,224
Mining	423	423	423	423	423
Construction	354	357	464	468	473
Manufacturing	540	536	532	528	524
Transportation	76	79	81	84	86
Wholesale Trade	47	50	53	56	59
Retail Trade	1,005	1,050	1,350	1,440	1,275
Finance & Real Estate	300	315	380	400	368
Services	2,232	3,326	3,534	4,120	4,838
Government	14,560	14,720	14,880	15,040	15,200

Source: Regional Growth Forecast 2000 – 2030, Santa Barbara County Association of Governments, August 2007.

The State of California Employment Development Department’s (EDD) average annual unemployment rate for Santa Barbara County in 2002 was estimated at 4.2 percent, compared to an average annual unemployment rate for California at 6.7 percent. An average annual unemployment rate for Lompoc in 2002 was estimated at 5.8 percent. Today those figures have climbed dramatically as the nation’s economy continues to weaken. The effect of the current recession is reflected in **Table H-7** which shows large job reductions among the four largest employers. The result is a current unemployment rate of 12.7% in Lompoc compared to 7.2% Countywide.

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Table H-7 Major Employers	2003	2007
Vandenberg	7,509	4,374
Lompoc Unified School District	1,745	1,452
Federal Correction Institution	739	530
City of Lompoc	549	507
Lompoc Hospital	500	500
United Launch Alliance	n.a.	414
Home Depot	n.a.	287

Source: North Santa Barbara County Economic Outlook, UCSB Economic Forecast Project, 2002 and 2008.

3.0 Household Characteristics

3.1 Summary

The vast majority of Lompoc residents live in households; however, families comprised of persons related by blood or marriage are considerably higher in Lompoc compared to the County at large. The youthful population is reflected in a relatively high household size that has steadily increased over the past twenty years. Particularly noteworthy are relatively low incomes with a median that is 20% below the County-wide average. Despite these differences, incidences of overcrowding and overpayment within the City are comparable to those experienced throughout the County.

Table H-8 Household Profile	Comparative Attributes		
	City of Lompoc	Santa Barbara County	Trend
Tenure			
Owners	52%	56%	Steady
Renters	48%	44%	Steady
Household Type			
Families	42%	34%	Steady
Households	58%	66%	Steady
Characteristics			
Household Size	2.88 Persons	2.80 Persons	Increasing
Overcrowding	15%	13%	Increasing
Median Income	\$37,587	\$46,677	Increasing
Overpayment	37%	41%	Steady

Source: U.S. Census, Department of Commerce, 1990 - 2000. Employment Development Department, State of California, January 2009. Also see Tables H-9 through H-21.

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3.2 Household Tenure

Household tenure refers to the status of the occupant, whether he or she owns or rents the unit. Housing tenure provides information on turnover of occupants in a given housing unit and the affordability of the housing market. Renters tend to move more frequently than homeowners and also tend to have less money to spend on housing. Thus, the prevalence of owner occupied households indicates stability within the housing market (i.e. less housing unit turnover) and increased homeownership affordability. Housing tenure data collected over the last 30 years indicates that the housing stock has been closely split between owner occupants and renters in the City (see **Table H-9**).

Within the City there has been a small but steady increase in the number of owner occupied households. In 1970 most households (approximately 51 percent) in Lompoc were renter occupied. In 1980 there were slightly more owner occupied than renter occupied households in the City. By 1990 there were almost 500 more owner occupied than renter occupied households in Lompoc. However, owner occupied units still made up close to half of the total city-wide households. According to the 1990 Census, owner occupied units comprised 52 percent of all households and rental units comprised 48 percent. Owner occupancy increased by two percent from 1980 to 1990. Likewise, according to the 2000 Census, owner occupied units continued to comprise 52 percent of all households and rental units comprised 48 percent. This trend indicates greater stabilization with the City's housing market and increased homeownership affordability.

The homeownership rate within the City has historically been less than in the County as a whole. In the County, owner occupied households have outnumbered renter households by at least 6 percent since 1970 (see **Table H-9**). However, although the proportion of homeowners is greater in the County, the City's homeownership rate increased at the same rate as the County's between 1980 and 1990 (2 percent). The City's homeownership rate remained at 52 percent between 1990 and 2000.

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Table H-9 Households & Tenure	1980		1990		2000	
	No.	%	No.	%	No.	%
City of Lompoc						
Owner Occupied	4,714	50%	6,484	52%	6,733	52%
Renter Occupied	4,666	50%	6,020	48%	6,326	48%
Total Households	9,380	100%	12,504	100%	13,059	100%
County of Santa Barbara						
Owner Occupied	57,867	53%	71,053	55%	76,611	56%
Renter Occupied	51,448	47%	58,749	45%	60,011	44%
Total Households	109,315	100%	129,802	100%	136,622	100%

Source: U.S. Census, Department of Commerce, 1980 – 2000.

Owner-occupants tend to occupy single family dwellings. According to the 2000 Census, approximately 87 percent of all owner occupied units within the City were single family dwellings. The opposite is true for renters. Approximately 35 percent of renter occupied units in Lompoc were single family dwellings in 2000.

3.3 Household Sizes

Household size is defined as the total number of persons, related or not, living in a housing unit. Although household size has decreased overall since 1970, it has increased since 1980 (see **Table H-10**). The recent increase in household size is evidenced by the greater proportion of households with four or more occupants (see **Table H-11**). Between 1980 and 1990 the proportion of all households with four or more occupants has increased by four percent. Similarly, between 1990 and 2000 the proportion of all households with four or more occupants increased by three percent.

Table H-10 Average Household Size	1970	1980	1990	2000
Household Population	24,090	24,929	35,123	37,664
Number of Households	7,564	9,380	12,504	13,059
Persons/Household	3.18	2.66	2.81	2.88

Source: U.S. Census, Department of Commerce, 1970 – 2000.

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Table H-11 Distribution of Household Sizes	1980		1990		2000	
	Households	%	Households	%	Households	%
1 Person	2,215	24	2,766	22	3,066	23
2 Person	2,998	32	3,743	30	3,677	28
3 Person	1,739	18	2,285	18	2,118	16
4 Person	1,392	15	1,986	16	2,037	16
5 Person	638	7	957	8	1,178	9
6 or More Persons	398	4	767	6	983	8
Total	9,380	100	12,504	100	13,059	100

Source: U.S. Census, Department of Commerce, 1980 - 2000.

3.4 Household Overcrowding

According to the U.S. Census an overcrowded household is one in which there is more than one person per room, excluding the kitchen and bathrooms. With the exception of a slight decrease in the incidence of household overcrowding between 1970 and 1980, overcrowding in Lompoc has been increasing since 1970. Incidence of household overcrowding dropped by nearly 2 percent between 1970 and 1980 (see **Table 8**). However, it rose by approximately 6 percent between 1980 and 1990 and 4 percent between 1990 and 2000.

The sharpest rise in household overcrowding between 1970 and 2000 came in the number of households with 1.51 or more persons per room. Between 1970 and 1980 the incidence of overcrowded households with 1.51 or more persons per room increased by approximately 42 percent. Between 1980 and 1990 the incidence of overcrowded households with 1.51 or more persons per room rose sharply by 291 percent and accounted for 52 percent of all overcrowded households. Between 1990 and 2000 the incidence of overcrowding in households with 1.51 or more persons per room increased by 33 percent.

Between 1990 and 2000 incidences of household overcrowding rose in both the number of households with 1.01 to 1.50 persons per room as well as with 1.51 or more persons per room. Incidences of household overcrowding rose 54 percent in households with 1.01 to 1.50 persons per room compared with 33 percent in households with 1.51 or more persons per room. However, incidences of overcrowding in

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households with 1.51 or more persons per room still accounts for nearly 50 percent of all overcrowded households.

The increased overcrowding among Lompoc households demonstrates a need for additional housing space. Household overcrowding also indicates that there is a shortage of income necessary to move to larger accommodations. Housing space appears to be priced at a premium. Households are adjusting by settling for less space rather than buying more space.

Table H-12 Overcrowded Households	1970	1980	1990	2000
Total Households	7,564	9,380	12,504	13,059
1.01-1.50 Persons	396	311	653	1,004
1.51 or More Persons	127	181	708	942
Total Overcrowding				
Number	523	492	1,361	1,946
Percent	6.9%	5.2%	10.9%	14.9%
Source: U.S. Census, Department of Commerce, 1970 - 2000.				

Overcrowding is more prevalent among renter occupied households than owner occupied households. In 1980 approximately 74 percent of all overcrowded households were renter occupied. By 1990 the proportion of overcrowded households which were renter occupied rose to approximately 79 percent. Approximately 18 percent of all renter households (1,069 of 6,020) were overcrowded in 1990. By 2000 the proportion of overcrowded households which were renter occupied decreased to approximately 68 percent, however, renter occupied overcrowded households remains high (1,333 of 6,353) as shown in **Table H-13**. This indicates that overcrowded households in Lompoc tend to be renter occupied and that a substantial number of Lompoc renters (approximately 3,851) are living in overcrowded conditions.

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Table H-13 Overcrowded Households by Tenure	2000	
	Owner Occupied	Renter Occupied
Total Households	6,711	6,353
1.01-1.50 Persons	374	630
1.51 or More Persons	239	703
Total Overcrowding		
Number	613	1,333
Percent	9.1%	21.0%

Source: U.S. Census, Department of Commerce, 2000.

3.5 Household Types

The distribution of household types has changed very little over the past twenty years. The majority of households in Lompoc are family households. In fact family households make up approximately 71 percent of all households in the City (see **Table 10**). The second most common household type are one-person households which make up 24 percent of all households. The remaining households are nonfamily households (two or more unrelated persons) and account for 5 percent of all households.

Table H-14 Household Distribution	1990		2000	
	Households	%	Households	%
1 Person	2,766	22	3,066	24
2+ Person	8,986	72	9,310	71
Non-Family	752	6	683	5
Total Households	12,504	100	13,059	100

Source: U.S. Census, Department of Commerce, 1990 - 2000.

Family household sizes are significantly larger than all other households. According to the 2000 Census, the average household size for all households citywide was 2.88 persons while the average family household size was 3.42 persons. Family households composed approximately 71 percent of all households but accounted for approximately 88 percent of the City's household population (see **Table H-15**) and non-family households composed approximately 29 percent of all households but accounted for approximately 12 percent the City's household population. Consequently, family

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households require more space and larger housing units than nonfamily households to avoid overcrowded conditions.

Table H-15 Population Distribution	1980		1990		2000	
	Persons	%	Persons	%	Persons	%
Non-Family	3,407	14	4,546	13	4,640	12
Family	21,522	86	30,577	87	33,024	88
Total	24,929	100	35,123	100	37,664	100

Source: U.S. Census, Department of Commerce, 1980 - 2000.

3.6 Household Income

The California Department of Housing and Community Development (HCD) defines household income groups and the U.S. Department of Housing and Urban Development (HUD) calculates income levels relative to the county median. There are five household income group categories: extremely low, very low, low, moderate, and above moderate. Although exact calculations vary between HCD and HUD, the household incomes are generally defined as follows: extremely low-income households are households with incomes less than 30 percent of the area median income; very low-income households are households with incomes between 30 and 50 percent of the area median income; low-income households are households with incomes between 51 and 80 percent of the county median income; moderate-income households are households with incomes between 81 and 120 percent of the county median income; and above moderate-income households have incomes above 120 percent of the county median income. The 2007 income limits for Santa Barbara County are listed (see **Table 16**).

Table H-16 2007 Income Limits	Household Sizes			
	1 Person	2 Person	3 Person	4 Person
Extremely Low	\$14,100	\$16,100	\$18,150	\$20,750
Very Low	\$23,500	\$26,850	\$30,200	\$33,550
Low	\$37,600	\$42,950	\$60,400	\$67,100
Moderate	\$56,000	\$64,400	\$72,500	\$80,500
Above Moderate	> \$56,000	> \$64,400	> \$72,500	> \$80,500

Source: Title 25, Section 6932 of the California Code of Administrative Regulations effective March 2007.
Notes:

1. "AMI" means Area Median Income.
2. 2007 Income Limits are used insofar as 2007 marks the beginning of the current Housing Element cycle.

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Table H-17 Income Trends	1980		1990		2000	
	No. of Hslds.	%	No. of Hslds.	%	No. of Hslds.	%
Extremely Low	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Very Low	2,720	29	3,251	26	3,766	29
Low	1,501	16	2,376	19	2,703	21
Moderate	1,876	20	1,500	12	2,459	19
Above Moderate	3,283	35	5,376	43	4,134	32
Source: U.S. Census, Department of Commerce, 1980 – 2000; State Department of Housing and Community Development and Santa Barbara County Association of Governments.						
Note: Based on the 1999 median household income for Santa Barbara County of \$46,667						

Available household income is one of the most critical factors influencing the demand for housing. The City of Lompoc 1999 household income estimates are provided in **Table H-17**. Household incomes in Lompoc are lower than countywide incomes. According to the 2000 Census, the 1999 median household income for Lompoc was \$37,587. This represents approximately 80 percent of the median countywide household income (\$46,677). The income disparity is even greater for family households. The 1999 median family household income for Lompoc (\$42,199) represents approximately 78 percent of the countywide family household income (\$54,042).

The 2000 distribution of household incomes in Lompoc is provided in **Table H-18**. Lompoc household income information from the 2000 Census shows that the proportion of very low-income households within the City has increased by approximately 3 percent between 1990 and 2000 (from 26 to 29 percent). The proportion of low-income households in Lompoc increased by 2 percent between 1990 and 2000. The proportion of moderate-income households rose by 7 percent between 1990 and 2000. However, the proportion of above-moderate households decreased significantly by 11 percent during the same period. Therefore, there was a shift from the higher income category to the very low-, low-, and moderate-income households between 1990 and 2000.

Government agencies, lenders, and landlords generally consider a household eligible to rent or buy if monthly payments do not exceed 30 percent of total household income. Information released from the 2000 Census indicates that 4,361 households currently are overpaying (paying over 30% of household income on direct housing costs) (see **Tables H-19 and H-20**). According to the 1990 Census information,

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Table H-18 Income Distribution	1999 INCOMES			
	No. of Households	% of Total Households	No. of Families	% of Total Families
Income Ranges				
0-\$14,999	2,175	16.6	1,146	12.3
\$15,000 - \$24,999	1,908	14.6	1,327	14.2
\$25,000 - \$34,999	2,048	15.7	1,310	14.1
\$35,000 - \$39,999	760	5.8	574	6.2
\$40,000 - \$49,999	1,408	10.8	1,082	11.6
\$50,000 - \$74,999	2,615	20.0	2,088	22.4
\$75,000 +	2,148	16.4	1,787	19.2
Total	13,062	100	9,314	100
Median Income	\$37,587		\$42,199	
Average Income	\$45,958		\$50,059	

Source: U.S. Census, Department of Commerce, 2000.

4,098 households were overpaying for housing within the City. Although the number of households overpaying for housing within the City has increased since 1990, the percentage of households relative to the total number of households within the City has remained the same as in 1990. This represents approximately 33 percent (2000: 4,361 / 13,059; 1990: 4,098/12,504) of all households citywide.

Table H-19 Owner Overpayment for Housing	Households Paying 30% or More for Housing	
	No.	%
Less than \$10,000	84	1.5
\$10,000 - \$19,999	287	5.0
\$20,000 - \$34,999	497	8.7
\$40,000 - \$49,999	356	6.2
\$50,000 or More	379	6.6

Source: U.S. Census, Department of Commerce, 2000.

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Table H-20 Renters Overpayment for Housing	Households Paying 30% or More for Housing	
	No.	%
Less than \$10,000	714	11.2
\$10,000 – \$19,999	1,021	16.1
\$20,000 – \$34,999	931	14.7
\$40,000 – \$49,999	78	1.2
\$50,000 or More	14	0.2

Source: U.S. Census, Department of Commerce, 2000.

Overpayment is more prevalent among renter occupied households than owner occupied households (see **Table H-20**). According to the 2000 Census information, 2,758 of the 4,361 households overpaying for housing were renter occupied. This accounts for 63 percent of households overpaying for housing ($2,758/4,361 = 63\%$; see Table H-21)). However, the number of renter households overpaying for housing within the City has decreased slightly between 1990 and 2000. In 1990, 65 percent of renter households were overpaying for housing compared to 63 percent in 2000, a decrease of 2 percent. The 2000 Census information indicates that 1,603 households overpaying for housing were owner occupied. This accounts for 37 percent of households overpaying for housing which is slightly higher than in 1990 ($1,603/4,361 = 37\%$; See Table H-21).

Table H-21 Housing Overpayment	Renter Households		Owner Households		Total Households	
	No.	%	No.	%	No.	%
Extremely Low	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Very Low	1,942	70	482	30	2,424	56
Low	736	27	442	27	1,178	27
Moderate	66	2	301	19	367	8
Above Moderate	14	1	379	24	393	9
Total	2,758	100	1,603	100	4,361	100

Source: U.S. Census, Department of Commerce, 2000.
Note: Totals may not add up precisely due to rounding.

Approximately 97 percent of renter households which overpay are lower-income households (households in the very low- and low-income categories). Slightly more than half (approximately 57 percent) of owner households which overpay are lower-income households.

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Household overpayment has a direct effect upon the standard of living for community residents. Households which overpay for housing have fewer dollars available for other necessities such as food, clothing, and healthcare. Very low- and low-income residents have the tightest budgets and are more adversely affected by housing overpayment than higher income households. That is, above-moderate households can afford to spend more than 30 percent of household income on housing since they have more discretionary dollars which are not earmarked for basic necessities. Consequently, above moderate-income households normally overpay for housing by choice. In addition, lower-income renter occupied households do not have the option of selling their home (or borrowing against equity) to raise additional capital in the event of an emergency. Owner occupied households have the option of selling or renting a portion of their home to offset unexpected expenses.

Table H-22 Housing Profile	Comparative Attributes		
	City of Lompoc	Santa Barbara County	Trend
Dwelling Types			
Single Family	60%	66%	Steady
Multiple Family	33%	28%	Steady
Mobile Homes	7%	6%	Steady
Characteristics			
Median Housing Age	39 Years	40 Years	Steady
Housing Condition	3.6% Substandard	6.5% Substandard	Steady
Vacancy Rate	4.1%	4.34%	Declining
Costs (Median)			
Purchase Price	\$377,354	\$1,250,000	Declining
Rental Rate	\$562	\$886	Declining
Source: U.S. Census, Department of Commerce, 1990 - 2000. Finance Department, State of California, January 2009. Also see Tables H-23 through H-30.			
Notes: Housing Condition is based on 2000 U.S. Census data; % substandard reflects total units that lack complete plumbing, kitchen and heating facilities.			

4.0 Housing Characteristics

4.1 Summary

The distribution of housing types within the City reflects its semi-rural character and family orientation; single family homes comprise nearly two-thirds of all

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dwelling. Comparatively speaking, the distribution reflects a slightly better balance between housing types than is true for the County at large. While the age and availability of housing is comparable, substandard conditions and excessive costs are far more profound at the County level. In summary, housing in Lompoc is far more affordable compared to other areas of the County, even with incomes that are markedly lower.

4.2 Housing Quantity and Type

The supply of housing in Lompoc increased sharply between 1970 and 1990 but only minimally between 1990 and 2000 (see **Table H-23**). Between 1970 and 1980 the housing stock increased by approximately 24 percent. Between 1980 and 1990 the supply increased by 3,384 units or an additional 34 percent. However, recent data from the U.S. Census Bureau indicates that the housing stock in the City of Lompoc increased by 360 units between 1990 and 2000, from 13,261 to 13,621 units. This change represents a 2.7 percent increase in the supply of housing in Lompoc. More recent data from the California Department of Finance shows slight upward increase from the previous 10-year period, but far below the rate of growth realized before 1990. Between 2000 and 2007, 471 new dwellings were added to the City’s housing inventory, representing an increase of 3.5%.

The data summarized in **Table H-23** indicates the slow growth of the housing inventory in the City since 1990. The period from 1980 to 1990 showed a 34.3 percent increase in total housing units, with an average increase of 338 units per year, compared to the period between 1990 and 2007 where an average increase of 49 units per year was experienced, yielding an overall increase of 6.3 percent. The actual growth of the housing inventory varies from year to year, however, there has been a marked decline in the units since the year 1991.

Table H-23 Housing Supply	No. of Dwelling Units				
	1970	1980	1990	2000	2007
Total Units	7,997	9,877	13,261	13,621	14,092
Units Added	-	1,880	3,384	360	471
Percent Change	-	23.5	34.3	2.7	3.5%

Source: U.S. Census, Department of Commerce, 1970 – 2000. Population and Housing Estimates, California Department of Finance, 2007

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The growth trend in housing unit production experienced in the City of Lompoc between 1990 and 2000 is consistent with the slow increase experienced in Santa Barbara County. **Table H-24** shows that housing unit production in Santa Barbara County increased by approximately 3.4 percent between 1990 and 2000, a decrease from 20.2 percent between 1980 and 1990. While the percentage change in housing units within the County between 2000 and 2007 was more than double the amount experienced for Lompoc, both lagged behind growth in the State as a whole.

Table H-24 Housing Change	No. of Dwelling Units				
	1990	% Change	2000	% Change	2007
State of California	11,182,882	9.2%	12,214,549	9%	13,312,729
Santa Barbara County	138,149	3.4%	142,901	7.7%	153,903
City of Lompoc	13,261	2.7%	13,621	3.5%	14,092

Source: U.S. Census, Department of Commerce, 1990 – 2000. Population and Housing Estimates, California Department of Finance, 2007.

Note: Slight differences in unit tabulations for the City of Lompoc appearing in Tables H-24 and H-25 in years 1990 and 2000 are attributable to the different data sources used. See note at bottom of Table H-25.

In 2000, according to the U.S. Census, there were approximately 13,582 housing units within the City (see **Table H-25**). There are three basic types of housing units for which data is presented: single family detached units (including planned unit developments), multiple-family units ranging from duplexes to large apartment developments, and mobilehomes located in mobilehome parks and on individual lots.

The predominant type of dwelling unit continues to be the conventional single family residence in the City. As of 2007, the majority (approximately 53 percent) of these units were single family detached units. Together, detached and attached single family units make up approximately 60 percent of the housing supply. Multi-family units comprise approximately 33 percent of the housing stock and mobilehomes account for approximately 7 percent. The distribution between the different types of housing (single family, multi-family and mobilehomes) remains virtual unchanged from 1990 to the present.

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Table H-25 Housing Distribution	No. of Dwelling Units				
	1990	Distribution	2000	% Change	2007
Single Family					
Detached	6,976	52.7%	7,211	3.3%	7,451
Attached	905	6.8%	1,044	0%	1,045
Multi-Family					
2-4 Units	1,833	13.9%	1,860	5.1%	1,955
5+ Units	2,636	19.9%	2,570	5.1%	2,701
Mobilehomes	881	6.7%	897	4.8%	940
Total	13,231	100%	13,582	3.8%	14,092
<p>Source: U.S. Census, Department of Commerce, 1990 – 2000. Population and Housing Estimates, California Department of Finance, 2007.</p> <p>Note: There are 130 housing units for 1990 and 39 housing units for 2000 reported to the U.S. Census Bureau that include boat, tent, RV, and van which showed obvious signs of use as living quarters. These 130 units and 39 units are not included in the total number of units shown in above.</p>					

4.3 Housing Age

According to the 2000 Census, approximately 50 percent (6,711 units) of the City’s housing unit stock was built prior to 1970 (see **Table H-26**). Although regular maintenance can prolong the life of the older homes beyond 30 years, the passage of time will increase the cost and magnitude of needed housing repairs. Generally, housing units over 40 years old require large financial expenditures to prolong their useful life and prevent substantial deterioration. Older homes may need electrical rewiring, modernized plumbing systems and new foundation work. Approximately 21 percent (2,848 units) of the City’s housing unit stock was built prior to 1960 and would be in this category. Given the age of the existing housing stock, periodic ongoing maintenance is critical to prevent significant deterioration and protect the existing housing supply.

In addition to the housing age, information included in **Table H-26** indicates that nearly all of the City’s housing units (99.4 percent) had complete plumbing facilities in 2000.

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Table H-26 Housing Stock Age	Housing Units	
Year of Construction	No.	Percent
1999 - March 2000	131	1.0
1995 - 1998	307	2.2
1990 - 1994	863	6.3
1980 - 1989	3,147	23.1
1970 -1979	2,466	18.1
1960 - 1969	3,863	28.4
1950 - 1959	1,898	13.9
1940 - 1949	478	3.5
Before 1940	472	3.5
Total	13625	100.0
Plumbing Facilities	All Housing Units	% of Total
Units With Complete Plumbing Facilities	13,547	99.4
Units Lacking Complete Plumbing Facilities	78	0.6
Total	13,625	100.0

Source: U.S. Census, Department of Commerce, 2000.
Note: Slight differences in unit tabulations for the City of Lompoc appearing in Tables H-24, H-25 and H-26 are attributable to the different data sources and numeric rounding.

4.4 Housing Condition

The City has conducted independent housing condition surveys in 1991 and 2003. Housing unit conditions were rated using four classifications: A, B, C, or D. Generally, units rated “A” were in satisfactory condition or better, with no visible existing repair needs; units rated “B” required minor rehabilitation to be restored to an “A” condition; units rated “C” required major rehabilitation to be restored to an “A” condition; and units rated “D” were dilapidated and required replacement.

In a survey conducted by the City in 2003, a total of 9,177 housing units or approximately 66 percent of the City’s housing stock was evaluated. Units built after 1980 (approximately 4,615) were not surveyed, since they were assumed to be rated “A”

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because they were less than 20 years old and hence were built in compliance with the Uniform Building Code. The findings of the study are provided in **Table H-27**.

Table H-27 Housing Conditions	Housing Conditions Rating				
	A	B	C	D	Total
Single Family	6,833	1,333	82	4	8,252
Multi-Family	3,859	647	88	6	4,600
Mobile Home	826	109	5	N/A	940
Total					
Number	11,518	2,089	175	10	13,792
Percent	83%	15%	1%	0.1%	100%

Source: Housing Conditions Survey, City of Lompoc, 2003.

The 2003 housing condition study found that 83 percent of the City’s housing stock was well-maintained and appeared in adequate or better condition. Most of these units have been recently built and received steady maintenance. The regularity of future maintenance will determine whether these units remain in “A” condition or slip to “B” condition.

Approximately 16 percent of the City’s housing (2,264 units) appeared in need of some form of rehabilitation (“B” and “C” units). The vast majority of units requiring rehabilitation were in “B” condition and appeared in need of relatively small financial expenditures (under \$10,000) to be considered in “A” condition. However, these “B” condition units (2,089) are in the early stages of deterioration. They are units which can be repaired and provide a long-term source of quality housing or can deteriorate further and become beyond reasonable economic repair. Various factors determine whether “B” condition units slip to “C” condition. These factors include: the severity and urgency of the repair needs, the willingness of owners to make needed repairs before they become critical, the availability of private funds to spend on housing repairs, and the ability of the City to obtain and allocate public funds for those in need of financial or technical assistance.

Approximately one percent of the City’s housing stock (175 housing units) in 2003 was severely deteriorated, requiring a large expenditure of funds (more than \$10,000) to repair. In fact, in at least 13 cases housing units appeared to have deteriorated beyond reasonable economic repair and needed to be replaced.

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The presence of severely deteriorated and dilapidated housing creates many negative side effects. These units can pose a safety hazard to their occupants and neighbors. They may become abandoned and serve as dangerous playgrounds for children or in some cases centers for criminal activity. In addition, “C” and “D” condition units can decrease property values of adjacent units and deter private investment within a neighborhood. This in turn, decreases housing supply, hinders marketability of nearby units, deters new development, and creates a disincentive for nearby property owners to maintain their residences. Consequently, a larger number of units become susceptible to neglect within a concentrated area. As a result, housing deterioration may spread throughout a block or neighborhood.

4.5 Vacancy Rate

Vacancy rates provide a quantifiable measurement of excess housing supply. Vacant units are the portion of the City’s housing stock which is unoccupied. The rule of thumb is that a 4.5% to 5.0% vacancy rate indicates a good balance of supply and demand in the housing market. Vacancy rate information is provided by the U.S. Census Bureau and is monitored monthly by the City via its electric meters (electric meters are turned off when a unit is vacant). The total overall vacancy rate in the City was 4.1 percent according to the 2000 Census (see **Table H-28**). The Census data also indicates that vacancy rates have customarily been higher for renter occupied units than owner occupied units. The vacancy rate as reported in the 2000 Census is lower than the 5.7 percent vacancy rate reported in 1990 indicating that there are less housing units available compared to population in 2000 than in 1990. Furthermore, the 2000 vacancy rate is lower than the 4.5 percent to 5.0 percent vacancy rate range indicating an imbalance between the supply and demand of housing in the City.

Table H-28 Housing Vacancy	1970	1980	1990	2000
Ownership Vacancy Rate	2.1%	4.9%	1.4%	0.8%
Rental Vacancy Rate	6.9%	5.1%	7.6%	4.0%
Average Overall Vacancy Rate	5.4%	5.0%	5.7%	4.1%
Source: U.S. Census, Department of Commerce, 1970 - 2000.				

4.6 Housing Costs

Housing cost changes for Lompoc and surrounding jurisdictions are presented in **Table H-29**. Based on a combination of decennial census data and recent

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sales activity, Lompoc is shown to be among the most affordable communities in Santa Barbara County. The cost of ownership housing in Lompoc is the least of all jurisdictions and second only to Guadalupe in having the lowest rents. Throughout the County, the cost to buy homes has increased dramatically in the past seven years compared to the period between 1990 and 2000. However, this trend has now reversed as the nation as a large experiences a broad contraction in the housing market accompanied with the onset of an economic recession. Between 2006 and 2007, the pricing of ownership housing in Lompoc declined 13.7%. Rents, on the other hand, continue to rise although at much less dramatic pace (Tables H-29 and H-30).

Table H-29 Housing Cost Profile	Median Purchase Prices			Median Rental Rates	
	1990	2000	2007	1990	2000
Lompoc	\$144,400	\$143,000	\$377,354	\$514	\$562
Guadalupe	\$ 86,100	\$113,200	\$383,200	\$431	\$509
Santa Maria	\$140,300	\$140,000	\$384,813	\$548	\$613
Buellton	\$223,900	\$235,300	\$628,861	\$667	\$689
Solvang	\$303,600	\$339,500	\$827,250	\$688	\$798
South Coast	n.a.	\$605,000	\$1,250,000	\$715	\$886

Source: U.S. Department of Commerce, Bureau of the Census, 1990 and 2000 Census Reports. Residential Real Estate Market Activity, UCSB Economic Forecast, February 2008.
Note: 2007 marks the beginning of the current Housing Element cycle.

Table H-30 Fair Market Rents	0 Bedroom	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom
2000	\$624	\$693	\$878	\$1,223	\$1,380
2001	\$638	\$708	\$897	\$1,250	\$1,411
2002	\$660	\$732	\$928	\$1,293	\$1,460
2003	\$696	\$773	\$980	\$1,364	\$1,540
2004	\$721	\$800	\$1,015	\$1,412	\$1,595
2005	\$801	\$895	\$1,004	\$1,322	\$1,509
2006	\$828	\$924	\$1,037	\$1,366	\$1,559
2007	\$856	\$956	\$1,073	\$1,413	\$1,613

Source: Fair Market Rent History for Santa Barbara—Santa Maria--Lompoc, U.S. Department of Housing and Urban Development, 2000-2007.
Note: 2007 marks the beginning of the current Housing Element cycle.

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5.0 Affordability Characteristics

5.1 Summary

Housing affordability is a function of household income, cost components, affordability thresholds and market pricing. As noted in Section 4.6, Lompoc is among the most affordable communities in Santa Barbara County. However, affordability is not uniformly enjoyed across all income spectrums. In general, market rate rental units are affordable to moderate income groups while exceeding the hypothetical means of lower income households. With the exception of condominiums for moderate income purchasers, ownership housing is out of the reach of all other target income categories.

5.2 Operative Terms

Affordability is a function of household income and housing costs, with adjustments for family size and bedroom count. The thresholds for determining affordability are pegged against the areawide median and are displayed in **Table H-31**. Housing costs include mortgage, rent, taxes, insurance, maintenance and utilities. The limits placed on housing costs affordable to target income groups are prescribed by State law and vary according to income category and housing unit type. For rental units, the housing cost threshold is computed as 9% of the areawide median for extremely low income (i.e., 30% x 30% = 9%), 15% for very low, 18% for lower income and 33% for moderate income. The housing cost threshold for homebuyers is computed as 9% of the areawide median for extremely low income, 15% for very low income, 21% for lower income and 38.5% for moderate income.

Table H-31 Definition of Terms	Housing Cost Thresholds	
	For Sale	Rental Units
Extremely Low	30% of 30% of AMI	30% of 30% of AMI
Very Low	30% of 50% of AMI	30% of 50% of AMI
Low	30% of 70% of AMI	30% of 60% of AMI
Moderate	35% of 110% of AMI	30% of 110% of AMI
Source: State of California, Health and Safety Code, Sections 50052 and 50053, and Title 25, Section 6932 of the California Code of Administrative Regulations.		

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5.3 Affordability Gap

Affordability gap constitutes the difference between the financial capacity of target income groups and the actual cost of market rate housing. The computation is made by subtracting the affordability thresholds for corresponding income groups from the direct and indirect costs of housing in the market area. For rental rates and purchase prices, a combination of source data is used including: market data from the University of California at Santa Barbara, UCSB Economic Forecast Project; home sales data from DataQuick Real Estate Services; and Fair Market Rent data from the U.S. Department of Housing and Urban Development. For purchased housing, principal and interest computations (along with minimum downpayment requirements) are based on the most preferable terms available through the California Housing Finance Agency; taxes are estimated at 1.15% of value; and insurance, maintenance and utilities are figured at \$269 per month (Table H-32). For rental housing, indirect costs are derived from utility allowance schedules used by the Housing Authority of Santa Barbara County in computing rent subsidies (Table H-33). The resulting analysis follows in Paragraphs 5.4 and 5.5 below.

Table H-32 Ownership Housing Cost Factors	Mortgage Variables				
	Mortgage Term	Interest Rate	Down Payment	Silent Second	Mortgage Insurance
Target Groups					
Extremely Low	30-Yr Fixed	5.63%	0%	3%	1%
Very Low	30-Yr Fixed	5.63%	5%	3%	1%
Low	30-Yr Fixed	5.63%	10%	3%	1%
Moderate	30-Yr Fixed	6.38%	15%	3%	1%
	Incidental Monthly Housing Costs				
	Property Taxes	Insurance	Mainten- ance	Utility Ex- pense	HOA Fees
Housing Type					
Single Family	1.15%	\$40	\$40	\$189	
Condominium	1.15%	Included with HOA Fee		\$169	\$100
Source: State of California, Housing Finance Agency, November 2007.					
Note: Incidental Housing Costs (other than Utility Expense) are based on typical real estate cost factors. Utility Expense is derived from Table H-33.					

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Table H-33 Monthly Rental Housing Cost Factors	Single Family Property				
	0 Bed- room	1 Bed- room	2 Bed- room	3 Bed- room	4 Bed- room
Utilities					
Heating	\$12	\$13	\$15	\$17	\$19
Cooking	\$2	\$2	\$2	\$2	\$2
Water Heater	\$7	\$9	\$11	\$15	\$19
Misc.	\$24	\$28	\$32	\$37	\$43
Services					
Water	\$25	\$29	\$34	\$42	\$51
Sewer	\$48	\$48	\$48	\$48	\$48
Trash	\$17	\$17	\$17	\$17	\$17
Misc.	\$11	\$11	\$11	\$11	\$11
Total	\$146	\$157	\$170	\$189	\$210
	Multiple Family Property				
	0 Bed- room	1 Bed- room	2 Bed- room	3 Bed- room	4 Bed- room
Utilities					
Heating	\$9	\$11	\$13	\$15	\$16
Cooking	\$2	\$2	\$2	\$2	\$2
Water Heater	\$7	\$9	\$11	\$15	\$19
Misc.	\$24	\$28	\$32	\$37	\$43
Services					
Water	\$25	\$29	\$34	\$42	\$51
Sewer	\$30	\$30	\$30	\$30	\$30
Trash	\$17	\$17	\$17	\$17	\$17
Misc.	\$11	\$11	\$11	\$11	\$11
Total	\$125	\$137	\$150	\$169	\$189
Source: Section 8 Allowances for Tenant-Furnished Utilities and Other Services, Housing Authority of Santa Barbara County, January 1, 2008.					
Note: Utility Expenses are based on natural gas for heating, cooking and water heater.					

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5.4 Ownership Affordability

According to transactional data published by DataQuick Real Estate Services and the UCSB Economic Forecast, the 2007 median for single family home purchases within Lompoc is \$376,000 and \$266,000 for condominiums. This represents a decline of 9.5% and 14.2%, respectively, in prices compared to sales in 2006. This data is based on 165 sales with an average unit size of 3.1 bedrooms. Utilizing household adjustment factors published in the California Health and Safety Code, the maximum household size on which to determine household income and compute affordable sales price for a three-bedroom dwelling is four persons. This translates to an adjusted 2007 household income of \$67,100. The resulting analysis appears in **Table H-34** and shows that single family ownership housing is generally beyond the financial means of all target income households. Condominiums, on the other hand, are affordable to persons and families of moderate income but not to households below this income threshold.

Table H-34 Ownership Housing Analysis	Single Family (3 Bedroom)	Condominium (3 Bedroom)
Demographic Baseline		
Household Size	4	4
Adjusted Median Income	\$67,100	\$67,100
Housing Cost Factors		
Median Sales Price	\$376,000	\$266,000
PIMI + Incidental Costs (Monthly)		
Extremely Low	\$2,990	\$ 2,194
Very Low	\$2,868	\$ 2,108
Low	\$2,746	\$ 2,021
Moderate	\$ 2,772	\$ 2,040

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Table H-34 Ownership Housing Analysis	Single Family (3 Bedroom)	Condominium (3 Bedroom)
Housing Cost Limit (Monthly)		
Extremely Low	\$503	\$503
Very Low	\$839	\$839
Low	\$1,174	\$1,174
Moderate	\$2,153	\$2,153
Affordability Gap		
Extremely Low	(\$2,487)	(\$1,691)
Very Low	(\$2,029)	(\$1,269)
Low	(\$1,572)	(\$847)
Moderate	(\$619)	\$113
Source: Tables H-31, H-32 and H-33.		
Notes: PIMI means and includes principal, interest and mortgage insurance. Utility Expenses are based on natural gas for heating, cooking and water heater.		

5.5 Rental Affordability

Lompoc’s rental market is relatively affordable, particularly in comparison to other communities in the County. Lompoc is second only to Guadalupe in having the lowest median rent at \$687 (adjusted from 2000 Census Data to 2007 based on annual inflationary factor of 3.5%). Utilizing Fair Market Rent data for Santa Barbara County published by the U.S. Department of Housing and Urban Development for the Section 8 Housing Assistance Program, rents in Lompoc are generally affordable to moderate income households but not other target income groups (**Table H-35**). This conclusion is highly conservative insofar as the median rent charged for Lompoc housing is considerably lower than the Fair Market Rents applicable to the County at large.

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Table H-35 Rental Housing Analysis	No. of Bedrooms			
	0	1	2	3
Demographic Baseline				
Household Size	1	2	3	4
Adjusted Median Income				
Housing Cost Factors				
Fair Market Rent	\$856	\$956	\$1,073	\$1,413
Utility Allowance	\$125	\$137	\$150	\$169
Subtotal	\$981	\$1,093	\$1,223	\$1,582
Housing Cost Limit (Monthly)				
Extremely Low	\$353	\$403	\$453	\$503
Very Low	\$588	\$671	\$755	\$839
Lower	\$705	\$806	\$906	\$1,007
Moderate	\$1,293	\$1,477	\$1,661	\$1,845
Affordability Gap				
Extremely Low	(\$628)	(\$690)	(\$770)	(\$1,079)
Very Low	(\$393)	(\$422)	(\$468)	(\$743)
Lower	(\$276)	(\$287)	(\$317)	(\$575)
Moderate	\$312	\$384	\$438	\$263
Source: Tables H-31, H-32 and H-33.				
Notes:				
1. Utility allowance is the amount used by Santa Barbara Housing Authority in computing Fair Market Rent adjustments.				
2. Number of persons and bedrooms are matched according to State HCD criteria as per Health and Safety Code Section 50052.5(c).				

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NEEDS ASSESSMENT

6.0 Introduction

Housing needs, for Housing Element purposes, are driven by five basic factors: (i) expansion to accommodate increased population; (ii) replacement and rehabilitation due to deterioration or removal; (iii) housing relief for overcrowded conditions and persons paying more than they can afford; (iv) accommodation of persons with special housing needs; and (v) preservation of assisted units at risk of conversion. The requirement for accommodating future growth is covered in Section 8.0 while the needs of the existing population are discussed in Section 7.0.

7.0 Existing Housing Needs

7.1 Summary

As shown in **Table H-36**, persons paying in excess of 30% of their income for housing represents the single biggest challenge for Lompoc residents. This need is particularly pronounced for renters with nearly twice the number of persons overpaying compared to owners. The same is true for overcrowding where nearly 21% of all renters live in overcrowded conditions compared to only 9% of owners. Substandard housing is the least pervasive of the three basic need components with renters and owners bearing a comparable burden. **Table H-37** provides a quantitative breakdown of various population segments whose needs are most acute. In sum total, disabled, elderly, homeless and farmworkers together represent 24% of the City’s total population while elderly, large families and female-headed households comprise 40% of all households.

Table H-36 Indicators of Need	Overpaying		Overcrowding		Substandard		Total	
	No.	%	No.	%	No.	%	No.	%
Owner Households	1,603	28%	613	9%	185	3%	2,401	40%
Renter Households	2,758	45%	1,333	21%	283	5%	4,374	71%

Source: U.S. Department of Commerce, Bureau of the Census, 2000 Census Reports.

Notes:

1. Definitions: (i) Overpaying -- more than 30% of income is expended on housing costs; (ii) Overcrowding -- more than one person occupies each room; and (iii) Substandard: dwellings built before 1950, lacking plumbing fixtures or lacking kitchen facilities.
2. Due to the size of Lompoc, confidentiality laws preclude the City from obtaining detailed cross tabulations of income and household characteristics. Consequently, the numeric tabulation in Tables H-36 and H-37 may actually overstate needs due to double counting.

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7.2 Components of Need

7.2.1 Overcrowding

Household overcrowding currently affects approximately 15 percent of the households within the City. Nearly half (48 percent) of these households live in units with more than 1.5 persons per room (excluding bathrooms and kitchen). In past planning periods, a sufficient supply of vacant housing units existed to alleviate overcrowded conditions among smaller household sizes. However, an insufficient supply of housing units and insufficient income is available for these households to move to larger units. In addition, household size has begun to rise after a steep decrease between 1970 and 1980 which has compounded overcrowding conditions. This is most apparent among large households with five or more occupants. Job creation and assistance with down payments and security deposits are needed to promote homeownership and relieve overcrowding.

7.2.2 Substandard Housing

More than 2000 housing units are currently in need of at least minor rehabilitation. Approximately 200 of these units require major rehabilitation with expenditures of more than \$10,000.

7.2.3 Housing Affordability

Citywide average per capita household income is currently approximately 67 percent of the average countywide figure. Consequently units considered affordable to certain income groups countywide are not affordable to Lompoc households. This is evident to many households in Lompoc who currently overpay for housing (i.e. spend in excess of 30 percent of household income on housing). Approximately 33 percent of all Lompoc households or one in every three households citywide overpays for housing.

Additionally, 83 percent of the households which overpay are very low- and low-income households which can least afford to spend more than 30 percent of household income on housing. Mortgage refinancing (during periods of historically low interest rates) can help improve housing affordability for homeowners. However,

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new job creation, higher wage jobs, as well as a greater supply of lower cost housing are needed to improve housing affordability for renters and homeowners.

7.2.4 Mortgage Foreclosure

A component of need related to Housing Affordability is the recent onset of what has become referred to as the “**subprime mortgage crisis**,” a condition characterized by a significant decline in housing prices and related [mortgage](#) payment delinquencies. This condition, coupled with a general downturn in the economy and resultant job loss, has placed a large number of residential property owners at risk of losing their homes. At present, 404 residential properties in Lompoc are under financial duress (i.e., 17 bank-owned 231 in foreclosure, and 156 in pre-foreclosure).² In response to this national crisis, the State and Federal Governments have enacted companion legislation to address residential foreclosures stemming from subprime mortgages and the nation’s general economic downturn. Most notably, California has received \$3.9 billion in funds from the Housing and Economic Recovery Act, passed by Congress in July 2008, to assist local governments in purchasing abandoned and foreclosed homes and residential property. At the State level, SB 1065 was signed into law by the Governor on September 25, 2008, and allows local government to refinance mortgages on owner-occupied homes utilizing tax-exempt bond funds. Previously, cities and counties were prohibited from re-financing mortgages with tax-exempt bonds; however, the Housing & Economic Recovery Act of 2008 will allow this for a temporary four-year period and includes the issuance of \$11 million in tax-exempt bonds for this purpose. Although it is unclear exactly to what extent the City might benefit from these legislative actions, these developments dovetail with the overarching goal of protecting existing housing and neighborhoods, principally for the benefit of low and moderate income households.

7.3 Special Needs Groups

Certain segments of the population have traditionally experienced a more difficult time finding decent, affordable housing due to special circumstances particular to these groups. Those segments possessing special needs, as defined in California Government Code Section 65583(a)(7), consist of “the elderly, persons with disabilities, large families, farmworkers, families with female heads of households, and families and persons in need of emergency shelter.”

² Santa Barbara County Foreclosures, www.foreclosure.com, November 24, 2008.

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Table H-37 Special Needs Population	Households			Persons		
	City Total	Target Group	%	City Total	Target Group	%
Disabled (Non-Elderly)					5,550	14%
Elderly (Non-Female)		2,261	17%		1,368	3%
Large Families (Non-Female & Non-Elderly)		1,687	13%			
Female-Headed Families (With Children(<18 Years))		1,301	10%			
Farmworkers						
Year-Round					668	2%
Migrant & Seasonal					1,848	5%
Homeless						
Individuals					267	1%
Persons in Families					327	1%
Total	13,062	5,249	40%	41,078	10,028	24%

Source: U.S. Department of Commerce, Bureau of the Census, 2000 Census Reports for Disabled, Elderly, Large Families, Female-Headed Households & Year-Round Farmworkers. U.S. Department of Health and Human Services, "Migrant and Seasonal Farmworkers Enumeration Profiles Study," September 2000 for Migrant & Seasonal Farmworkers. County of Santa Barbara, Housing and Finance Development Division, 2006-2010 Consolidated Plan & 2005 Action Plan for Homeless.

Notes:

1. Migrant & Seasonal Farmworkers is an estimate based on a proportional assignment of total estimated number of farmworkers Countywide. The proportional assignment is based on employment in Farming, Fishing, and Forestry Occupations as reported in the 2000 U.S. Census (i.e., 24,400 Countywide Migrant & Seasonal Farmworkers X [668 Lompoc Residents Employed in Farming, Fishing & Forestry/8,818 Total County Residents Employed in Farming, Fishing & Forestry]).
2. Homeless is an estimate based on a proportional assignment of total estimated number of homeless Countywide with unmet needs (as defined in the 2006-2010 Consolidated Plan & 2005 Action Plan, County of Santa Barbara). The proportional assignment is based on total population as of January 1, 2004 (i.e., 2,617 total Countywide Unmet Homeless Individuals and 3,198 Persons in Families X [42,224 Lompoc Population/415,253 Total County Population]).

7.3.1 Elderly

The special needs of many elderly households result from low fixed-incomes, physical disabilities, and dependence needs. Consequently, the elderly often have increased needs for housing which incorporates enhanced accessibility features (e.g. hand rails or no stairs), provides security, and requires minimal maintenance. Additionally, locating housing for the elderly near neighborhood shopping, medical ser-

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vices, churches, and senior recreation and service facilities will help meet the special needs of a portion of the elderly population. For the purposes of this Housing Element, “elderly” are defined as those persons 65 years of age and older.

The 2000 Census counted 3,856 elderly Lompoc residents which accounted for approximately 9.4 percent of the City’s total 2000 population. Approximately 94 percent (3,645) of the elderly population live in households and the remaining 6 percent (211) live in group quarters (e.g. elderly residential care facilities). The majority of the elderly population (67 percent or 2,435 individuals) living in households, live within family households (e.g. with a spouse or other relatives) which can provide a support system to assist with household chores or errands. The remaining nonfamily household population (1,210 individuals) is comprised primarily of females who live alone (812 individuals out of 1,210 or 67 percent). The majority of the elderly population (57 percent) are aged 65 to 74. The remaining 1,659 individuals are aged 75 or more. This older segment of the elderly population is more likely to be frail and require mobility friendly housing design.

Most elderly individuals in Lompoc own their residences. In fact, approximately 75 percent (1,858 of 2,467) of the housing units occupied by the elderly are owner occupied and 25 percent (609) are rented. In contrast, the homeownership rate is 52 percent for the community as a whole. However, due to fixed incomes the elderly sometimes have difficulty financing needed home repairs. Lompoc’s elderly population is adversely affected by disabilities and to a lesser extent by financial hardship. A significant portion of the elderly population experiences mobility difficulty or problems which adversely effect their self-sufficiency. According to the 2000 Census 1,697 elderly individuals or approximately 44 percent of the total elderly population reported one or more types of disabilities, including a self-care type of disability. One type of disability was reported for 847 (50 percent) elderly individuals who experienced a disability. The types of disabilities included sensory (23 percent), physical (49 percent), mental (1 percent), self-care (0.4 percent), and go-outside type of disability (12 percent). Moreover, two or more types of disabilities were reported for 850 (50 percent) elderly individuals. Of the elderly individuals reporting two or more disabilities, 38 percent reported self-care disabilities. These individuals need housing designed or modified to address their physical disabilities in order to protect their independence. In addition, the 2000 Census documented 253 elderly individuals earning annual incomes below the poverty level (\$7,990 for 1 person elderly households and \$10,075 for 2 person elderly households). This represents approximately 6 percent of the total elderly population. Although most elderly have incomes above the poverty level, many have low fixed-incomes. Conse-

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quently, housing affordability for the elderly becomes more tenuous when housing costs rise.

The City's elderly population has a range of housing options designed and structured to meet their needs. As of 2002, there were 99 publicly-assisted housing units for the elderly which receive federal housing funds located within the City. These units are distributed among three different complexes: Miller Plaza, Stanley Horn Homes, and Rainbow Plaza. Although no medical services are available within the complexes, the City provides on-demand transit service to all City residents.

Miller Plaza, located at 301 West Maple Avenue, contains 24 units. These one bedroom rental units were developed, and are owned and managed by the Santa Barbara County Housing Authority for low- and very low-income eligible individuals 62+ years of age.

Stanley Horn Homes is located at 640 North Q Street and provides 44 units (40 one bedroom and 4 two bedroom). The County Housing Authority developed this complex and now owns and operates it for eligible low- and very low-income residents 62+ years of age.

Rainbow Plaza is located at 220 West Pine Avenue and contains a total of 31 units (27 one bedroom and 4 two bedroom units). This project was funded by HUD and is managed by a property management company. The facility is intended to serve low-income individuals who are handicapped, disabled, or elderly (age 62 or older). Federal Preference Guidelines allow persons about to lose their homes or those living in substandard housing, who meet the other qualifying criteria, to have preference on the waiting list.

Additionally, there are four privately owned facilities which serve the housing needs of the elderly population in Lompoc: Parkside Gardens, Casa Serena, The Lodge of Lompoc (formerly Franciscan Manor), and Lompoc Convalescent Care Center. These facilities provide a combined 96 units and 240 beds and offer a broad range of services for elderly residents.

Parkside Gardens is located at 240 West Pine Avenue. The 48 unit (38 one bedroom and 10 two bedroom) complex contains units for independent elderly residents. No medical services are provided.

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Casa Serena is located at 130 South Fifth Street. The 48 unit (also comprised of 38 one bedroom and 10 two bedroom units) complex contains units for independent elderly residents. Likewise, no medical services are provided.

The Lodge of Lompoc is located at 1420 West North Avenue. The facility is privately owned and contains 65 bedrooms with 130 beds. It provides long term residential care services including room and board, some personal care assistance, monitoring of medication taking, and social opportunities. No medical services are provided.

Lompoc Convalescent Care Center, owned by the Lompoc Hospital District, is located at 216 North Third Street. The facility provides 57 bedrooms with 110 beds. Skilled nursing care is available on a 24-hour basis at the level prescribed by a resident's physician. In addition to medical nursing care, physical and occupational therapy may be provided. The facility is licensed by the State Department of Health.

Other services for the elderly in Lompoc include the Lompoc Valley Senior Community Center, Family Service Agency, and Lompoc Valley Haven – Senior Day Care. The Lompoc Valley Senior Community Center is a multi-purpose facility that provides recreation activities and supportive services for elderly persons in Lompoc. Meals are provided at the Center through a contract administered by the Community Action Commission of Santa Barbara County and Lompoc Hospital. Over 197 elderly persons received meals through the use of this program in 2001 to 2002. In addition, the City of Lompoc Parks and Recreation Department provides a number of social and recreation programs, classes, workshops, and special events for elderly persons at the Lompoc Valley Community Center. Seniors can participate in the nutrition program, exercise classes, dance classes, and yoga classes. Health care and legal services are available on a monthly basis.

The Family Service Agency's Lompoc Homemaker Program promotes the independence of persons who can remain living in their homes with assistance. Trained homemakers provide basic housekeeping tasks, grocery shopping and other errands, such as picking up medication prescriptions, respite and caregivers, and companionship/emotional support services and community referrals. This program served a total of 40 elderly persons in 2001 to 2002.

The Lompoc Valley Haven – Senior Day Care provides a unique place for dependent elderly persons who suffer from social isolation, Alzheimer's Dis-

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ease, are memory impaired or physically limited to gather in a safe, supervised, and caring environment. Elderly persons at the Lompoc Valley Haven enjoy stimulating mental and physical activities, hot, nutritious meals and snacks, and a chance to socialize. This program served 18 elderly persons in 2001 and 2002.

7.3.2 Disabled

Housing assistance need for the disabled is a function of the nature and severity of handicap, income or wealth, and family or other support services within the community. For purposes of this element, disability includes, but is not limited to, any physical or mental disability as defined in Section 12926 of the California Fair Employment and Housing Act. Mental disability is defined in Section 12926 of the California Fair Employment and Housing act as:

(1) Having any mental or psychological disorder or condition, such as mental retardation, organic brain syndrome, emotional or mental illness, or specific learning disabilities, that limits a major life activity. For purposes of this section:

(A) "Limits" shall be determined without regard to mitigating measures, such as medications, assistive devices, or reasonable accommodations, unless the mitigating measure itself limits a major life activity.

(B) A mental or psychological disorder or condition limits a major life activity if it makes the achievement of the major life activity difficult.

(C) "Major life activities" shall be broadly construed and shall include physical, mental, and social activities and working.

(2) Any other mental or psychological disorder or condition not described in paragraph (a) that requires special education or related services.

(3) Having a record or history of a mental or psychological disorder or condition described in paragraph (1) or (2), which is known to the employer or other entity covered by this part.

(4) Being regarded or treated by the employer or other entity covered by this part as having, or having had, any mental condition that makes achievement of a major life activity difficult.

(5) Being regarded or treated by the employer or other entity covered by this part as having, or having had, a mental or psychological disorder or condition that has no present disabling effect, but that may become a mental disability as described in paragraph (1) or (2).

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Physical disability is defined in Section 12926 of the California Fair Employment and Housing act as:

(1) Having any physiological disease, disorder, condition, cosmetic disfigurement, or anatomical loss that does both of the following:

(A) Affects one or more of the following body systems: neurological, immunological, musculoskeletal, special sense organs, respiratory, including speech organs, cardiovascular, reproductive, digestive, genitourinary, hemic and lymphatic, skin, and endocrine.

(B) Limits a major life activity. For purposes of this section:

(i) "Limits" shall be determined without regard to mitigating measures such as medications, assistive devices, prosthetics, or reasonable accommodations, unless the mitigating measure itself limits a major life activity.

(ii) A physiological disease, disorder, condition, cosmetic disfigurement, or anatomical loss limits a major life activity if it makes the achievement of the major life activity difficult.

(iii) "Major life activities" shall be broadly construed and includes physical, mental, and social activities and working.

(2) Any other health impairment not described in paragraph (1) that requires special education or related services.

(3) Having a record or history of a disease, disorder, condition, cosmetic disfigurement, anatomical loss, or health impairment described in paragraph (1) or (2), which is known to the employer or other entity covered by this part.

(4) Being regarded or treated by the employer or other entity covered by this part as having, or having had, any physical condition that makes achievement of a major life activity difficult.

(5) Being regarded or treated by the employer or other entity covered by this part as having, or having had, a disease, disorder, condition, cosmetic disfigurement, anatomical loss, or health impairment that has no present disabling effect but may become a physical disability as described in paragraph (1) or (2).

Many disabled individuals have no housing assistance need since they are able to support themselves and utilize existing market rate housing. Other disabled individuals receive continuing care from family or friends, though many of these people would seek living situations outside the family home if any were available, while still others have their needs met by housing assistance not specifically designed for the disabled. Yet for some, physical handicaps can hinder access to housing units of normal

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design as well as limit the ability to earn adequate income. Thus, two major housing needs of the disabled are access and affordability.

The disabled population in Lompoc includes physically disabled, blind, deaf, developmentally disabled, mentally ill, and medically disabled persons, where the disabling condition is expected to be of “long duration.” The Social Security Administration provides Supplemental Security Income (SSI) to very low-income individuals who are aged (65 or older), blind, or disabled. According to the Social Security Administration, there were 1,427 SSI recipients as of May 2003, who were blind or disabled living within Lompoc (zip codes 93436 and 93438). This population is expected to increase by two to three percent annually according to Social Security officials. The Social Security Administration also provides disability benefits to aged disabled persons (disabled persons over 65 years of age). The total number of aged-disabled persons residing in Lompoc receiving Social Security benefits as of May 2003 was approximately 198. Thus, the combined total of disabled individuals receiving Social Security assistance is approximately 1,625.

Table H-38 Disability Status	Population			Employed Population		
	Disabled	No Disa- bility	Total	Disabled	No Disa- bility	Total
Age Grouping						
5 - 15 Years	365	7,502	7,867			
16 - 20 Years	414	2,430	2,844	183	474	657
21 - 64 Years	4,771	15,068	19,839	2,589	11,243	13,832
65 - 74 Years	856	1,289	2,145			
75+ Years	841	798				
Total	7,247	27,087	34,334	2,772	11,717	14,489

Source: U.S. Census, Department of Commerce, 2000.

Comprehensive information is not available regarding the number of persons with disabilities living independently and not requiring supportive services within the City. The 2000 Census contained data on civilian non-institutionalized persons who are 5 years of age and older who have physical disabilities see **Table H-38**). The Census identified 7,247 such persons or approximately 21 percent of said 2000 population. This equates to approximately 17 percent of the City’s total 2000 population. According to the Census, 3,337 persons have disabilities that restrict them from working,

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representing 15 percent of the City's non-institutionalized population aged 16 to 64. Persons whose mobility was restricted solely due to limitations and/or the ability to care for themselves represent 10 percent of the City's non-institutionalized population aged five and older. Approximately 23 percent of the disabled population was elderly.

In 2002 there were two housing developments in Lompoc which were developed to help disabled persons live independently: La Paloma and Rainbow Plaza. La Paloma is a project of the Lompoc Option Vocational and Resource Center (LOVARC), providing six bed-spaces in a six bedroom home as a training facility for independent living for developmentally-disabled persons. "Graduates" of the program often move to, the second Lompoc housing development for disabled persons, Rainbow Plaza. Rainbow Plaza is a 31-unit apartment project, funded under Section 202 of the National Housing Act. Rainbow Plaza is a "normalization" facility, providing independent living apartments, with project-based rental assistance, for elderly, physically disabled, mentally ill, and developmentally-disabled households. In addition to La Paloma and Rainbow Plaza, Miller Plaza, Stanley Horn Homes, and Casa Serena (mentioned above) provide housing for income eligible disabled individuals. Finally, Homebase (a 39-unit extended stay and transitions facility for low income and disabled persons located on 513 North G Street), is slated for completion and occupancy in 2009.

Housing opportunities for the disabled can be maximized through housing assistance programs, single-level units, ground floor units, and units which incorporate design features such as widened doorways, access ramps, and lowered countertops.

7.3.3 Large Households

For the purposes of the Housing Element, large households are defined as households that contain five or more persons. 2000 Census data indicate that 17 percent (2,161 of 13,059) of all Lompoc households were large households. Within the City, 1,178 households contain five people, 513 households contain six persons, and 470 households have seven or more residents. The median household size in Lompoc is 2.83 owner occupied and 2.94 renter occupied, an average household size of 2.88 persons.

Table H-39 shows that there are 1,197 large households occupying rental units. This number represents 18.9 percent of all renter households. There

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are 964 large households occupying owner occupied units. This number represents 14.3 percent of all owner occupied households.

Table H-39 Large Households	No. of Households		
	Owner Occupied	Renter Occupied	Total
Persons in Household			
Five Persons	545	633	1,178
Six Persons	225	288	513
Seven or More Persons	194	276	470
Total	964	1,197	2,161
Source: U.S. Census, Department of Commerce, 2000.			

Among the City's 13,625 housing units identified in the 2000 Census, 710 reportedly have eight or more rooms. Bathrooms and kitchens do not qualify as sleeping quarters yet are considered rooms, therefore the actual number of bedrooms may be as low as five. Because of their size, a large family household may experience a greater incidence of overcrowding. Overcrowded households are usually a reflection of the lack of affordable housing. Most apartments, mobilehomes, and single family attached units cannot adequately house five or more people, therefore renting a large home may be the only alternative when owning a home is not financially possible. **Table H-40** shows that there are 1,552 renter occupied units with three or more bedrooms compared to 5,184 owner occupied units. These numbers represent 24 percent and 77 percent of renter occupied and owner occupied housing units, respectively, living in units with three or more bedrooms. This means that 76 percent of renter occupied households live in housing units with one or two bedrooms compared to 23 percent of owner occupied households. Households who cannot afford suitably sized housing units are often compelled to live in housing that is too small for their needs.

Table H-40 Large Households	No. of Dwelling Units		
	Owner Occupied	Renter Occupied	Total
Bedrooms in Unit			
Three Bedrooms	3,485	1,296	4,781
Four Bedrooms	1,614	232	1,846
Five or More Bedrooms	85	24	109
Total	5,184	1,552	6,736
Source: U.S. Census, Department of Commerce, 2000.			

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7.3.4 Single and Female Headed Households

According to the U.S. Census Bureau, a single-headed household contains a household head and at least one dependent, which could include a child, an elderly parent, or nonrelated child. The 2000 Census indicates that there are 2,650 single-headed households in the City of Lompoc. Female-headed households in Lompoc accounted for approximately 73 percent of all single-headed households, or 1,928 households, and 14.8 percent of all households in 2000. Approximately 67 percent of the 2000 female headed households (1,301 of 1,928) included one or more children under the age of 18. According to the 2000 Census, the number of children under 18 years living within female-headed households totaled 2,521, representing 20 percent of children under 18 years of age.

Female single-parents normally do not enter the labor force when children are small and later seek employment when children are older. According to the 1990 Census, the majority of single mothers (approximately 60 percent) in Lompoc with children aged under 6 years were counted as not in the labor force. In contrast, 68 percent of Lompoc mothers with children aged 6 to 17 years were in the labor force. This trend reversed according to the 2000 Census which showed that only 33 percent of single mothers in Lompoc with children aged under 6 years were counted as not in the labor force. The majority of single mothers (approximately 67 percent) with children aged under 6 years were counted as being in the labor force. Moreover, 73 percent of Lompoc mothers with children aged 6 to 17 years were in the labor force.

Female-headed single-parent households tend to have low incomes. Mothers with small children who choose to stay at home forego income from working outside the home and may rely on public assistance or child support to support their family. Mothers who do work outside the home often incur high childcare costs while their children are young. The financial difficulty encountered by female single parents is evidenced by the high incidence of poverty among children within female-headed households in Lompoc. According to the 2000 Census, children in Lompoc living within female-headed households accounted for 34 percent of all Lompoc children (under 18 years of age) who were living below the annual poverty threshold. This is particularly significant given that children (under 18 years of age) living in female-headed households make up only 20 percent of all children living in Lompoc (2,521 of 12,310).

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Obtaining suitable housing can be difficult for female single-parents. Expenses for childcare, low household income, and large spatial requirements limit the range of available housing choice. Consequently, many of these households may have to settle for smaller housing units and endure overcrowded conditions. In addition, the location of housing for this need group should be near recreational facilities, shopping, and schools, to ease the problem of transportation and after-school supervision.

7.3.5. Farmworkers

Farmworkers have a difficult time finding and affording housing due to a combination of limited English language skills, traditionally larger family size, low household incomes, and a consequent inability to obtain housing loans. Reliable data on the size of the farmworker population and its housing needs is difficult to obtain for the agricultural area immediately surrounding Lompoc.

According to the Migrant and Seasonal Farm Worker Enumeration Profiles Final Study for California dated September, 2000, Santa Barbara County ranks ninth in the state for persons permanently and seasonally employed in agriculture. The study indicates that in Santa Barbara County there are an estimated 24,461 migrant and seasonal farmworkers. Of this number, 11,326 are migrant farmworkers and 13,136 are seasonal farmworkers. The study further estimates there are 4,162 non-farmworkers in migrant households and 14,906 non-farmworkers in seasonal households, for a total figure of 43,529 migrant and seasonal farmworkers and their families in Santa Barbara County.

The Bureau of Census reported in 2000 that agriculture workers represent approximately six percent (6.2%) of the total employed persons aged 16 years and over in Santa Barbara County (180,716 workers in Santa Barbara County; 11,189 workers in agriculture). Further, the Census reported in 2000 that 776 workers in agriculture resided in the City of Lompoc, approximately seven percent of the total number of agriculture workers in the County. The number of farmworkers has decreased over the last ten years since the 1990 Census which reported 942 farmworkers. However, the proportion of farmworkers to the total number of persons employed who reside in the City of Lompoc has increased by one percent since 1990.

Migrant farmworkers often experience the most difficulty securing affordable housing because of the absence of income when work is not available. Most

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of the farmworkers who reside in Lompoc are non-migrant due to the Lompoc Valley's long growing seasons which produce steady annual crop production activity.

Special housing needs for this population include: security deposit or down payment assistance, legal advice, flexible occupancy agreements, and group quarter living arrangements.

The City of Lompoc's existing Zoning Ordinance allows for various residential dwelling types in both residential and commercial zones that can accommodate migrant and seasonal farmworkers. Thus, farmworker households are typically able to find housing within the affordable housing stock or other forms of living arrangements allowed by right or conditionally through a use permit.

The R-A (Residential Agricultural) zone is established for use in areas particularly suited for light agricultural activities. Permitted uses include *"crops, field, tree, bush, berry and row, including nursery stock, the growing of."* *"Agricultural workers' living quarters for persons employed and deriving the major portion of their income from employment on the premises"* is a use permitted subject to obtaining a use permit (of which there are a total of 22 conditionally listed uses in the R-A zone).

The R-3 (High Density) zone allows multiple family uses at a density range between 14.5 and 21.8 dwelling units per acre. Multiple family use means a building designed or used for occupancy by three or more families, living independently of each other. Other permitted uses include apartments, duplexes, triplexes, and group dwellings.

The C-2 (Central Business District) zone allows hotels and motels. A hotel, as defined in the City's Zoning Ordinance, means *"any building or portion thereof used, arranged, or designed so as to provide six or more rooms or suites of rooms without kitchens, for rent or hire."* Hotel includes *"motor hotel and motel."* Lompoc has a higher number of hotels and motels located within the City compared to other cities of similar size because of the build-up of business employment and tourism associated with the activities at Vandenberg Air Force Base (VAFB) from the late-1970's to the mid-1980's.

As noted in the section on population characteristics, the 1986 Space Shuttle Challenger Disaster caused a decrease in employment at VAFB. The need to house contract employees decreased and tourism associated with VAFB decreased resulting in high vacancy rates in existing hotels and motels.

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In summary, farmworker households in Lompoc can be served through housing provided on agriculturally zoned land, the City's affordable housing, existing affordable housing projects, and existing motels and hotels.

7.3.6 Homeless

The size of the Lompoc homeless population is difficult to identify. This segment of the population becomes homeless for a wide variety of reasons and remains homeless for vastly differing lengths of time. One person may be homeless for just a few nights, while another may be homeless for years at a time. Some homeless are ashamed of their condition and strive to remain unseen and undetected. In addition, the homeless are an extremely transient population. Their presence is influenced by such factors as the availability of homeless services, low-cost housing, local job opportunities, and climate.

In June of 1990, the County of Santa Barbara, in conjunction with the City of Lompoc and other cities in the County completed the *Comprehensive Homeless Assistance Plan (CHAP)* for Santa Barbara County.²⁴ This CHAP has been the most comprehensive study of the homeless within Santa Barbara County. The CHAP defines a "homeless individual" as one who lacks a regular, legal, nighttime residence; is in a supervised, temporary shelter (congregate shelter or welfare hotel); temporarily in the residence of another individual; or a place not designated for or ordinarily used for housing (e.g. a car, hallway, bus station, lobby, street, campground, or park). For the purposes of this Housing Element, individuals without permanent shelter (as described above), except those living temporarily in the residence of another individual, are considered homeless.

Homelessness is the result of many economic and personal factors. Factors contributing to homelessness cited by the CHAP include: the scarcity of lower-income housing, job loss, long term unemployment, underemployment, no health insurance coverage, prolonged illness, long term disability, divorce, family violence, substance abuse, mental illness, lack of awareness of entitlement program benefits, and the refusal or cessation of benefits. Different economic and personal crises often exacerbate one another and can result in homelessness. Housing overpayment is an economic constraint that is compounded when housing prices escalate and wages decrease, resulting in evictions and removals. A serious accident or illness can drain a savings account and can keep an employed individual out of work, thus starting a homelessness cycle.

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The CHAP estimated that there were approximately 4,000 homeless in Santa Barbara County in 1990. Yet, the CHAP did not provide an estimate for the homeless population within the City of Lompoc. The homeless population within Santa Barbara County, according to the CHAP, was young, predominantly Anglo, with an increasing Latino representation. Families represented 30 percent of the homeless population, 20 percent were working poor, 30 percent were mentally ill, and 30–50 percent had a substance abuse problem.

More recent data on homelessness in California comes from the *1999 Statewide Housing Plan*, prepared by the Department of Housing and Community Development (HCD). HCD estimates that on any given day there are 5,400 homeless in Santa Barbara County, an increase of 35 percent (1,400 people) since 1990. According to HCD's data, approximately 58 percent of homeless in Santa Barbara County are single adults, while 42 percent are families.

Estimates of homeless persons in the City of Lompoc are derived from the 2000 Census. According to the 2000 Census, 178 persons in the City of Lompoc were described as "either not having a usual home elsewhere," "people without conventional housing," or "other non-institutional group quarters." Of the 178 persons, two persons lived in homes or halfway houses for drug/alcohol abuse and 13 persons lived in "other group homes" which include communes, foster care homes, and maternity homes for unwed mothers. The remaining 163 persons either lived in "other non-household living situations" or "other non-institutional group quarters." "Other non-household living situations" includes people with "no usual home elsewhere enumerated at locations such as YMCA's, YWCA's, and hostels." According to the Census, the number of persons living in the City of Lompoc in this situation totals 59. The remaining 104 persons identified by the Census lived in "other non-institutional group quarters." "Other non-institutional group quarters" include the following:

◦ *Emergency and transitional shelters (with sleeping facilities)* includes people without conventional housing who stayed overnight on March 27, 2000, in permanent and emergency housing, missions, Salvation Army shelters, transitional shelters, hotels and motels used to shelter people without conventional housing, and similar places known to have people without conventional housing staying overnight. Also included are shelters that operate on a first come, first-serve basis where

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people must leave in the morning and have no guaranteed bed for the next night OR where people know that they have a bed for a specified period of time (even if they leave the building every day). Shelters also include facilities that provide temporary shelter during extremely cold weather (such as churches). If shown, this category also includes shelters for children who are runaways, neglected, or without conventional housing.

◦ *Shelters for abused women (shelters against domestic violence or family crisis centers)* include community-based homes or shelters that provide domiciliary care for women who have sought shelter from family violence and who may have been physically abused.

◦ *Regularly scheduled mobile food vans* includes mobile food vans which are regularly scheduled to visit designated street locations for the primary purpose of providing food to people without conventional housing.

◦ *Soup kitchens* includes soup kitchens, food lines, and programs distributing prepared breakfasts, lunches, or dinners on March 28, 2000. These programs may be organized as food service lines, bag or box lunches, or tables where people are seated, then served by program personnel. These programs may or may not have a place for clients to sit and eat the meal.

◦ *Targeted non-sheltered outdoor locations* includes geographically identifiable outdoor locations open to the elements where there is evidence that people who do not usually receive services at soup kitchens, shelters, and mobile food vans lived on March 29, 2000, without paying to stay there.

Additional estimates of the Lompoc homeless population have been collected by members of the Homeless Coalition who indicate there are an estimated annual average of 50 persons in the City of Lompoc identified as homeless.

In 1998, the Marks House Transitional Shelter opened its doors in the City of Lompoc for homeless families with children. This facility provides shelter for five to six family households for a maximum length of stay of 90 days. The City of Lompoc provided a deferred loan of HOME funds to cover a portion of property acquisition costs and a low interest loan of Community Development Block Grant (CDBG) Program income funds for rehabilitation of the shelter. The Marks House has just completed its

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fourth year of operation in 2002 during which time approximately 154 homeless were assisted. The City continues to support the ongoing operation of the Marks House through CDBG and City Human Service Funds.

Domestic Violence Solutions (formerly Shelter Services for Women, Inc.) operates a publicly-assisted shelter which directly provides housing for twelve homeless women and children. In 2001, the Lompoc Shelter provided emergency safe housing for 185 unduplicated women and their children.

The City also supported the efforts of LHCD to acquire a 10.9-acre parcel on the outskirts of the City in Santa Barbara County for rehabilitation and expansion of an existing transitional facility. The project, called the Bridgehouse Homeless Shelter and Transitional Facility (formerly The Farmhouse), involves substantial rehabilitation of a large commercial building, a former 16-bed transitional facility, and several dilapidated greenhouses. The project when completed will feature a 40-bed year round shelter for single adult males, a 20-bed long-term transitional shelter for women and children, and a vocational training component for residents. The 20-bed facility opened December 1, 2002 and currently houses 20 men, women, and children.

The Courtyard South Apartments play an important role in housing homeless. In 1999-2000, the City of Lompoc provided funding to LHCD to acquire and rehabilitate the Courtyard South Apartments. Families residing at the Marks House can transition to permanent housing at Courtyard South Apartments. During 2001, one formerly homeless household of four persons moved into the apartment complex from the Marks House Transitional Housing Program.

Additionally, temporary housing in local motels is arranged to assist the homeless. The Lompoc Police Department, in cooperation with the Salvation Army, operates a fund to assist families and individuals with temporary housing and meals. Assistance is limited to two days housing or three days if the need occurs over the weekend. In 2002, the Lompoc Police Department assisted 124 persons with nightly lodging arrangements.

Catholic Charities also operates a program that provides vouchers for lodging in local motels, food, clothing and household goods to homeless families and individuals and to households at risk of becoming homeless.

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Local churches occasionally open their doors to allow the homeless to sleep in their facilities.

The Transitions Mental Health Drop-In Center has received City financial support with CDGB funds toward the development and operation of a walk-in center for the homeless in Lompoc. The program provided through the Center includes a safe drop-in location for homeless persons to receive services. The Center provides laundry services (machines on-site), a community clothes closet, U.S. mail center, a message center, and health care services provided by a County of Santa Barbara Public Health nurse twice a week. The Center also provides a referral for emergency shelter and assistance in locating longer-term shelter..

Lastly, the most recent addition to the inventory of homeless resources is the Good Samaritans Recovery Way Home which provides 16 transitional beds for women and children. As previously noted, Homebase (a 39-unit extended stay and transitions facility for low income and disabled persons located on 513 North G Street) is slated for completion in 2009.

Although estimates vary considerably on the size of the Lompoc homeless population, the provision of additional temporary housing units appears necessary to alleviate existing need.

The City is currently working on updating the Zoning Ordinance. As noted in Measure 2, the City will amend the Zoning Ordinance to allow emergency shelters in low (R-1), medium (R-2), and high (R-3) density residential zones. During the process of updating and amending the Zoning Ordinance, the City will study allowing emergency housing in certain commercial zones.

7.4 Needs Accommodation

7.4.1 Programmatic Considerations

The needs attributable to a lack of affordable housing and overcrowding are generally addressed through increased housing production, while sub-standard housing is best addressed through a combination of code enforcement and rehabilitation assistance. As noted in Section 8.0, the City has considerable development capacity by which to broaden the supply of housing, simultaneously addressing construction needs possessed by both existing and future households. Development po-

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tential, as well as the existing housing stock, is coupled by the City with a variety of Implementing Actions to make housing affordable to target income groups. The same is true of housing rehabilitation and a host of programs to address both rental and ownership dwellings. These programs are not new and will be continued from the previous Housing Element. A new initiative to address those homeowners at risk of losing their homes due to the combined effect of the subprime mortgage crisis and general economic downturn has been added to the list of Implementing Actions.

7.4.2 Land Use Considerations

Table H-41 matches categories of housing types allowed by current zoning to the particular needs possessed by special population groups. These match-ups are then compared to allowed uses and permit requirements for each zone district. Particularly noteworthy is the fact that emergency shelters are not expressly authorized in the City's Zoning Ordinance. This situation and resulting policy ramifications are specifically addressed in Section 12.1. It is also noted that: (i) farmworker housing and second dwellings are only allowed by conditional use permit and are restricted to one zone district; and (ii) rest homes, nursing homes and group dwellings are only allowed within one residential zone. Although not reflected in **Table H-42**, it is further noted that: (i) care homes are restricted as to type and number of occupants; and (ii) the range of uses allowed in connection with group dwellings is not defined. In view of these limitations, and in furtherance of housing opportunities for special population groups, the following proposed Zoning Ordinance amendments are included among the Implementing Actions:

- **Care Homes and Group Dwellings.** Consolidate care homes and group dwellings under a single term "residential care homes" and broaden the definition to include transitional houses, orphanages, rehabilitation centers, self-help group homes, agricultural employee housing and congregate care facilities. Allow residential care homes serving six (6) or fewer persons as a permitted use in all residential zone districts; allow facilities serving seven (7) or more persons by conditional use permit.
- **Second Dwellings and Farmworker Housing.** Remove the conditional use requirement for second dwellings and farmworker housing (for six or less persons).

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- **Rest and Nursing Homes.** Broaden the range of zone districts allowing rest and nursing homes by conditional use permit to include the medium and high density zones (R-2 and R-3).

Table H-41 Housing Needs/Type Match	El- derly	Dis- abled	Large Hslds	Farm- Workers	Female HH	Home- less
Care of Non-Related	x	x				
Caretaker Housing						
Duplex Dwellings			x		x	
Farmworker Housing				x		
Group Dwellings	x	x		x		x
Guest Houses				x		
Hotels & Motels				x		x
Mobile Home Parks	x	x				
Mobile Homes	x	x				
Multifamily Dwellings	x	x			x	x
Rest & Nursing Homes	x	x				
Secondary Dwellings	x	x				
Single Fam. Dwellings			x			
Triplex Dwellings			x		x	
<p>SOURCE: Zoning Ordinance, City of Lompoc, August 2007. NOTES: Care Home includes Family Day Care as defined in Government Code Section 1596.7. Caretaker housing is limited to site-specific employment and cannot be rented.</p>						

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Table H-42 Permitted Residential Uses	Zone Districts							
	R-A	R-1	R-2	R-3	PD-R	PD-C	CO	C-2
Housing Types								
Care of Non-Related	P	P	P	P				
Caretaker Housing	P				DP			CUP
Duplex Dwellings			P	P	DP			
Farmworker Housing	CUP							
Group Dwellings				P	DP			
Guest Houses	P				DP			
Hotels & Motels								P
Mobile Home Parks					DP			
Mobile Homes		P			DP			
Multifamily Dwellings				P	DP	CUP	CUP	
Rest & Nursing Homes		CUP				DP	P	
Secondary Dwellings		P						
Single Fam. Dwellings	P	P	P	CUP	DP			
Triplex Dwellings			CUP	P	DP			
Acreage	56	1,039	107	197	317		20	16
Table H-42 Permitted Residential Uses	Zone Districts							
	OTC	MU	T	I	PF	OS	SP	
Housing Types								
Care of Non-Related								
Caretaker Housing				CUP	DP		SP	
Duplex Dwellings						CP	SP	
Farmworker Housing							SP	
Group Dwellings								
Guest Houses							SP	
Hotels & Motels	CUP						SP	
Mobile Home Parks			P				SP	
Mobile Homes			P				SP	
Multifamily Dwellings	SP	P				CP	SP	
Rest & Nursing Homes	CP						SP	
Secondary Dwellings	CUP					CP	SP	
Single Fam. Dwellings	SP	P				CP	SP	
Triplex Dwellings						CP	SP	
Acreage	23	27	69	92	3,851	126	150	

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Table H-42 Permitted Residential Uses	Zone Districts						
	OTC	MU	T	I	PF	OS	SP
<p>Source: Zoning Ordinance, City of Lompoc, August 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Only those Zone Districts which allow residential dwellings are shown in this Table. 2. P = Permitted; CP = Conditionally Permitted; DP = Development Plan Required; CUP = Conditional Use Permit Required; SP = Specific Plan Required. 3. See additional notes in Table H-41. 							

8.0 Future Housing Needs

8.1 Summary

As evidenced in the analysis that follows, the City has an adequate land inventory to address its projected housing needs. This means that no additional property must be rezoned or intensified in order to meet the City’s assigned share of regional housing needs. It is further noted that the analysis is conservative insofar as: (i) it does not account for potential development of second dwellings which are expressly allowed in single family zone districts; (ii) it is based on the intensity of development that actually exists within each respective zone district as opposed to hypothetical maximums; and (iii) it excludes potential development from areas identified for future annexation.

8.2 Projected Needs

The Regional Housing Needs Allocation (“RHNA”) process is part of a statewide mandate to address housing issues related to future growth in the State. The process sets numeric targets with the overriding goal of assuring an equitable geographic distribution of needs and responsibilities. The numbers are first generated by HCD and then refined by regional planning agencies in cooperation with local government. While the methodology takes into account land use and zoning, the numbers are not necessarily constrained by institutional limits. Consequently, it is not inconceivable that housing numbers assigned to a particular jurisdiction exceed its theoretical carrying capacity. The number assigned to the City of Lompoc for 2007–2014 is 516 new units, of which roughly 64% is assigned to target income groups (**Table H-43**). These numbers are roughly 42% less than the amount assigned for the previous planning period. **Tables H-44 and H-45** reflect the current adjusted requirement, taking into account construction that has occurred between January 1, 2007 and December 31, 2008.

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Table H-43 RHNA Goal Summary	No. of Dwellings		
	2000-2007	2007 - 2014	% Change
Very Low	214	120	-44%
Lower	151	89	-41%
Moderate	209	123	-41%
Above Moderate	316	185	-41%
Total	890	516	-42%

Source: Santa Barbara County Association of Governments, RHNA Allocations for 2000 and 2008.

Notes:

1. Although extremely low income is a target income group for purposes of the Housing Element, RHNA allocations do not expressly recognize this particular category. Instead, extremely low income are included within the very low income category.
2. Totals may not add up precisely due to rounding. All figures reflect actual numbers adopted by the Santa Barbara County Association of Governments.

Table H-44 2007-2009 New Construction	Single Family		Multi-Family		TOTAL UNITS
	Detached	Attached	2-4 Units	5+ Units	
State DoF Estimate	48				48
201 E. College St.				35	35
Total	48			35	83

Source: California State Department of Finance, Population and Housing Estimates, 2007-2003. City of Lompoc, Annual Report on the General Plan: 2007, March 2008.

Table H-45 2007-2014 RHNA Goals	Unadjusted Goal	2007-2009 New Construction	Adjusted Goal
Very Low	120	25	95
Low	89	9	80
Moderate	123	1	122
Above Moderate	185	48	137
Total	516	83	434

Source: Santa Barbara County Association of Governments, RHNA Allocations for 2001 and 2008. California State Department of Finance, Population and Housing Estimates, 2007-2003. City of Lompoc, Annual Report on the General Plan: 2007, March 2008. City of Lompoc, Current Project List, May 20, 2008.

Notes: New Construction units consist of single family homes not deemed affordable to target income groups. The 201 E. College Street project, developed by the Lompoc Housing Community Development Corporation, is 100% affordable; 34 units have affordability restrictions - 29 for very low income and 9 for low income; the remaining one unrestricted apartment unit is deemed affordable to moderate income by design.

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8.3 Land Inventory

A detailed accounting of residential development potential is contained in Appendix B and summarized in **Tables H-46, H-47 and H-48**. Together, these tables encompass all parcels within the City having a residential zone designation or which are contained within a zone district that allows residential dwellings in combination with commercial uses. The inventory is adjusted to discount parcels that are deemed unavailable for development by virtue of ownership or restricted use (e.g., dedicated open space, railroad corridors, etc.). The resulting analysis reveals a build-out potential of between 1,731 and 2,743 additional dwellings. The upper end of this range reflects the “Maximum Potential” for all parcels based on current zoning (i.e., parcel acreage x density allowed). The lower number reflects “Forecasted Units” based on actual densities of residentially developed parcels within each zone district, reduced by the number of existing dwellings (if any). This lower number is a more realistic estimate insofar as the analysis shows that properties have typically not achieved their full development potential as noted in **Table H-49**.

Table H-46 Development Capacity Summary		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
Low Density	No. of Parcels	36	76	252	7,532	113	8,009
	Acres of Land	152	16	83	1,270	101	1,622
	Existing Dwellings	-	140	1	8,521	-	8,662
	Maximum Potential	564	189	1,063		-	1,816
	Forecasted Units	196	10	1,062	-	-	1,268

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Table H-46 Development Capacity Summary		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
High Density	No. of Parcels	29	95	7	1,213	22	1,366
	Acres of Land	7	28	4	247	7	293
	Existing Dwellings	-	199	1	4,290	-	4,490
	Maximum Potential	165	650	112		-	927
	Forecasted Units	89	263	111	-	-	463
Total	No. of Parcels	65	171	259	8,745	135	9,375
	Acres of Land	159	44	88	1,517	108	1,915
	Existing Dwellings	-	339	2	12,811	-	13,152
	Maximum Potential	729	839	1,175		-	2,743
	Forecasted Units	285	273	1,173	-	-	1,731

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Table H-46 Development Capacity Summary	Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
<p>Sources: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Low Density encompasses zone districts with residential densities of less than 20 units/acre. See Table H-47. High Density encompasses zone districts with residential densities of at least 20 units/acre. See Table H-48. 2. Maximum Potential is computed as: (Parcel Acreage x Density Allowed). Forecasted Units is computed as: (Parcel Acreage x Actual Development Intensity) - Existing Dwellings. Development Intensities for each zone district appear in Table H-21. 3. Vacant Parcels: (i) are those with zero improvement value and not otherwise owned by a tax-exempt entity; and (ii) exclude parcels that are "Entitled." Underutilized Parcels: (i) are those having an improvement value of less than 50% of the mean improvement value of all developed properties within the each respective zone; and (ii) exclude parcels that are "Entitled." Entitled Parcels encompass all projects for which discretionary approvals have been granted but not yet constructed. Developed Parcels are those having an improvement value of greater than 50% of the mean value of all improved parcels or which are owned by non-profit organizations and classified as developed. See Table H-50. Unavailable Parcels are those which are either owned by non-taxable organizations and utility companies or which are committed to land uses other than residential. 4. All figures have been rounded to the closest whole number. As such, totals may not add up precisely due to rounding. 						

Table H-47 Development Capacity Low Density		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
RA (2.178 du/ac)	No. of Parcels	1			22	3	26
	Acres of Land	26			22	8	56
	Existing Dwellings	-			21	-	21
	Maximum Potential	57				-	57
	Forecasted Units	19			-	-	19

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Table H-47 Development Capacity Low Density		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
SP (3.5 – 4.31 du/ac)	No. of Parcels	6		2	3		11
	Acres of Land	113		33	4		150
	Existing Dwellings	-		-	1		1
	Maximum Potential	363		265			628
	Forecasted Units	89		265	-		354
10-R-1 (4.356 du/ac)	No. of Parcels	4			13		17
	Acres of Land	1			4		5
	Existing Dwellings	-			13		13
	Maximum Potential	8			24		32
	Forecasted Units	4			-		4
7-R-1 (6.223 du/ac)	No. of Parcels	18	59	92	6,136	70	6,375
	Acres of Land	5	9	16	1,046	66	1,143
	Existing Dwellings	-	58	-	6,193	-	6,251
	Maximum Potential	44	75	158		-	277
	Forecasted Units	23	-	158	-	-	181

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Table H-47 Development Capacity Low Density		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
R-2 (14.52 du/ac)	No. of Parcels	7	17	158	1,358	40	1,580
	Acres of Land	6	7	34	195	26	268
	Existing Dwellings	-	82	1	2,293	-	2,376
	Maximum Potential	92	114	640		-	846
	Forecasted Units	61	10	639	-	-	710
Total	No. of Parcels	36	76	252	7,532	113	8,009
	Acres of Land	152	16	83	1,270	101	1,622
	Existing Dwellings	-	140	1	8,521	-	8,662
	Maximum Potential	564	189	1,063		-	1,816
	Forecasted Units	196	10	1,062	-	-	1,268
<p>Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.</p> <p>Note See Table H-46.</p>							

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Table H-48 Development Capacity High Density		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
MU (21.8 du/ac)	No. of Parcels	9	25		99		133
	Acres of Land	3	5		19		27
	Existing Dwellings	-	16		138		154
	Maximum Potential	61	133				194
	Forecasted Units	30	44		-		74
OTC (21.8 du/ac)	No. of Parcels	12	18	1	61	17	109
	Acres of Land	3	4	0	14	3	23
	Existing Dwellings	-	-	-	-	-	-
	Maximum Potential	63	90	34		-	187
	Forecasted Units	29	43	34	-	-	106
R3 (21.78 du/ac)	No. of Parcels	8	52	6	1,053	5	1,124
	Acres of Land	2	18	4	215	4	244
	Existing Dwellings	-	183	1	4,152	-	4,336
	Maximum Potential	41	427	78		-	546
	Forecasted Units	30	176	77	-	-	283

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Table H-48 Development Capacity High Density		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
Total	No. of Parcels	29	95	7	1,213	22	1,366
	Acres of Land	7	28	4	247	7	293
	Existing Dwellings	-	199	1	4,290	-	4,490
	Maximum Potential	165	650	112		-	927
	Forecasted Units	89	263	111	-	-	463

Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.

Notes:

1. See Table H-46.
2. In calculating "Forecasted Units" for the OTC Zone District, a development intensity factor of 54% is used (corresponding to the MU Zone District) insofar as a separate calculation for the OTC Zone could not be made utilizing the GIS data base.

Table H-49 Development Intensity	Density (Units/Acre)	No. of Dwellings		Percent Developed
		Actually Developed	Maximum Potential	
RA	2.178	21	63	33%
SP	3.5 - 4.312	1	4	25%
10-R-1	4.356	13	24	54%
7-R-1	6.223	6,193	9,266	67%
R-2	14.52	2,293	3,382	68%
MU	21.8	138	257	54%
OTC	21.8	n.a.	n.a.	n.a.
R3	21.78	3,901	4,689	83%
Total		12,560	17,685	71%

Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.

Note: Development Intensity is derived from the inventory of residentially developed property with each zone district and is calculated as follows: Existing Dwellings/ (Parcel Acreage x Density Allowed).

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Table H-50 Underutilized Land	Total Land Value	Total Structure Value	Valuation Ratio	Valuation Benchmark
RA	\$ 4,768,165	\$ 6,914,130	59%	30%
SP	\$ 227,426	\$ 205,103	47%	24%
10-R-1	\$ 743,596	\$ 1,541,085	67%	34%
7-R-1	\$498,751,073	\$ 767,567,302	61%	30%
R-2	\$124,601,270	\$ 206,121,895	62%	31%
MU	\$ 9,234,678	\$ 13,582,901	60%	30%
OTC	\$ 7,722,929	\$ 13,448,589	64%	32%
R3	\$ 99,808,160	\$ 225,419,634	69%	35%
Total	\$745,857,297	\$1,234,800,63	62%	31%

Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.

8.4 Entitled Projects

Included with the inventory of available land and reflected in **Tables H-46, H-47 and H-48** are dwelling units that have received discretionary land use approval but have not yet been constructed or occupied (**Table H-51**). As discussed in Section 5.0, attached ownership units and multi-family rental dwellings are generally affordable to households at or above the moderate income level. These units are counted toward the RHNA goals for corresponding income categories. The affordability analysis in Section 5.0 also shows that market rate units, regardless of type, are beyond the reasonable financial means of lower-income households, Policies 1.11 and 1.12 attempt to moderate this disparity by requiring 10% of all residential projects containing 10 or more units to provide affordable housing to target income groups. Within the Old Town Redevelopment Project Area, the inclusionary requirement is 15% and must be satisfied on site unless substantial evidence of infeasibility can be demonstrated, in which case relief may be granted. Outside of the redevelopment area, the inclusionary requirement may be satisfied by payment of fees in lieu of on-site construction. In-lieu fees, while helpful in capitalizing housing trust funds, do not necessarily guarantee the production of affordable units. For this reason, RHNA credits appearing in **Table H-52** are limited to inclusionary units within the Old Town Redevelopment Project Area.

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Table H-51 Entitled Projects Summary	Single Family		Multi-Family		Total Units
	Detached	Attached	2-4 Units	5+ Units	
Under Construction					
521 W. Ocean Ave.				8	8
Gardens at Briar	150				150
Courtyards at Briar	80				80
Approvals Granted					
Crown Laurel Project	73				73
Seabreeze Apartments				64	64
River Terrace	308				308
518 N. T Street		5			5
Clear Horizons		40			40
211 N. K Street				5	5
Ocean Ave. & U Street	60				60
Ocean Ave. & R Street	13				13
115 S. Third Street	15				15
Cottages at Burton	55				55
Towbes Residential	210				210
410 N. K Street	5				5
Chestnut Crossing	34				34
Coastal Meadows	42				42
Miscellaneous				8	8
Total	1,045	45		85	1,175
Source: City of Lompoc, Annual Report on the General Plan: 2007, March 2008. City of Lompoc, Current Project List, May, 2008.					

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Table H-52 Entitled Projects Unit Allocation	Inclusionary Units			Unrestricted		Grand Total
	V. Low	Low	Mod	Mod	>Mod	
Under Construction						
521 W. Ocean Ave.				8		8
Gardens at Briar					150	150
Courtyards at Briar					80	80
Approvals Granted						
Crown Laurel Project	4	4	3		62	73
Seabreeze Apartments			7	57		64
River Terrace	18	14	14		262	308
518 N. T Street			3	2		5
Clear Horizons				40		40
211 N. K Street				5		5
Ocean Ave. & U Street	4	2	3		51	60
Ocean Ave. & R Street	1		1		11	13
115 S. Third Street					15	15
Cottages at Burton					55	55
Towbes Residential					210	210
410 N. K Street					5	5
Chestnut Crossing	2	2	2		28	34
Coastal Meadows	2	1	1		38	42
Miscellaneous				8		8
Total	31	23	34	120	967	1,175

Source: City of Lompoc, Annual Report on the General Plan: 2007, March 2008. City of Lompoc, Current Project List, January and May, 2008.

Notes:

1. Inclusionary Units listed above are expressly limited to projects located within the Old Town Redevelopment Project Area which must restrict 15% of the total residential units for occupancy at affordable costs for persons of low and moderate income by operation of the California Health and Safety Code.
2. Unrestricted Units represent the difference between Inclusionary Units and the Grand Total of all entitled dwellings. Unrestricted Units assigned to Moderate Income consist of Attached Single Family and all Multifamily as shown in Table H-51.

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8.5 H Street Corridor Infill

Policies 3.2 and 3.4 of the Land Use Element expressly encourage development of vacant and underutilized properties along the H Street Corridor under a mixed-use overlay. These policies and associated overlay standards provide for an intensification of land use that equals or exceeds the maximum 21.8 du/ac density currently allowed within all land use designations. Utilizing a maximum floor area ratio of 0.75 and dwelling size of 700 square feet, in combination with a development intensity factor of 54% that corresponds to existing MU (Mixed Use) Zone District, the resulting assessment of development potential of the H Street Corridor Infill overlay is displayed in **Table H-53**. In summary, an additional 147 high density units are forecast by application of the H Street Corridor Infill Overlay. As noted, this figure is highly conservative compared to the hypothetical maximum of 333 units that the new mixed use designation could otherwise accommodate.

Table H-53 H Street Infill		Vacant	Under- utilized	Entitled	Devel- oped	Unavail- able	Grand Total
C2 (0.75 FAR)	No. of Parcels	20					20
	Acres of Land	13					13
	Existing Dwellings						
	Maximum Potential	333					333
	Forecasted Units	147					147
<p>Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008. Notes: See Table H-46.</p>							

8.6 Site Suitability

8.6.1 Small Sites

As noted in Appendix B, 44 of the 49 high density vacant land inventory (including H Street Infill sites) consists of parcels under one acre in size. Often times, the nature and conditions associated with small parcels render the provision of

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affordable housing infeasible. However, on closer examination, Appendix B also shows that small parcels comprise the overwhelming majority of high density residential property that is either developed or entitled (defined in Table H-53A as “Utilized”). As shown in Table H-53A, the actual built density of small and large “utilized” parcels is identical. This evidences that small parcels can be developed to same level of intensity as those which exceed one acre in size. In forecasting the development of vacant high density parcels, a lower density factor is utilized (12 du/acre vs. 17.5 du/acre). The result is a very conservative estimate of development potential as opposed to overstating capacity for purposes of RHNA.

Table H-53A Small Sites Suitability		Small Parcels		Large Parcels		Total	
		Vacant	Utilized	Vacant	Utilized	Vacant	Utilized
High Density Residential Inventory	No. of Parcels	44	1,201	5	19	49	1,220
	Acres of Land	10.51	174	8.87	78	19.29	252
	Forecasted Units	126		104		230	
	Developed Units		3,038		1,365		4,403
	Density Units/Acre	12	17.5	12	17.5	12	17.5

Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.

Notes:

1. Small Parcels are defined as those under one acre in size. Large Parcels are defined as those equal or greater than one acre in size. Utilized consists of parcels that are either Developed or Entitled per Tables H-48 and H-53.
2. See Appendix B for a detailed listing of parcels.

8.6.2 Underutilized Sites











As defined in Table H-46, Underutilized Parcels: (i) are those having an improvement value of less than 50% of the mean improvement value of all developed properties within the each respective zone; and (ii) exclude parcels that are “Entitled.” As shown in Table H-53B, the inventory of underutilized sites encompasses 95 separate parcels spread among 14 land use categories totaling 28 acres. The overwhelming major of these sites consist of vacant land, parking lots and single family units located on

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property zoned for high density residential use which account for 86% of the development forecast. While valuation may be seen as an arbitrary benchmark, it serves as good filter for identifying properties that are ripe for intensification. This is evidenced in Table H-53C which portrays the typical level of existing development for each land use category of underutilized parcels. In similar fashion to that described for small sites, the estimated development potential of underutilized land is highly conservative; a forecast of 263 dwellings compared to a maximum allowable of 650. It is also noted that the majority of both small and underutilized sites are contained within the City's redevelopment project area boundaries. Through the powers and financial resources of the Redevelopment Agency, an Implementation Measure has been included in the current Housing Element to facilitate the consolidation and intensification of small and underutilized sites.

Table H-53B Inventory of Underutilized Sites	No. of Parcels	Acres of Land	Existing Dwellings	Maximum Allowable	Forecast Potential
Attached Residential	3	0.95	8	22	4
Auto Repair & Service	2	0.72	0	17	8
Automobile (Sales Only)	1	0.32	0	8	4
Developable Vacant Land	6	1.57	5	38	17
Miscellaneous Retail	1	0.20	0	5	2
Multi-Family Residential	8	2.09	45	50	-6
Private Parking	21	3.98	0	98	49
Public Parking	1	0.48	0	11	5
Public Recreation Centers	1	0.24	0	6	4
Religious Facilities	1	0.19	0	5	2
Services	1	0.24	0	6	3
Single Family Residential	43	12.25	51	286	160
Trailer Park	1	3.44	90	76	0
Vacant Structures	5	0.89	0	22	11
Total	95	27.57	199	650	263
Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.					
Notes: See Table H-46 for a definition of terms and Appendix B for a detailed listing parcels.					









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Table H-53C Development Characteristics of Underutilized Sites		
Attached Residential		
APN 8514113		
		<p>Improvement to Value Ratio: 30%</p> <p>Comments: Large contiguous vacant land on which a small structure is located.</p>
Automobile Repair and Service		
APN 8502104		
		<p>Improvement to Value Ratio: 4%</p> <p>Comments: Small structure on a lot with readably moveable rolling stock.</p>
Automobile (Sales Only)		
APN 8512309		
		<p>Improvement to Value Ratio: 4%</p> <p>Comments: Small structure on a lot with readably moveable rolling stock.</p>
Developable Vacant Land		
APN 8517108		
		<p>Improvement to Value Ratio: 13%</p> <p>Comments: Large contiguous vacant land on which a small assessor structure is located.</p>
Miscellaneous Retail		
APN 8512318		
		<p>Improvement to Value Ratio: 26%</p> <p>Comments: Prominent corner lot with limited building lot coverage and blighted site conditions.</p>

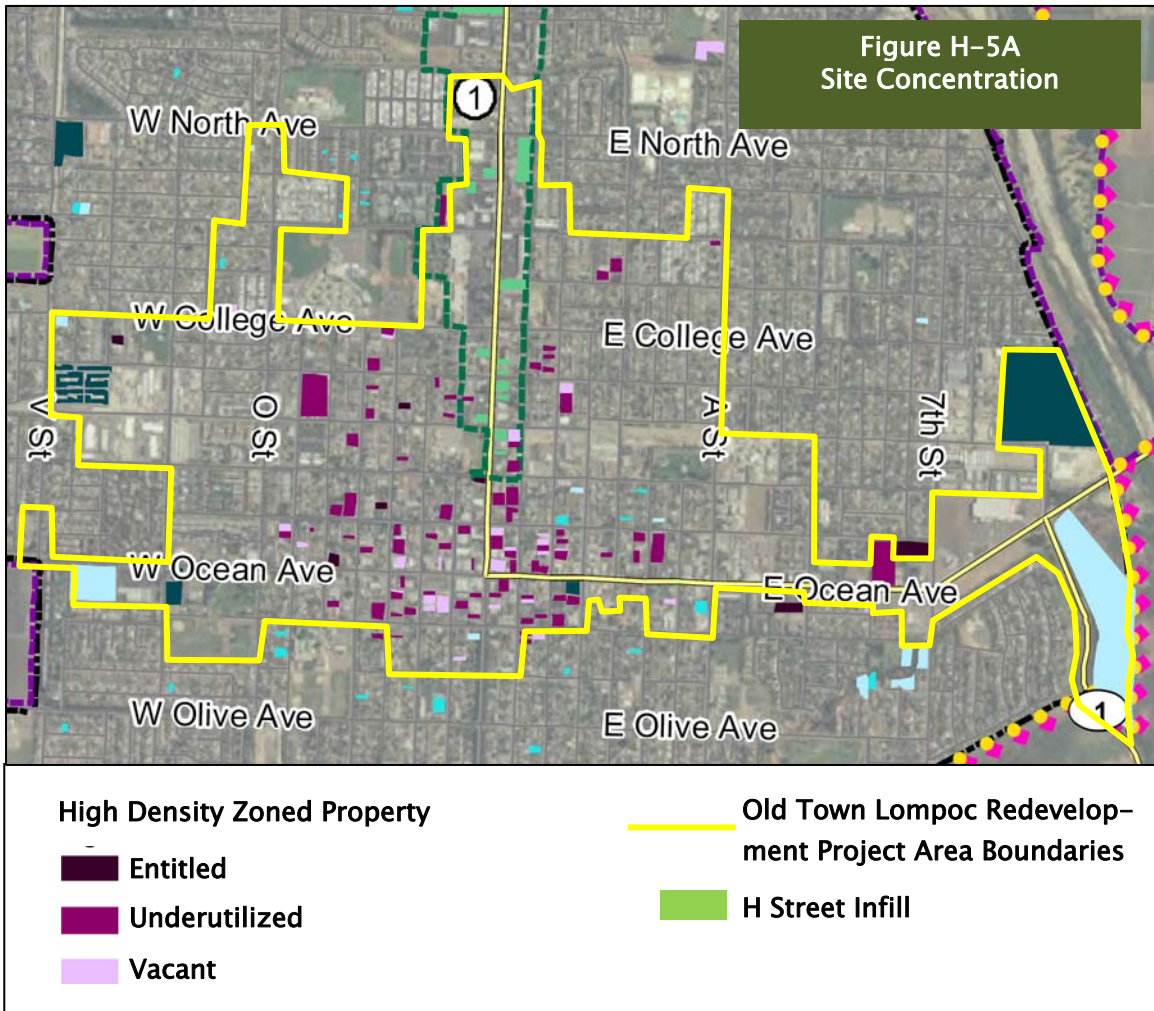
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Table H-53C Development Characteristics of Underutilized Sites			
Multi-Family Residential			
APN 9102221			<p>Improvement to Value Ratio: 29%</p> <p>Comments: Single family dwelling on a large lot surrounded by multi-family uses.</p>
Private Parking			
APN 88517109			<p>Improvement to Value Ratio: 13%</p> <p>Comments: Paved private parking lot with limited/occasional use.</p>
Public Parking			
APN 8512221			<p>Improvement to Value Ratio: 2%</p> <p>Comments: Unimproved public parking lot with limited/occasional use.</p>
Public Recreation Centers			
APN 8919101			<p>Improvement to Value Ratio: 19%</p> <p>Comments: Prominent corner lot with limited building lot coverage.</p>
Religious Facilities			
APN 8513301			<p>Improvement to Value Ratio: 26%</p> <p>Comments: Prominent corner lot with limited building lot coverage and blighted site conditions.</p>

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Table H-53C Development Characteristics of Underutilized Sites		
Services		
APN 8512207		
		<p>Improvement to Value Ratio: 17%</p> <p>Comments: Prominent corner lot with limited building lot coverage.</p>
Single Family Residential		
APN 8719310		
		<p>Improvement to Value Ratio: 24%</p> <p>Comments: Single family dwelling on a large lot with contiguous vacant land fronting a major street.</p>
Trailer Park		
APN 8922204		
		<p>Improvement to Value Ratio: 31%</p> <p>Comments: Blighted trailer park, but not included in the site inventory due to the presence of existing dwellings.</p>
Vacant Structures		
APN 9110316		
		<p>Improvement to Value Ratio: 6%</p> <p>Comments: Large lot with abandoned accessory structure and contiguous vacant land fronting a major street.</p>
<p>Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008. Google Earth, 2009.</p>		

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8.6.4 Availability of Services

The availability of necessary public services such as water, sewer, electrical, and solid waste disposal to facilitate attainment of RHNA goals is fully discussed within the Public Facilities and Services Element of the General Plan. Information within this Element and companion EIR indicates that adequate public service capability exists to accommodate housing projections through 2030. As noted in Figure H-5A, the majority of sites on which RHNA capacity has been calculated are located within predominately developed areas, clustered near the downtown core of the City’s redevelopment project. While the City has adopted Subdivision Standards, many of these requirements will not apply to infill situations, as would be the case for most of the high density and H Street mixed-use sites. These areas are already subdivided and fully im-

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proved; thus, subdivision level requirements will not contribute significantly to the cost or supply of housing for target income groups.

8.6 Goal Assignment

Housing affordability is an important component of RHNA insofar as the evaluation of development capacity must also consider the appropriateness of the inventory relative to development economics. Under Housing Element law, a community may either conduct its own economic feasibility analysis or default to land use densities prescribed by statute. In the case of Lompoc, the minimum density for housing to be deemed affordable to lower income persons is 20 dwellings per acre. No minimum density requirement is prescribed for income groups other than lower income. Included within the lower income category are persons and families classified as extremely low, very low or low income. While single family homes are only affordable to those at the upper higher end of the income scale, attached ownership units and multiple family rental dwellings are at least affordable to persons and families with moderate incomes (Section 5.0). For purposes of RHNA, this means that existing residential densities should be sufficient to meet new construction goals for moderate income households so long as it can be evidenced that there is an adequate inventory of land to produce the numeric count. The same holds true for those with incomes above the moderate level. The more difficult challenge is to ascertain whether there is an adequate inventory of land with an underlying zoning density of at least 20 units per acre, sufficient to produce a minimum of 175 units which is the combined RHNA goal for very low and low income households (less new construction since January 1, 2007). If this cannot be accomplished, the City will need either to conduct a more indepth economic analysis of affordability or commit itself to a program which provides the zoning necessary to meet the shortfall in units.

8.7 RHNA Comparison

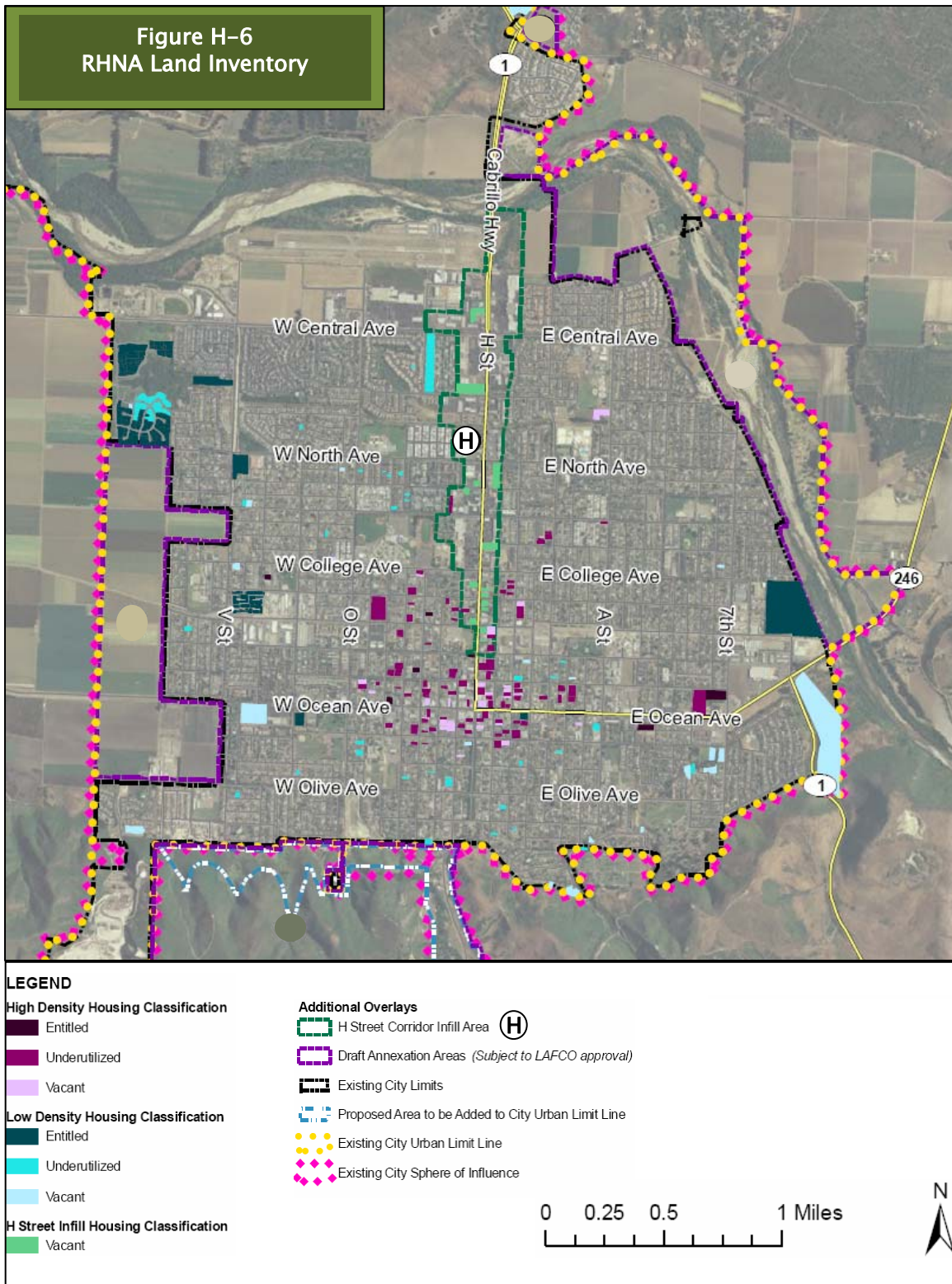
As noted in Paragraph 8.2, the City has been assigned a total of 516 dwellings as its total RHNA goal. Discounting for new construction completed since the beginning of 2007 (**Tables H-44 and H-45**), the adjusted target is 434 units. This target compares favorably to the hypothetical development capacity of 1,878 units above the current baseline (1,731 units under existing residential zoning and 147 units resulting from the H Street Infill Overlay). Insofar as the analysis of affordability (Section 5.0) shows that the existing housing stock (other than detached single family homes) is affordable to persons with incomes at and above the moderate level, development capaci-

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ty at lower densities is appropriate relative to meeting the RHNA goals assigned to this particular population segment. In this regard, the capacity analysis indicates a potential increase of 154 dwellings with current zoning compared to a net RHNA goal of 122 dwellings for moderate income households. The net RHNA goal for persons and families with incomes above moderate is 137 dwellings as compared to 1,173 dwellings that are forecast. In regard to lower income households, the net RHNA goal is 175 dwellings compared to a build-out potential of 553 dwellings at a density of 21.8 du/ac. In summary, the inventory of land under current zoning, coupled with the new H Street Corridor Infill Overlay, evidences excess capacity to meet the City’s assigned share of future housing needs. **Figure H-6** provides a graphic depiction of land available for residential development while **Appendix B** contains a detailed inventory and development assessment of parcels appearing in the figure.

Table H-54 RHNA Analysis	Target Groups				
	V. Low	Low	Moderate	Above Mod	Total
Goal Allocation					
Gross Allocation	120	89	123	185	517
New Construction	25	9	1	48	83
Adjusted Goal	95	80	122	137	434
Land Inventory					
Vacant Parcels	44	45		196	285
Underutilized Parcels	131	132		10	273
Entitled Projects					
Unrestricted Units			120	967	1,087
Inclusionary Units	31	23	34		88
H Street In-Fill	73	74			147
Goal Attainment					
Forecasted Units	279	274	154	1,173	1,880
Over(+)/Under(-)	+184	+194	+32	+1,036	+1,446
Source: Land Inventory - Table H-46; Entitled Parcels - Table H-52; H Street Infill - Table H-53.					
Notes:					
1. Forecasted Units is the sum of Land Inventory, Entitled Parcels and H Street Infill.					
2. Over (+)/Under (-) is calculated as follows: Adjusted Goal - Forecasted Units.					

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HOUSING CONSTRAINTS

9.0 Introduction

Housing development constraints take many forms. They can be institutional, financial, or environmental and may be necessary to protect public health and safety or enhance the quality of life within a community. However, unnecessary constraints may discourage the development or conservation of needed housing and result in detrimental social consequences including: dilapidated housing, household overpayment, overcrowding, and homelessness.

10.0 Governmental Constraints

While governmental regulation is necessary to protect the quality of development in a community, it increases the cost of development and thus the cost of housing. Existing governmental constraints include: land use controls, building codes and enforcement, on/off site improvements, fees and exactions, permit processing procedures, and State and Federal requirements. Land use controls limit the type and density of development, thus increasing the cost per housing unit. Building Code standards may require more expensive construction methods and materials. On-site and off-site improvements, like undergrounding of utilities, road widening, installation of traffic signals, or sewer line extensions increase a project's cost. Fees and exactions contribute directly to the increase in costs. Processing and permit requirements delay construction, increasing financing costs and other overhead costs associated with housing development. The following describes governmental constraints which may affect the cost of housing in Lompoc.

10.1 Land Use Controls

The City of Lompoc currently has no growth control ordinance designed to limit residential development. The City's General Plan and Zoning Ordinance provide for a range of housing types and density allowances. The General Plan has the following six land use designations and permitted densities that allow residential uses: Very Low, Low, Medium, and High Density residential, as well as Mixed-Use and Old Town Commercial. The Mixed-Use land use designation allows for residential development as a primary or secondary use on a proportion of the total floor area, at High Density residential range. The Old Town Commercial land use designation allows for residential development as a secondary use at High Density residential range. The density ranges and

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average population density according to each of these designations are shown in **Table H-55**.

Table H-55 Density Analysis	Residential Land Use Categories		
	Dwelling Unit Density	Population Density	Description
Very Low Density (VLD)	2.2	6	Semi-rural large-lot detached single family homes on prominent bluffs, steep hillsides, or adjacent to farmland.
Low Density (LD)	6.2	18	Single family dwellings and mobilehomes.
Medium Density (MD)	6.2 - 14.5	42	Mixture of unit types such as townhouses, duplexes, triplexes, four-plexes, low-rise apartments, and mobilehomes.
High Density (HD)	14.5 - 21.8	63	Single-story and multi-story apartment buildings.
Mixed Use (MU)			Mixture of pedestrian-oriented uses, including commercial, residential, civic, cultural, and recreational uses, combined to produce a town center that is economically vibrant and socially inviting.
Residential	14.5 - 21.8	63	
Mixed Com. & Res.	Footnote 2	Varies	
Old Town Commercial (OTC)	14.5 - 21.8	63	Residential uses in conjunction with on-site pedestrian-oriented commercial uses.

Source: General Plan, City of Lompoc, 2007.

Notes:

1. Average population density indicates the expected number of persons per net acre living within residential areas. It is calculated by multiplying the maximum allowable dwelling units per net acre by the average citywide household size (2.88 according to the 2000 Census).
2. Allowable building density for commercial is 1.00 FAR with a minimum of 33% of floor area for residential use.
3. Mixed Use Developments: Allowable building density is 1.00 FAR with a minimum of 33% of floor area for residential use; Residential Developments: Allowable building density is 2.00 FAR.

The City of Lompoc Zoning Ordinance contains seven zones that permit residential uses. The Zoning Ordinance regulates such features as lot coverage, building height, lot area, lot dimensions, setbacks, and landscaped open space requirements. Development standards for the eight zones are provided in **Table H-56** on the following page.

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**Table H-56
Residential Development Standards**

District	District Name	DUs Per Lot	Lot Coverage	Height	Minimum Lot Area	Minimum Lot Dimensions		Minimum Setback ¹			Landscaped Open Area
						Width	Depth	Front	Side	Rear	
R-A	Residential Agriculture	One	nr	35 ft	20000 sf	100 ft	nr	20 ft	10% lot width; min 5 ft, max 10 ft; 10 ft corner side	15 ft	nr
R-1	Single Family	One	40%	30 ft	7000 sf	65 ft interior lot; 70 ft corner lot	nr	varies progressively from 15 ft to 25 ft with min 3 ft variations; 30 ft max	9 ft one side, 5 ft other, total 15 ft; 10 ft corner side adjacent street	20 ft; may be 5 ft with min 1,000 sf open area to rear of main building or in any "L" or "U" design	nr
10-R-1		One	40%	30 ft	10000 sf	75 ft	nr				
R-2	Medium Density	One for each 3,000 sf of land area	50%	30 ft	6000 sf	80 ft interior lot; 70 ft corner lot	nr	15 ft	5 ft both sides interior lot; 10 ft corner side adjacent street	10 ft	300 sf for each du
R-3	High Density	One for each 2,000 sf of land area	60%	35 ft	7000 sf	75 ft	nr	15 ft	5 ft both sides interior lot; 10 ft corner side adjacent street	10 ft	250 sf for each du
T	Residential Mobile Home Park	Seven spaces for each acre	nr	nr	Park: 10 ac	nr	nr	Mobilehome space 5 ft to park's exterior property lines; 20 ft. to exterior property line abutting street. Mobilehome 5 ft to space boundary line.			Refer to footnote 2
C-2 refer to footnote 3	Central Business	14.5 - 21.8, min. 33% of floor area	nr	50 ft/ 4 stories	7,000	60 ft	nr	nr	10 ft (refer to footnote 4)	10 ft (refer to footnote 5)	nr
OTC	Old Town Commercial	14.5 - 21.8	2.0 FAR max 25% for resi use	20 ft. min; 45 ft/3 stories max	5,000	25 ft	nr	nr	nr	10 ft	nr

(1) Standard setbacks unless bordering a thoroughfare, major or collector street.
(2) Mobilehome Parks, Family parks: 300 sf for each space up to 100 spaces and 200 sf for each space over 100. Adult parks: 200 sf for each mobilehome space. Travel trailer parks and recreation vehicle parks, 100 sf for each travel trailer or recreation vehicle space.
(3) C-2 zoning district with a land use designation of MU (Mixed Use).
(4) No requirement unless the lot or parcel of land in the C-2 zone has a side lot line adjoining property in a residential zone then the side yard of the C-2 zoned property adjoining the residential lot shall have a side yard of not less than 10 feet.
(5) No requirement unless the lot or parcel of land in the C-2 zone has a rear lot line adjoining property in a residential zone then the rear yard of the C-2 zoned property adjoining the residential lot shall have a rear yard of not less than 10 feet.
nr = no requirement

The minimum lot size for new single-family homes in the 10-R-1 zone is 10,000 square feet, 7-R-1 is 7,000 square feet, R-2 is 6,000 square feet, R-3 is 7,000 square feet, C-2 is 7,000 square feet, and OTC 5,000 square feet. The Residential Agriculture (R-A) zone is a designation generally used for large-lot detached single family homes on prominent bluffs, steep hillsides, or adjacent to farmland. Appropriate uses include light agricultural activities, agricultural workers' living quarters, and single family detached dwellings. The R-A zone has a minimum lot size of 20,000 square feet. There is one vacant parcel zoned R-A that is 29.75 acres in size. The T zone is a designation for mobile home parks and requires a minimum of 10 acres.

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The Medium Density Residential (R-2) zone requires a minimum land area of 3,000 square feet per unit and the High Density Residential (R-3) zone requires a minimum land area of 2,000 square feet per unit.

The maximum densities permitted by the General Plan for the Very Low Density Residential (R-A) is 2.2 dwelling units per acre, Low Density Residential (R-1) is 6.2 dwelling units per acre, Medium Density Residential (R-2) ranges from a minimum of 6.2 to a maximum of 14.5 dwelling units per acre, High Density Residential (R-3) ranges from a minimum of 14.5 to a maximum of 21.8 dwelling units per acre. The Mixed Use/Central Business (MU/C-2) and Old Town Commercial (OTC) allow a minimum density of 14.5 dwelling units per acre to a maximum of 21.8 dwelling units per acre.

With the exception of the R-A, T, and OTC zones, minimum lot widths range from 60 to 75 feet. The R-A zone requires a minimum lot width of 100 feet and the OTC zone 25 feet. There is no minimum lot width for the T zone. In addition, there are no minimum lot depths for any of the zones allowing residential uses.

Yard and setback requirements are not excessive and range from 5 feet to 20 feet. Front setbacks in single family zones allows a progressive setback from 15 to 25 feet. The MU/C-2 zone has no front yard setback and a 10 foot side and rear setback only if the MU/C-2 parcel has a side or rear lot line adjoining residential property. The OTC zone has no front or side yard setback, but has a 10 foot rear yard setback. Height limits in residential zones (R-A, R-1, R-2, and R-3) allow two and three stories (maximum of 30 and 35 feet). Height limits in the MU/C-2 and OTC zones are four stories or 50 feet and three stories or 45 feet, respectively.

With the exception of the R-A zone having no requirement, maximum lot coverage ranges from 40 to 60 percent for residential zones (R-1, R-2, and R-3) which is more than sufficient to accommodate the maximum densities permitted under the General Plan. The MU/C-2 zone has no lot coverage restriction. The OTC has a 2.0 floor area ratio (FAR) of which a maximum of 25 percent may be residential use.

Landscaped open area requires 300 square feet for each dwelling unit in the R-2 zone and 250 square feet for each dwelling unit in the R-3 zone. There is no landscaped open area requirement in the R-A, R-1, MU/C-2, or OTC zones.

The City's residential parking requirements are summarized in **Table H-57**.

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Table H-57 Residential Parking Standards	Required Parking Spaces
Single Family Dwelling	2 spaces within a garage or carport, or any combination thereof
Duplexes & Multi-Family	
Studio, Bachelor or 1-Bedroom	1.5 spaces per unit, 1 covered space/unit
2 Bedroom Units	1.75 spaces per unit, 1 covered space/unit
3 Bedroom Units	2 spaces per unit, 1 covered space/unit
4 Bedroom Units	2 covered spaces per unit
Condominiums	2 spaces per unit with a garage or carport
Elderly and Handicapped	
Single Family Dwelling	1 space within a garage or carport
Duplexes & Multi-Family	
Studio, Bachelor or 1-Bedroom	0.6 spaces per unit
2 Bedroom Units	1 space per unit
Old Town Commercial	
Existing Residential Developments	No requirement
New Residential Developments	As specified above dwelling unit type
Source: Zoning Ordinance, City of Lompoc, 2007.	

Parking requirements in the City of Lompoc are normal for a city of its size: two spaces per unit for single family dwellings, and one and one-half to two spaces for multi-family dwellings depending on unit types and other project characteristics.

10.1.1 Planned Development

The Planned Development (PD) District (Lompoc City Code, Article 5, Sections 7700 - 7708) is intended to provide for the orderly development of land in conformance with the Elements of the General Plan of the City but permitting a flexible design approach to the development of a total community environment equal to or better than that resulting from traditional lot-by-lot land use development.

Various land uses may be combined in a PD District including residential, commercial, and light industrial parks, or any other use or combination of uses which can be made appropriately a part of a planned development.

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With respect to residential development, PD Districts encourage residential development at the upper end of the allowed density range within the applicable districts by allowing developers to vary from the strict application of the development standards of the base zoning districts. The flexibility provides for, and can promote the cluster housing, zero lot lines, townhomes, and similar housing types that can be more difficult to develop with typical setbacks, lot coverage, and parking.

10.1.2 Permitted Uses in Residential Zoning Districts

The Lompoc City Code designates permitted and non-permitted uses for all developable use types in the City. As summarized in **Table H-55**: (i) single family dwellings, detached, are permitted in the R-A, R-1, and R-2 zones, and are conditionally allowed in the R-3 zone; (ii) single family dwellings, attached, are permitted in the R-2 and R-3 zones. (iii) duplexes are not permitted in the R-A or R-1 zones, but are permitted in the R-2 and R-3 zones; (iv) triplexes and uses with more than two detached single family dwellings are conditionally allowed in the R-2 zone, and are permitted in the R-3 zone; (v) apartments for three or more families are permitted in the R-3 zone; (vi) group dwellings are permitted in the R-3 zone; (vii) second residential units are permitted in the R-1 zone; (viii) mobilehome parks, travel trailer parks, and recreational vehicle parks are only permitted in the T zone; and (ix) residential care providers are permitted in the R-1, R-2, and R-3 zones.

10.1.3 Residential Development in Mixed Use Zone Districts

Residential dwellings are encouraged in conjunction with commercial uses within the Old Town Commercial (“OTC”) and Mixed Use (“MU”) zone district. Applicable zoning regulations restrict residential uses to stories above the first floor and must be built with a 2.00 FAR with a maximum of 25% of floor area for residential. Single family and two family dwellings are prohibited uses unless they meet specified criteria. Multiple-family dwellings (three dwelling units but no more than four dwelling units) conditionally permitted uses unless they meet the criteria of the Mixed Use Development. As noted in **Table H-48**, no residential units have been developed within the Old Town Commercial district, yet a density of up to 21.8 dwellings/acre is specifically allowed. This indicates a possible disconnect between underlying development standards and the goal of promoting mixed use projects. To address this apparent disparity, a focused analysis of the impediments and incentives to promote mixed projects within the OTC zone is expressly included as Implementation Measure 24.

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**Table H-58
Permitted and Conditionally Allowed Residential Uses**

Residential Type	Zoning District						
	R-A	R-1	R-2	R-3	T	MU/C-2 ²	OTC ³
Single family dwellings	X	X	X	X (CUP ⁴)		Refer to Footnote 2.	Refer to Footnote 3.
Duplexes or detached single family dwellings			X	X		Refer to Footnote 2.	Refer to Footnote 3.
Triplexes and uses with more than two detached single family dwellings			X (CUP)	X		Refer to Footnote 2.	Refer to Footnote 3.
Apartments ⁵				X		Refer to Footnote 2.	Refer to Footnote 3.
Group dwellings ⁷		X	X	X			
Travel Trailer Park Recreational Vehicle Park					X		
Care of nonrelated 6 or less persons		X	X	X			
7 or more persons		X (CUP)	X (CUP)	X (CUP)			
Mobilehomes ⁸		X			X		
Agricultural workers' living quarters, for persons employed and deriving the major portion of their income from employment on the premises	X						
Caretaker's residence	X ⁹					X	

1 Does not include CO, CC, General Commercial/C-2, or PCD zones or group quarters.
2 Residential Uses in MU designated areas: May include one, two, and multiple family uses provided the residential use is built with a 1.00 FAR with a minimum of 33% of floor area for residential use.
3 Residential Uses in OTC zone: Mixed Use Developments allowed in the OTC zone, including residential and office/retail/service components within the same structure. Residential must be located above the first floor and shall be built with a 2.00 FAR with a maximum of 25% of floor area for residential. Single family and two family dwellings are prohibited uses unless they meet the criteria of the Mixed Use Development. Multiple-family dwellings (three dwelling units but no more than four dwelling units) conditionally permitted uses unless they meet the criteria of the Mixed Use Development.
4 CUP Conditional Use Permit
5 Apartments: A multiple family dwelling, as herein defined (see dwelling, multi-family⁶), which is expressly for the purpose of providing dwelling units for rent or lease. This definition excludes other types of multi-family dwellings such as stock cooperatives and condominiums even if said stock cooperatives and condominiums provide dwelling units for rent or lease.
6 Dwelling, multi-family: A building designed or used for occupancy by three (3) or more families, living independently of each other.
7 Group dwellings: Six or less, permitted by right; seven or more requires a conditional use permit.
8 Mobilehomes in R-1 zone shall be on permanent foundations in accordance with Health and Safety Code, Section 18551.
9 Caretaker's residence allowed as an accessory use.

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10.1.4 Conditional Use Permit Process

The Conditional Use Permit (CUP) process is described in the Lompoc City Code (Article 1, Section 8880). Applications for use permits are reviewed by the Planning Commission which then has the authority to approve, conditionally approve, or deny the application. The total process of a CUP takes approximately six weeks to complete.

In granting a CUP, the Planning Commission must make all of the following findings: (i) the site of the proposed use is adequate in size and topography to accommodate the proposed use, and all yards, spaces, walls and fences, parking, loading, and landscaping are adequate to properly adjust such use with the land and uses in the vicinity; (ii) the site for the proposed use relates to streets and highways adequate in width and pavement to carry the quantity and kind of traffic generated by the proposed use; (iii) the proposed use will have no adverse effect upon abutting property from the permitted use; and (iv) the conditions stated in the decision are deemed necessary to protect the public health, safety, and general welfare. The conditions may include but are not limited to: *regulations of use; special yards, spaces, and buffers; surfacing of parking areas; requiring street, service road, or alley dedications and improvements or appropriate bonds; special fences, solid fences, and walls; regulation of points of vehicular ingress and egress; regulation of signs; landscaping plan designed by landscape architect, to be reviewed and approved by the City Planner; requiring maintenance of the grounds; regulation of noise, vibration, odors; regulation of hours for certain activities; time periods within which the proposed use or portions thereof shall be developed; duration of use or portions thereof; posting of a bond or bonds sufficient to guarantee the removal of any non-conforming; structures or uses of the land upon the expiration of the period of the conditional use permit; requiring the dedication of access rights; and such other conditions as will make possible the development of the City in an orderly and efficient manner.*

The Planning Commission may impose additional conditions on the following residential uses which require a CUP, but only if the conditions serve to ensure that the appropriate findings can be made: single family dwellings in R-3 zone, triplexes and uses in which more than two detached single family dwellings in R-2 zone, and agricultural workers' living quarters for persons employed and deriving the major portion of their income from employment on the premises in the R-A zone.

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The CUP process does not act as a constraint to the development of affordable housing because: (i) a CUP is not required for multiple family uses such as duplexes, triplexes, apartments, and group dwellings in the R-3 zone; (ii) where a CUP is required it does not add significant time or delay to the approval of a project; (iii) the Planning Commission does not impose additional development standards through the CUP, but rather addresses the findings that are described in Chapter 50 of the Lompoc City Code; and (iv) the City's CUP application packet provides clear direction on submit-tal requirements and the process and standards for review.

10.1.5 Architectural Review (Design Review)

The Architectural Review [Design Review (DR)] process is de-scribed in the Lompoc City Code (Chapter 50, Title 3, Chapter 2, Article 1, Sections 8825-8833). The purpose of the architectural review is to determine a project's com-pliance with provisions of the technical codes and development policies of the City and consistency with the established Architectural Review Guidelines. Additionally, architec-tural review is intended to promote an aesthetically and environmentally pleasing and economically viable community. Typically development projects in the mixed use and Old Town Commercial areas would be subject to the architectural review process. With the exceptions noted below, applications for architectural review are reviewed by the City Planner. As noted above, the Architectural Review authority is limited to a review of the project's consistency with architectural guidelines and includes review of the building elevations, site and landscaping plans, and signs. The Planning Commission performs the architectural review on the following: (i) all major projects which are lo-cated on parcels or lots with frontage on Ocean Avenue, Central Avenue, and "H" Street north of Cypress Avenue; (ii) major commercial and industrial projects on "A" Street north of Cypress Avenue; (iii) all projects involving the designated landmarks and his-torical structures and places referred to in the 1988 City of Lompoc Cultural Resources Study; and (iv) on any application for architectural review, the City Planner may refer, with or without recommendation, the project directly to the Planning Commission for decision.

In approving the architecture and design of a project, the City Planner and Planning Commission will consider the following criteria: (i) protection of the quality of life of the residents of Lompoc by use of designs that preserve and en-hance privacy and minimize detrimental conditions such as noise, glare, unattractive uses, and unsightly elements is required for all projects; (ii) development of residential neighborhoods to preserve unity of character, unique features, and natural conditions to

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advance toward the goal of neighborhoods harmonious with others and of new residences compatible with existing homes and with the neighborhood; (iii) protection and preservation, to the extent feasible, views, open space, historically significant sites and structures and privately owned public art on private property.

The City Planner and Planning Commission have the authority to approve, conditionally approve, or disapprove a project. Other than single family homes in R- zones which are not part of a parcel map or subdivision map, all applications for permits for the construction of any building, structure, or sign in all zone districts, are required to be reviewed for consistency with the architectural guidelines.

The Architectural Review process does not act as a constraint to the development of affordable housing because: (i) the Architectural Review is used to guide the development in the City of Lompoc, the guidelines are based on recognized principles of design, planning, and aesthetics, and they follow written policies that are published in the City's "Architectural Review Guidelines" booklet; (ii) the architectural guidelines explain why the City requires architectural review and what the benefits are, and provide clear standards which will improve and quicken the architectural review process; (iii) the City encourages creative design and new ideas in the use of building Materials; and (v) and innovative construction methods, provided what is proposed falls within the City's guidelines; (iv) a stated goal of architectural review is development that not only is well designed, but also fits in Lompoc, with projects that strike a balance between the developer's preference and the public interest; (v) projects which are acted upon by the City Planner are required by Lompoc City Code to be approved, conditionally approved, or disapproved within ten (10) working days of the date of receipt of a complete application; (vi) projects which are acted upon by the Planning Commission are required by Lompoc City Code to be approved, conditionally approved, or disapproved within thirty (30) working days of the date of receipt of a complete application and after consideration by the Planning Commission during a regularly scheduled meeting; (vii) Planning Commission meetings are held at least once a month for regularly scheduled meetings and more often as determined necessary; (viii) the City's DR application packet provides clear direction on submittal requirements and on the process and standards for review; and (ix) the Architectural Review Guidelines relating to all design and development within the City of Lompoc are on file in the office of the City Clerk and are available at the Community Development Department public counter.

In conclusion, the Architectural Review process does not add significant time or delay to the approval of projects.

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10.2 Mobilehome Park Standards

A mobilehome, defined by the National Mobile Home Construction Act of 1974, 42 USC Section 5401 et seq.), is a permitted use in the R-1 zone. The mobilehome in the R-1 zone shall be on a permanent foundation in accordance with California Health and Safety Code Section 18551.

The City also has a designated zone (T) for land for use as a mobilehome park and mobilehome subdivision. The zone is also for travel trailer parks and recreational vehicle parks. The T zone development standards for a mobilehome park include the following: (i) each park must have an area of not less than 10 acres; (ii) seven (7) mobilehome park spaces are allowed per acre of land within the mobilehome park or subdivision; (iii) each mobilehome space must be located a minimum 20 feet from an exterior property line of the mobilehome park when the exterior property line abuts a public street, a minimum 5 feet from any other portion of exterior property line of the mobilehome park and a minimum 5 feet from mobilehome to its side lot or space boundary line; (iv) perimeter landscaping must be provided on sides of the mobilehome park or subdivision abutting a public street; (v) a solid wall or fence six (6) feet high must be provided on all exterior boundary lines of the mobilehome park or subdivision abutting a public street; (vi) internal streets must be a minimum of thirty (30) foot wide, surfaced with 2-1/2 inches of asphalt on four (4) inches of base and rolled curbs four (4) inches in height; (vii) a minimum storage area equivalent to 100 square feet per mobilehome space must be provided for storage of boats, campers, camping trailers, utility trailers, and extra vehicles enclosed with a six (6) foot high chain link fence. (viii) in family parks, a minimum of 300 square feet of open space must be provided per mobilehome space up through 100 spaces plus 200 square feet per mobilehome space beginning with the 101 space; (ix) in adult parks, a minimum of 200 square feet of open space must be provided per mobilehome space; (x) in travel trailer parks and recreation vehicle parks, a minimum of 100 square feet of open space must be provided per travel trailer space or recreation vehicle space; (xi) on-site parking for the resident of the mobilehome must be provided in accordance with the residential parking standards included in **Table H-57** for multi-family dwellings; and (xii) guest parking must be provided at a ratio of one additional off-street parking space for each seven (7) mobilehome sites in the park.

10.3 Building Codes and Enforcement

The City has adopted the 2001 California Administrative Code as a standard for development within the City. The California Administrative Code includes the

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California Building Code, Uniform Mechanical Code, Uniform Plumbing Code, National Electric Code, Uniform Housing Code, Uniform Code for the Abatement of Dangerous Buildings, and Uniform Fire Code. This code has been adopted in order to prevent unsafe or hazardous building conditions. In some instances the City's Zoning Ordinance supersedes the California Administrative Code, however, the changes are minor in nature. As such, the City's codes are normal and enforcement does not act as a constraint to the construction or rehabilitation of housing.

A review of the City's amendments to the uniform codes indicates they have no substantial impact on the cost of residential development. Lompoc's amendments to the State Building Code standards are primarily procedural and administrative, such as the appeals procedures, flood plain management process, and reroofing procedures.

10.4 On- and Off-Site Improvements

Lompoc is currently experiencing no capacity limitations with the City's water, wastewater, storm drain, and electric utility systems. Development regulations do, however, require the extension of utilities in order to tie into the City systems, such as the construction of a sewer trunk line to serve new development; the payment of charges for installed improvements, such as the installation of electric transformers; contributions to aid in the expansion of existing facilities and the construction of new facilities necessitated by new development, such as a retention basin to accommodate run-off produced by paving.

Currently, Lompoc Unified School District (LUSD) facilities are operating at capacity and the fees charged for new construction are not sufficient to build additional new facilities needed to accommodate projected enrollment increases. All other City-required improvements are similar to those of surrounding communities, therefore, no other inordinate constraints have been identified regarding the City's utility infrastructure. While the City has adopted Subdivision Standards, many of these requirements do not apply to infill situations, as would be the case for most of sites identified for high density residential that address the needs possessed by target income groups. These areas are already subdivided and fully improved; thus, subdivision level requirements will not contribute significantly to the cost or supply of housing for target income groups.

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10.5 Fees and Exactions

Land development within the City is subject to fees imposed by the City to offset future capital expenditures and to accommodate future development or defray the cost of water treatment, street maintenance, environmental review, development review, permit processing, field inspections, police protection, fire protection, and recreational activities. The City departments which levy fees include: Public Works, Building, Community Development, Police, Fire, and Parks and Recreation. Each type of capital improvement fee that is levied by the City is imposed in relationship to an estimated future capital expenditure and conforms to the stipulations of AB 1600 legislation. The size of City permit processing fees collected varies. See **Appendix C** for detailed information on the fees that apply to residential projects. In brief, the fees are assessed on the basis of the following factors: (i) complexity of application review; (ii) the valuation of the land proposed for development; (iii) the number of acres proposed for development; (iv) the number of dwelling units; (v) the valuation of proposed construction and improvements; (vi) square footage of floor area; and (vii) the number of plumbing fixtures per unit.

Table H-59 Development Fees	Single Family			Multiple Family		
	City Fee	Schools	Total	City Fee	Schools	Total
Santa Barbara	\$9,407	\$3,860	\$13,267	\$2,105	\$1,544	\$3,649
Santa Maria	\$10,624	\$3,860	\$14,484	\$5,672	\$1,544	\$7,216
Lompoc	\$11,179	\$3,680	\$14,859	\$2,363	\$1,472	\$3,835
Buellton	\$14,461	\$4,100	\$18,561	\$9,378	\$4,100	\$13,478
Carpinteria	\$18,819	\$3,860	\$22,679	\$8,119	\$1,544	\$9,663
County	\$35,158	\$3,860	\$39,018	\$14,575	\$1,544	\$16,119
Mean			\$20,478			\$8,993
Median			\$16,710			\$8,439

The last authoritative study of fees charged throughout Santa Barbara was performed by the Homebuilders Association of the Central Coast (“HBACC”) in 2000. **Table H-59** provides a comparative analysis of fees derived from the HACC study for hypothetical single and multiple family projects. Comparatively speaking, development fees charged by the City of Lompoc are less than the median and considerable below the average charged for residential dwellings. The difference is more dramatic for multiple family dwellings with Lompoc charging among the lowest fees Countywide. The same is

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holds true for processing fees with Lompoc reportedly the lowest among all jurisdictions included in the survey.

Table H-60 Processing Fees	Land Use Entitlement Permit Processing Fees Only	
	Single Family	Multiple Family
Lompoc	\$289	\$451
Santa Maria	\$369	\$719
County	\$316	\$597
Santa Barbara	\$596	\$803
Buellton	\$848	\$597
Carpinteria	\$955	\$721
Mean	\$562	\$648
Median	\$483	\$658

Source: Home Builders Association of the Central Coast, Fee Study, June 2000.
Note: Table 60 only reflects those communities included in the HBACC Fee Study. In the Table entitled "Land Use Entitlement Processing Fees Only," building permit fees serve as the basis of comparison for Multiple Family construction.

10.6 Permit Processing Procedures

All processing time increases the cost of development. The residential development review process normally begins with the filing of a preliminary map or site plan for consideration by the Development Review Board and ends with issuance of the Certificate of Occupancy. There are many steps which may be necessary before the final development of a housing project can take place. These steps include: plan check, architectural review, and other forms of approval. Each step requires some form of administrative process and various amounts of time.

Processing time varies considerably from a few weeks to several months depending on the complexity of the proposed project and its conformance with the General Plan and Zoning Ordinance. Projects range from the development of a single unit on an existing lot with appropriate zoning and land use designations to the annexation or subdivision of land needing numerous improvements, zone changes, and an environmental impact report (EIR).

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Table H-61 Processing Timeframes	Type of Permit Process and Approximate Length of Time to Public Hearing
Single Family Dwelling	2 weeks Building Permit
Duplexes or Two Single Family Residences in R-2 or R-3 Zoning Districts	Architectural Review
Three or More Residential Units in R-2	Conditional Use Permit
Three or More Residential Units in R-3	Architectural Review
Four or More Residential Units in R-3	Architectural Review
Conditional Use Permit	6 weeks to Planning Commission
Architectural Review	2 weeks administrative review; 6 weeks to Planning Commission
Tentative Parcel Map	6 weeks to Planning Commission
Tentative Tract Map	6 weeks to Planning Commission
Variance	6 weeks
Zoning Amendment or Zone Change	12 weeks
Environmental Documentation	4 to 10 weeks (average 8 weeks)
General Plan Amendment	12 weeks
Final Map	8 weeks
Plan Check	2 to 8 weeks
Source: Project Case Files, City of Lompoc, 2002.	
Note: All timeframes are based on the date an application is deemed complete.	

Architectural Review is conducted by the City Planner or Planning Commission. Conditional Use Permits and Tentative Maps are reviewed by the Planning Commission. Variances, Zoning Amendments or Zone Changes, General Plan Amendments are reviewed by both the Planning Commission and City Council.

The City does not have a separate architectural review board or environmental review committee. These reviews are a function of the Planning Commission in the case of conditional use permits, development plans, and tentative maps and of both the Planning Commission and City Council in the case of variances, zoning amendments or zone changes, and General Plan amendments. In an effort to provide complete preliminary information on a project to an applicant, the City instituted the Development Review Board (DRB) process in the mid-1980's. The DRB is comprised of City staff from the various City departments that have the responsibility for reviewing development proposals, drafting Conditions of Approval, and enforcing City requirements and regulations. The DRB meets regularly at least once or twice a month, or more often on

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an as needed basis, as a result of project applications submitted to the City or at the request of an applicant who wants to get an early indication of a project's requirements. Upon submittal of a preliminary site plan or a complete application package for a discretionary permit, City staff will schedule the project within two weeks of its submittal date. City staff will review the submittal and prepare verbal or written comments and draft Conditions of Approval to exchange at the DRB meeting. The availability of complete information from one DRB meeting allows an applicant an early indication of potential issues and conditions and can save the applicant time and money in the long term. The City regularly receives positive comments regarding its development review process.

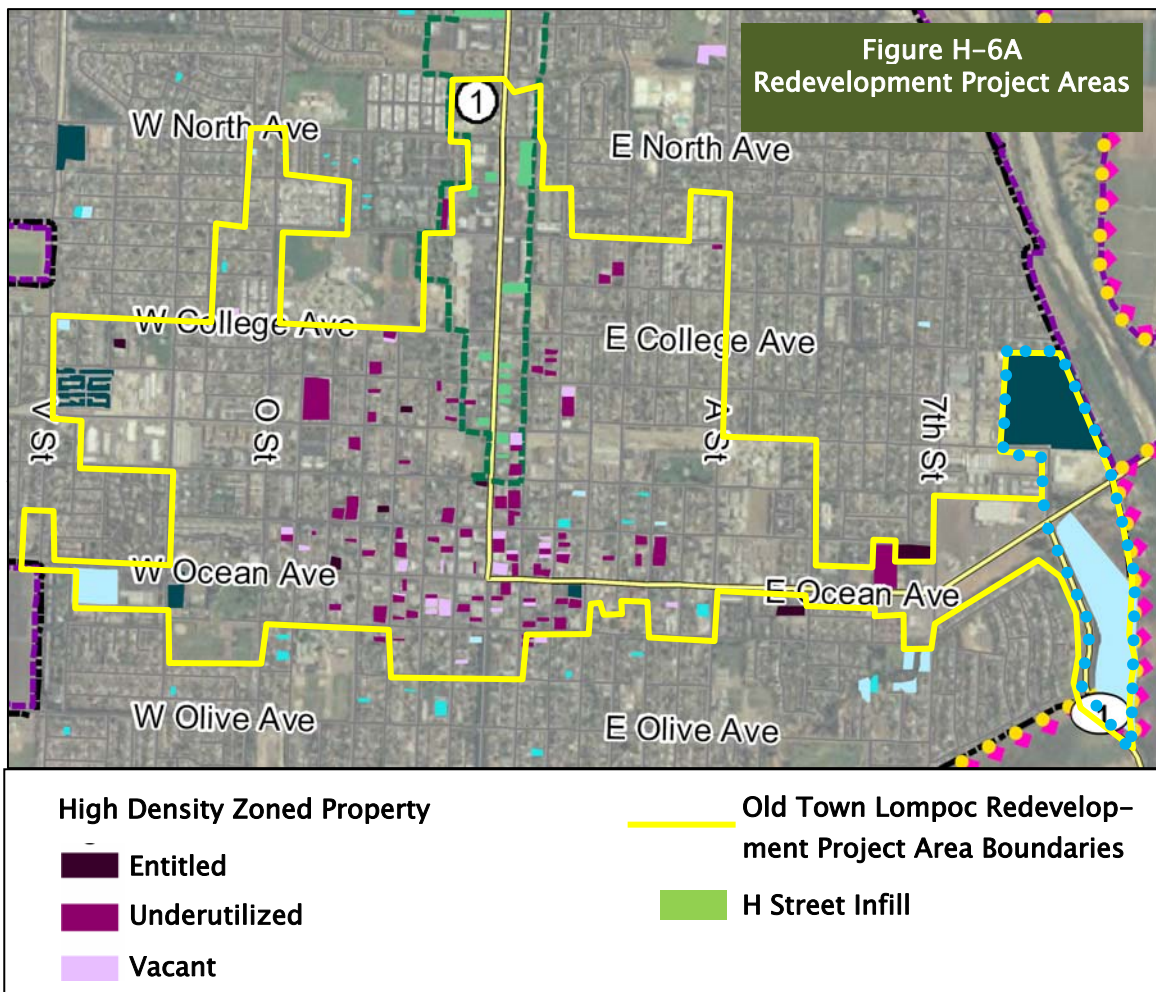
10.7 Inclusionary Zoning

In 1992, the City of Lompoc adopted a policy that requires all residential development of ten units or more to provide ten percent of the units affordable to very low-, low-, and median-income households. In 1997, this policy was amended to require that projects located within the City's Old Town Redevelopment Project, Amendment No. 2 area provide 15 percent of new housing affordable to low- and moderate-income households with at least 40 percent of those units to be reserved for very low-income households. This action was followed in 2003 with the codification of a formal Housing In-Lieu Fee Program by adoption of Ordinance 1492(03).

With the exception of areas within the Old Town Redevelopment Project, Amendment No. 2 area, the inclusionary requirement may be satisfied by payment of a Housing In-Lieu Fee. Within the Old Town Redevelopment Project, Amendment No. 2 area, the affordable obligation may only be satisfied through on-site construction. The Housing In-Lieu Fees are calculated in their entirety at the time of issuance of the first building permit for construction of the first dwelling unit in a residential project, apportioned to all units within the project and collected at time of building permit issuance. The fee amount represents the difference between the total estimated construction cost of a market rate single family residence and the price deemed affordable to a low income buyer. The fee, if paid, may be used to satisfy all or part of the inclusionary requirement with the remaining portion satisfied through on-site construction of the affordable units. Fees collected are deposited into an Affordable Housing Fund and may only be used to affirmatively further Housing Element housing goals for target income groups.

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While inclusionary requirements may have the potential for constraining housing development, the City’s policy provides for flexible application. For a project that is not in the City’s Old Town Redevelopment Project, Amendment No. 2 area, Policy 1.11 allows inclusionary requirements to be satisfied through off-site construction or payment of in-lieu fees; within the redevelopment area, the more stringent inclusionary requirement flows from statute (i.e., California Health and Safety Code Section 33413). The policy further provides that current market prices for housing may be taken into consideration in fulfilling a portion of the affordability requirement. This is achieved when the median market price for housing is less than the maximum cost of housing that is deemed affordable to target income households. The Planning Commission may find that median income housing opportunities are fulfilling a portion of the requirement. In such cases, not less than 5 percent of the total units in the project are to be affordable to very low-, low-, and median-income households.



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Table H-62 New Construction	No. of New Dwellings			Rank Order
	2001	2008	Change	
Buellton	3,916	4,700	784	3
Carpinteria	14,357	14,271	(86)	7
Goleta	n.a.	30,400	n.a.	n.a.
Guadalupe	5,887	6,541	654	4
Lompoc	41,497	42,957	1,460	2
Santa Barbara	90,095	90,305	210	5
Santa Maria	78,578	91,110	12,532	1
Solvang	5,388	5,555	167	6
Unincorporated	163,442	142,816	(20,626)	n.a.

Source California State Department of Finance, Population and Housing Estimates, 2001–2008.
Note: The loss of population in the unincorporated area of the County is attributed to incorporation of Goleta in 2002.

Table H-63 Vacancy Rates	Year								Rank Order
	2001	2002	2003	2004	2005	2006	2007	2008	
Buellton	3.38	3.40	3.39	3.37	3.35	3.36	3.37	3.37	5
Carpinteria	8.68	8.68	8.67	8.67	8.66	8.67	8.68	8.68	1
Goleta	n.a.	n.a.	2.48	2.48	2.48	2.48	2.48	2.47	7
Guadalupe	2.46	2.46	2.44	2.42	2.42	2.40	2.40	2.42	8
Lompoc	4.13	4.12	4.13	4.12	4.12	4.12	4.12	4.12	3
Santa Barbara	3.97	3.97	3.97	3.97	3.97	3.97	3.97	3.83	4
Santa Maria	3.07	3.07	3.07	3.07	3.07	3.07	3.07	2.87	6
Solvang	4.52	4.53	1.94	1.93	1.93	1.93	1.93	1.92	9
Unincorporated	4.75	4.74	4.78	4.78	4.76	4.84	5.49	5.49	2

Source: California State Department of Finance, Population and Housing Estimates, 2001–2008.
Note: The City of Goleta was not incorporated until 2002.

In the most authoritative case on the question to date, the California Court of Appeal ruled in favor of the City of Napa, affirming the validity and constitutionality of inclusionary housing requirements (*89 Cal. App. 4th 897; 2001 Cal. App. LEXIS 428; 108 Cal. Rptr. 2d 60; 2001 Cal. Daily Op. Service 4655; 2001 Daily Journal DAR 5713*). A critical factor in the Court's ruling is the ability of a developer to appeal the imposition of inclusionary requirements, seeking relief through a reduction, adjustment or complete waiver. While Policy 1.11 provides various options for satisfying inclusionary requirements (a further consideration in the Napa ruling), appeal provisions that

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allow partial or complete relief are included as an Implementation Measure in the current Housing Element. This measure also includes actions to lessen the impact of inclusionary requirements by: (i) deferring inclusionary fee collection until point of sale; and (ii) offering a 2:1 density bonus for each affordable unit that is constructed on site.

10.8 Availability of Services

As discussed in Section 8.6.4, the availability of necessary public services such as water, sewer, electrical, and solid waste disposal to accommodate the additional housing units within the City are fully discussed within the Public Facilities and Services Element of the General Plan. General Plan build-out is anticipated for the year 2030. Information within this element and the General Plan indicates that adequate public service capability exists to accommodate the housing units planned for within the Housing Element.

11.0 Non-Governmental Constraints

There are a number of financial components involved in the development of housing. These components include the cost of developable land, construction and site improvement costs, sales and marketing, and financing and profit. Because these costs respond to market forces, it is not possible for a local governmental body to control them.

11.1 Cost of Developable Land

As of 2007, Lompoc has approximately 159 acres of vacant developable land which is either zoned for residential use or which are contained within a zone district that allows residential dwellings in combination with commercial uses. Although the cost of land and housing in Lompoc is reasonable the impending shortage of land will become a constraint in the future. Based on a residential land sales during 2006 and reported in the County's Assessor Parcel Data base, the Citywide average fair market value of a typical acre of unimproved residentially zoned land within the City of Lompoc is \$487,000 per acre. Depending on the density of a project that could be developed on a particular site, this equates to approximately \$48,700 per dwelling unit on average.

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11.2 Construction and Site Improvement Costs

Although the amount of building materials and labor can be estimated, the market costs of these development inputs is unpredictable. The materials are a market-driven commodity (e.g. lumber) which operates outside the direct influence of the local governmental body. Transportation costs associated with the materials are also subject to market forces. Lompoc's distance from major metropolitan areas can also affect the final cost of materials. Demolition and the subsequent disposal of existing structures must also be figured into the cost of construction and rehabilitation. Due to Lompoc's relative small size, the labor force required for the construction of new housing units may not be adequately supplied by the City's population. This may require extended commutes or the temporary lodging of skilled craftsmen or construction specialists, once again adding to the contractor's overhead.

11.3 Sales and Marketing

The sales and marketing approach which a developer pursues can have an effect on the selling price of a housing unit. If a developer is concerned with a prompt return on his/her investment, it may be necessary for advertisement and marketing to a broader market.

11.4 Financing and Profit

Financing costs are dependent upon national economic trends and policy decisions. Minor fluctuations in interest rates may add or save thousands of dollars to the buying public on the cost of a home. These fluctuations can also save or add significantly to the developer's final costs. The same market forces that create an appealing market for development create an appealing market for the home-buying public. Funds for new construction and residential mortgages are available from banks, savings and loans, and private mortgage lenders. In combination with readily available financing sources and reasonably priced real estate, the Lompoc housing market creates no constraints to homeownership.

The City has not uncovered any local constraints to the availability or cost of financing for home purchases or rehabilitation that differ significantly from the availability or cost of financing generally in California. Even in the City's older neighborhoods, there are no barriers to obtaining financing for home purchase, improvement, or construction (other than customary underwriting considerations by lenders).

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12.0 Special Housing Needs

During the past and present Housing Element cycle, three laws were adopted that specifically address the needs possessed by special needs population: (i) Senate Bill 2, effective January 1, 2008, is directed toward accommodating emergency shelters and transitional housing for homeless; (ii) Senate Bill 520 passed during the 2001–02 California Legislative Session and effective January 1, 2002, clarifies and strengthens Housing Element law regarding the accommodation of persons with disabilities; and (iii) Assembly Bill 2634, passed during the 2006–07 California Legislative Session and effective January 1, 2007, requires quantification and analysis of existing and projected housing needs of extremely low-income households (defined as 30 percent of area median and below).

12.1 Homeless Accommodation (SB 2 Analysis)

12.1.1 Legislative Overview

Senate Bill 2, passed during the 2007–08 California Legislative Session and effective January 1, 2008, clarifies and strengthens housing element law regarding the accommodation of emergency shelters and transitional housing. The law essentially requires an analysis of zoning regulations, development standards and available land sufficient to: (i) accommodate the need for emergency shelters and at least one year-round facility; (ii) allow emergency shelters “by right” within at least one zone district; and (iii) remove regulatory barriers that prevent or otherwise impede the development of emergency shelters. Homelessness is a Countywide concern and arises from the lack of affordable housing, increasing numbers of persons whose incomes fall below the poverty level, reductions in public subsidies to the poor and the deinstitutionalization of the mentally ill. The estimated number of homeless in Lompoc appears in **Table H-37** (i.e., 594 total persons) and is based on a proportional assignment of the total Countywide homeless *with unmet needs*. This computation is made for planning purposes only and does not presuppose that this population segment resides in Lompoc or requires housing services.

12.1.2 Baseline Needs

As discussed in Section 7.3.6, the City and the Lompoc Valley community have a long and supportive history in assisting the homeless population.

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Facilities and programs currently in operation include: (i) Bridgehouse Homeless Shelter and Transitional Facility with the capacity to serve 56 clients at any one time; (ii) Marks House providing 19 transitional beds for up to six homeless families and their children who can stay up to 90 days; (iii) Domestic Violence Solutions serving up to twelve persons with emergency shelter and counseling for battered women and children; (iv) Courtyard South Apartments providing permanent supportive housing for those individuals transitioning from Marks House; (v) Catholic Charities providing vouchers for lodging in local motels, food, clothing and household goods to homeless and “at risk” individuals; (vi) Lompoc Police Department, in cooperation with the Salvation Army, providing temporary housing and meals; (vii) Transitions Mental Health Drop-In Center providing supportive domestic, health care and referral services for walk-in traffic; and (viii) Good Samaritans Recovery Way Home providing 16 transitional beds for women and children. These resources notwithstanding, the City has a residual unmet need of 594 persons. **Table H-64** provides a disaggregation of this total into subpopulation groups and categories of need based on Countywide statistics and employing the same proportional assignment used in determining the City’s overall need.

Table H-64			
Unmet Housing Needs			
	Individuals	Persons in Families	Total
Categories of Need			
Emergency Shelter	26	56	82
Transitional Housing	101	89	190
Permanent Supportive Housing	140	182	322
Total Need	267	327	594
Source: County of Santa Barbara, Housing and Finance Development Division, 2006–2010 Consolidated Plan & 2005 Action Plan.			
Note: See Table H-37 for methodology in estimating unmet homeless needs.			

12.1.3 Zoning Provisions

At present, emergency shelters are not expressly listed as allowed uses within any zone district of the City. Instead, the homeless are accommodated within the parameters of existing use and development regulations (e.g., churches, extended stay hotels and motels and hospitals). Likewise, transitional and supportive housing are not expressly defined as residential uses, but are accommodated within the meaning of care homes and group dwellings that are allowed under present zoning. In compliance with SB 2, Implementation Measure 2 expressly provides for amendments to the City’s Zoning Ordinance to: (i) incorporate definitions of emergency shelters, transi-

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tional housing and supportive housing consistent with the California Health and Safety Code; (ii) acknowledge that transitional and supportive housing are considered a residential use of property subject only to those restrictions that apply to other residential dwellings of the same type in the same zone; (iii) allow emergency shelters by conditional use permit within all zone districts (in addition to the “by right” provisions described in Section 12.1.5); and (v) codify objective management and development standards consistent with the provisions of Government Code Section 65583(a)(4).

12.1.4 Capacity Analysis

As discussed in Section 8.0, the inventory of land under current zoning, coupled with the new H Street Infill Overlay, evidences excess capacity to meet the City’s assigned share of future housing needs. The numeric surplus amounts to 410 for target income groups and 1,446 units overall. This total is well in excess of the transitional and supportive housing needs identified in **Table H-64**. In regard to emergency shelters, there is an estimated unmet need of 82 beds. SB 2 expressly encourages the development of shelter facilities in locations proximate to transit, job centers and community services, free of hazards and inherent land use conflicts. Commercial zone districts are best suited to meeting this criteria, excluding those which either require discretionary land use approval (Planned Commercial Development – PDC) or are critical to meeting the City’s future housing needs (Mixed Use and Old Town Commercial – MU and OTC). **Table H-66** provides an assessment of emergency shelter potential for the remaining commercial zone districts, utilizing a methodology similar to that used in forecasting future residential development potential (**Table H-65**). The resulting analysis reveals a build-out potential of between 954 and 1,439 additional shelter beds. The upper end of this range reflects the “Maximum Potential” for all parcels based on a development intensity of 81 beds per acre of land. This benchmark corresponds to the intensity of development of the most recently approved transition housing facility in the City (i.e., Transitions Facility located at 513 North G Street; 39 extended stay units on 0.48 acres of land). The lower number reflects “Forecasted Capacity” based on the actual intensity of developed parcels within each zone district appearing in **Table H-66** utilizing the following formula: Maximum Potential x Valuation Ratio. This lower number is a more realistic estimate insofar as properties typically do not achieve their full development potential.

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12.1.5 Shelter Production

SB 2 expressly requires that zoning accommodations be made that allow for the development of at least one year-round emergency shelter as a permitted use without the requirement for a conditional or discretionary approval. In compliance with this requirement, Implementation Measure 3 provides for the establishment of an Emergency Shelter Overlay Zone (“ESOZ”) that would apply to all commercially zoned land with a C-2, C-O or C-C designation. Under the ESOZ, a cap of 82 emergency shelter beds would be imposed, corresponding to the unmet need identified for Lompoc. Once the cap is reached, the ESOZ would sunset subject to the following provisions: (i) shelter facilities lawfully permitted under the ESOZ would be deemed to be a conforming use under the City’s Zoning Ordinance following expiration of the ESOZ; and (ii) the ESOZ may be extended and the numeric cap may be increased upon a finding by the City Council that unmet homeless needs assignable to the City persist. The ESOZ would also codify objective management and development standards consistent with the provisions of Government Code Section 65583(a) (4). Finally, Implementation Measure 2 provides

Table H-65 Emergency Shelter Commercial Lands	Total Land Value	Total Structure Value	Valuation Ratio	Valuation Benchmark
C-2	\$ 7,779,059	\$ 11,215,667	59%	30%
C-O	\$ 3,934,594	\$ 4,824,357	55%	28%
C-C	\$ 5,177,835	\$ 12,268,905	70%	35%
Total	\$ 16,891,488	\$ 28,308,929	63%	31%
<p>Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Valuation Ratio is computed as: Total Structure Value/ (Total Land Value + Total Structure Value). 2. Valuation Benchmark is computed as: Valuation Ratio x 50%. 				

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Table H-66 Emergency Shelter Capacity		Va- cant	Underu- tilized	En- titled	Devel- oped	Grand Total
C2 Central Business District	No. of Parcels	2	15	1	43	61
	Acres of Land	0	3	0	11	14
	Maximum Potential	39	258			297
	Forecasted Capacity	23	152			175
CO Commercial Office District	No. of Parcels		2		26	28
	Acres of Land		2		9	11
	Maximum Potential	-	162			162
	Forecasted Capacity	-	89			89
CC Convenience Center District	No. of Parcels	7	2		46	55
	Acres of Land	12	0		8	20
	Maximum Potential	944	36			980
	Forecasted Capacity	664	25			689
Total	No. of Parcels	9	19	1	115	144
	Acres of Land	12	6	0	28	46
	Maximum Potential	984	455	-	-	1,439
	Forecasted Capacity	687	266	-	-	953

Source: Assessor Parcel Data Base, County of Santa Barbara, 2007. Land Use Inventory, GIS Data and Current Project Lists, City of Lompoc, 2008.

Notes:

1. In calculating "Maximum Potential," the Transitions Facility at 513 North G Street is used as a density benchmark. This facility was approved by the City in July 2006 and allows for 39 extended stay units on 0.48 acres. The resulting calculation is: Acres of Land x (39 Units/0.48 Acres).
2. Forecasted Capacity is based on the actual intensity of developed parcels within each zone district utilizing the following formula: Maximum Potential x Valuation Ratio. Vacant Parcels: (i) are those with zero improvement value and not otherwise owned by a tax-exempt entity; and (ii) exclude parcels that are "Entitled."
3. Underutilized Parcels: (i) are those having an improvement value of less than 50% of the mean improvement value of all developed properties within each respective zone (Table H-65); and (ii) exclude parcels that are "Entitled."
4. Entitled Parcels encompass all projects for which discretionary approvals have been granted but not yet constructed.
5. Developed Parcels are those having an improvement value of greater than 50% of the mean value of all improved parcels or which are owned by non-profit organizations and classified as developed.

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12.2 Disability Accommodations (SB 520)

12.2.1 Legislative Overview

Senate Bill 520 passed during the 2001–02 California Legislative Session and effective January 1, 2002, clarifies and strengthens housing element law regarding the accommodation of persons with disabilities. The special needs particular to disabled persons include accessibility for wheelchairs, railings, ramps and adaptive retrofit of interior living spaces. As also noted in Section 7.3, care educators and care providers emphasize the need for community assimilation, socialization and accommodations for shared, assisted and independent living arrangements. SB 502 expressly requires localities to: (i) analyze potential constraints on the development, maintenance and improvement of housing for persons with disabilities; and (ii) include programs that remove constraints or provide reasonable accommodations for persons with disabilities. Chapter 671, Table H–66A presents a detailed review of the City’s current land use regulations along with recommended actions to remove identified constraints. The paragraphs that follow address principal findings.

Table H–66A Special Needs Constraints Analysis		
Topical Area	Current Situation	Proposed Action
Compliance with Fair Housing Laws.	Not Currently Addressed.	Amend Zoning Ordinance to Codify Non–Discriminatory Occupancy Provisions Stipulated in Fair Housing Statutes (Implementation Measure 2).
Provisions for Group Homes Over Six for the Disabled.	Not Currently Addressed (See Discussion in Section 7.4.2 of the Housing Element).	Amend Zoning Ordinance to Allow Residential Care Homes Serving More than Six Persons by Conditional Use Permit in All Residential Zones (Implementation Measure 2).
Definition of Family Without Reference to Unrelated Persons.	Current Definition Distinguishes Between Types of Individuals and Places a Numeric Limit on Unrelated Persons (Section 17.008.020).	Amend Zoning Ordinance to Remove Distinctions and Numeric Restrictions in the Definition of Family and Household Occupancy (Implementation Measure 2).
Siting or Separation Requirements for Residential Care Facilities.	Current Regulations Contain both Concentration and Separation Standards (Section 17.100.050.D).	Amend Zoning Ordinance to Remove Concentration and Separation Standards for the Siting of Residential Care Facilities (Implementation Measure 23).
Siting or Separation Requirements for Special Needs Housing.	Not Currently Addressed.	No Changes Necessary.

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Table H-66A Special Needs Constraints Analysis		
Topical Area	Current Situation	Proposed Action
Alternative Parking Requirements.	Current Regulations Impose Less Onerous Requirements on Affordable Housing and Dwellings Occupied by Elderly and Handicapped Persons (Section 17.112.020.G).	No Changes Necessary.
Process for Accommodating Accessibility Retrofits.	Not Currently Addressed.	Amend Zoning Ordinance to Codify an Abbreviated Procedure for Adaptive Retrofit Requests (Implementation Measure 19).
“By Right” Provisions for Residential Care Facilities For Less than Six Persons.	Current Regulations Limit the Type and Residential Zone Districts Where Care Facilities are Allowed “By Right” (See Discussion in Section 7.4.2 of the Housing Element).	Amend Zoning Ordinance to Allow Residential Care Homes Serving Six or Fewer Persons As a Permitted Use in All Residential Zones (Implementation Measure 2).
Conditions or Use Restrictions on Residential Care Facilities With Greater than Six Persons.	Current Regulations Only Address Day Care Homes as Defined in California Health and Safety Code Section 1596.70 (Section 17.100.050).	Codify Objective Management and Development Standards for All Residential Care Facilities, Comparable to Those Specified in Government Code Section 65583(a) (4) (Implementation Measure 2).
Group Home Public Comment Period.	Not Currently Addressed.	No Changes Necessary.
Building Code Adoption and Amendments Affecting Persons with Disabilities.	The City has Adopted the International Building Code, 2006 Edition, and Amended by Local Ordinance 1549 in 2007. Local Amendments Do No Affect Persons with Disabilities.	Amend Municipal Code to Provide the Authority and Means for Granting Building Code Exceptions Necessary to Provide Reasonable Accommodations for the Disabled (Implementation Measure 23).

12.2.1 Code Adaptations

As earlier noted, the City is subject to the State Uniform Building Code (“UBC”) that establishes minimum standards for all classes of construction. A component of the State Building Code are regulations that implement the provisions of the Americans with Disabilities Act (“ADA”). In general, these regulations apply to all multifamily apartment and condominium buildings that contain three or more dwellings, along with special occupancy types such as lodging houses, congregate residences, homeless shelters, dormitories and time share dwellings. For these covered projects, a variety of accessibility routes and adaptable design features must be incorporated into all new construction. Examples of adaptable design features include backing for grab

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bar installation and removal of base cabinets at the kitchen sink. Such features need not be installed until requested by an occupant. These requirements, along with all other State Building Code provisions, are aggressively enforced as part of the plan check and inspection process.

12.2.2 Reasonable Accommodations

At the request of a person with a disability, a housing provider must make reasonable accommodations in rules, policies, practices or services when these accommodations may be necessary to afford a disabled person equal opportunity to use and enjoy a dwelling. A housing provider must allow a person with a disability (at the tenant's expense) to reasonably modify existing premises if the modifications are necessary to afford the disabled person full enjoyment of the premises. At present, the City's Zoning Ordinance does not distinguish between variances required by virtue of occupant disabilities and those justified by physical circumstances particular to the property. The Zoning Ordinance, as presently written, limits variances to the narrow application of criteria set forth in Section 65906 of the California Government Code. This traditional variance approach: (i) requires a noticed public hearing before the Planning Commission; and (ii) limits deviations in development standards to those which are necessitated by virtue of circumstances particular to the property (rather than the occupant). A new abbreviated procedure, expressly designed to accommodate adaptive retrofit requests, is included as Implementation Measure 19, while Measure 23 provides for the establishment of a streamlined procedure to receive and process reasonable accommodation requests requiring flexible application of zoning, building and subdivision regulations.

12.2.3 Group Homes

As defined in Section 7006 of the Lompoc Municipal Code, the term "care home" is defined as the "...care of non-related persons...on a twenty-four (24) basis...not exceeding six (6) non-related individuals or eight (8) total persons...". While the City's Zoning Ordinance does not make expressed reference to shared living arrangements for disabled persons, such arrangements are clearly embodied within the meaning of a care home. So as to clarify intent, the following Zoning Ordinance amendments are included as Implementation Measure 2: (i) include shared living arrangements as an allowed residential use (within the revised definition of "residential care home" as discussed in Section 7.4.2), with specific references to supported living (including In-Home Supportive Services) and licensed community care facilities; and (ii)

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acknowledge that occupants are permitted without regard to familial status, disability or other population segment stipulated in Fair Housing statutes (e.g., individuals with Alzheimer's, AIDS/HIV, and homeless).

12.3 Extremely Low Income (AB 2634)

12.3.1 Legislative Overview

Assembly Bill 2634, passed during the 2006–07 California Legislative Session and effective January 1, 2007, requires quantification and analysis of existing and projected housing needs of extremely low-income households (defined as 30 percent of area median and below). As noted in Section 5.0, the needs of extremely low income are magnified by their limited financial capacity to secure affordable housing. And while the cost to purchase or rent housing is generally beyond the means of all target income groups, the affordability gap is far more profound for those with extremely low incomes (**Tables H-34** and **H-35**). This in turn translates to the need for non-traditional living arrangements and government-assisted housing (e.g., shared living, single room occupancy and public housing), requiring deeper subsidies in combination with supportive services.

12.3.2 Baseline Needs

Based on census data used by the U.S. Department of Housing and Urban Development in connection with its Comprehensive Housing Affordability Strategy ("CHAS") process, 81% of all extremely low income households currently experience some type of housing problem: overcrowding, substandard conditions or excessive cost (**Table H-67**). Most notably, owners and renters paying in excess of 30% of income toward housing represents 98% of the total need possessed by extremely low income households. While the number of such households is the least of all income groups (15%), the overall needs possessed by this target group is by far the most acute (nearly twice the need possessed by the population at large: 81% vs. 43%). And while the needs of extremely low income renters is greater than those possessed owner-occupants, the needs are equally profound (84% of renters are in need compared to 73% of owners).

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Table H-67 Extremely Low Income	Renter- Occupied	Owner- Occupied	Total Households	
Extremely Low	1,451	451	1,902	15%
Total Need	84%	73%	81%	
Overpaying for Housing	81%	73%	79%	
Very Low	1,200	658	1,858	14%
Total Need	79%	57%	71%	
Overpaying for Housing	64%	55%	61%	
Low	1,694	1,227	2,921	22%
Total Need	56%	57%	56%	
Overpaying for Housing	36%	50%	42%	
Other	1,983	4,363	6,346	49%
Total Need	14%	18%	16%	
Overpaying for Housing	2%	11%	8%	
Total Households	6,328	6,699	13,027	100%
Total Need	53%	32%	43%	
Overpaying for Housing	41%	27%	34%	

12.3.3 Future Needs

In quantifying future needs attributable to extremely low income households, Section 65583(a)(1) of the California Government Code expressly allows agencies to presume that 50 percent of the locality’s share of regional housing need assigned to very low income households qualify as extremely low income households. As shown in **Table H-68**, the statutory tabulation results in 60 extremely low income households assigned to Lompoc for the planning period of 2007–2014. Adjusting further for new construction occurring between 2007 and 2009 results in a net allocation of 48 units. For the past housing cycle, it is noteworthy that the needs of very low income (of which extremely low income is a subset) have been addressed to a much greater extent than other target income groups (**Table H-71**; 22% for very low income compared to 11% for low income and 16% for moderate). As further noted in **Table H-72**, this level of past performance is largely dependent on the availability of public subsidies (e.g., local redevelopment funds, state and federal tax credits, etc.).

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Table H-68 Adjusted RHNA Allocation	Unadjusted Goal	2007-2009 New Construction	Adjusted Goal
Extremely Low	60	12	48
Very Low	60	13	47
Low	89	9	80
Moderate	123	1	122
Above Moderate	185	48	137
Total	516	83	434

Source: Santa Barbara County Association of Governments, RHNA Allocations for 2001 and 2008. California State Department of Finance, Population and Housing Estimates, 2007-2003. City of Lompoc, Annual Report on the General Plan: 2007, March 2008. City of Lompoc, Current Project List, May 20, 2008.
Notes: See Tables H-44 and 45 for an explanation of 2007-2009 New Construction assignments. Per Government Code Section 65583(a) (1), new construction accomplishments have been equally divided between the extremely low and very low income categories.

12.3.4 Programmatic Considerations

As noted in Section 8.0, the City has considerable development capacity by which to broaden the supply of housing, simultaneously addressing construction needs possessed by both existing and future households (including those with extremely low incomes). **Table H-41** matches categories of housing types allowed by current zoning to the particular needs possessed by special population groups. Housing types of particular relevance to extremely low income households include group dwellings, multifamily dwellings and secondary dwellings. Particularly noteworthy is the fact that single room occupancy (SRO) is not expressly authorized in the City's Zoning Ordinance. In furtherance of housing opportunities for extremely low income households, the following Implementing Actions are proposed:

- **Program Targeting.** Acknowledge this particular population segment among the target income households served under the City's inclusionary housing policies and partnerships with non-profit housing organizations.
- **Single Room Occupancy (SRO).** Amend the Zoning Ordinance to add a definition of single room occupancy and allow such use within all commercial zone districts subject to issuance of a Conditional Use Permit.

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MISCELLANEOUS TOPICS

13.0 Program Resources

13.1 Federal Programs

The Federal Government is a major source of funding for assisting in the production, preservation and improvement of affordable housing. Although not all-inclusive, the programs described in the paragraphs that follow represent the principal means of addressing housing needs identified Sections 7.0 and 8.0. By virtue of its eligibility as an entitlement community and its participation in a Countywide consortium of other eligible jurisdictions, the City is expressly entitled to an annual allocation of CDBG and HOME funds (described more fully below). The balance of programs described below are discretionary in nature and funding is not assured. For the current Housing Element cycle from 2007 to 2014, the City anticipates that total of \$4.5 million in CDBG and HOME funds will be available to assist in implementing the programs identified in Table H-3,

13.1.1 HUD – Homeownership Opportunities for People Everywhere (HOPE) Program

The purpose of the HOPE program is to provide homeownership opportunities to lower income families and individuals by providing grantees with Federal assistance to initially acquire and rehabilitate single family properties (owned by Federal, State and local governments) at affordable prices. The program provides both planning and implementation grants. Eligible activities include identification of eligible properties, training to develop a homeownership program, administrative costs, architectural and engineering work, property acquisition, rehabilitation costs, counseling and training of eligible families, relocation costs of eligible families, temporary relocation costs of homebuyers during rehabilitation, legal fees, and economic development activities that promote economic self-sufficiency.

13.1.2 HUD – Home Investment Partnership Act (HOME)

The purpose of HOME is to: expand the supply of safe, sanitary and affordable housing for low- and very low-income families with emphasis on rental housing; build state and local capacity to carry out affordable housing programs; and provide for coordinated assistance to participants in the development of affordable low-

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income housing. Eligible activities for funding under HOME are rehabilitation, new construction, acquisition, and tenant based rental assistance. There are matching fund requirements of 25% for both new construction and for substantial rehabilitation. HOME funds used in conjunction with rental units must comply with the following requirements: (i) 90 percent of funds must be allocated to families whose income does not exceed 60 percent of the Santa Barbara County median income; (ii) the remaining funds must be allocated to families whose income does not exceed 80 percent of the Santa Barbara County median income; and (iii) for properties with five or more HOME-assisted units, at least 20 percent of the units must go to very low-income families paying no more than 30 percent of their gross adjusted income on housing costs.

HOME funds used to facilitate homeownership must go entirely to: families earning less than 80 percent of the Santa Barbara County median income; who are first time homebuyers; and, who will utilize the unit as their principal residence.

13.1.3 HUD – Section 8 Program

This program makes certificate and voucher funds available to local housing authorities on a competitive allocation basis. Through this program, the Housing Authority provides rental subsidy payments directly to private property owners on behalf of eligible tenants. Section 8 assistance provides the difference between one-third of a household income and the monthly cost of an apartment up to a certain standard price (set regionally and according to the number of bedrooms).

13.1.4 HUD – Section 202 Program

The program provides funding to expand the supply of housing with supportive services for elderly persons. The types of financing available are capital advances and project rental assistance. The capital advances (bearing no interest) are used to finance the development of units and are not required to be repaid as long as the housing units remain available for occupancy by very low-income elderly persons for a period of at least 40 years. Project rental assistance is available to cover the difference between HUD-approved operating costs per unit and the amount the resident pays. Eligible development methods are new construction, rehabilitation, and acquisition of housing from the Resolution Trust Corporation. Occupancy of Section 202 housing is open to very low-income elderly persons 62 years of age or older.

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13.1.5 HUD – Section 811 Program

The program provides funding to expand the supply of specially designed housing with supportive services for persons with disabilities. The types of financing available are capital advances and project rental assistance. The capital advances (bearing no interest) are used to finance the development of units and are not required to be repaid as long as the housing units remain available for occupancy by very low-income disabled persons for a period of at least 40 years. Project rental assistance is available to cover the difference between HUD-approved operating cost per unit and 30 per cent of the resident's adjusted income. Eligible development methods are new construction, rehabilitation, acquisition of housing for group homes, and acquisition of housing from the Resolution Trust Corporation for group homes and independent living facilities. Occupancy of Section 811 housing is open to very low-income persons with disabilities who are at least 18 years old. A variety of housing options may be developed under this program including:

- Group Homes – a single family residential structure for no more than eight persons with disabilities combining multiple bedrooms (single or double occupancy) with a kitchen, shared living areas, utility areas, and at least one bathroom for every four persons;
- Independent Living Facilities – a structure containing separate, self-contained units (each must have a kitchen and bath) for not more than 24 persons with disabilities except for projects for persons with chronic mental illness which may not exceed 20 such persons; and
- Intermediate Care Facilities – a group home for persons with developmental disabilities that is licensed by the State Medicaid Agency and receives Title 19 funds to cover the cost of services.

13.1.6 HUD – Shelter Plus Care Homeless Rental Housing Assistance Program

This program provides rental assistance, in concert with supportive services from other Federal, State, and local sources, to homeless persons with disabilities. The assistance is targeted primarily to homeless persons who are seriously mentally ill, have chronic problems with alcohol or drugs, or both, or who have acquired immunodeficiency syndrome and related diseases. The Shelter Plus Care Program pro-

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vides rental assistance including grants through three components: 1) homeless rental housing assistance program (S+C/HRHA); 2) Section 8 Moderate Rehabilitation Program for Single Room Occupancy Dwellings for Homeless Individuals (S+C/SRO); and 3) Section 202 rental housing assistance (S+C/202). However, the most applicable component for Lompoc's homeless needs would be S+C/202. This program component provides assistance in connection with rental assistance under Section 202 of the Housing Act of 1959. Rental assistance is for a period of five years for housing in group homes or independent living units.

13.1.7 HUD – Emergency Shelter Program

This program provides grants according to the formula used for Community Development Block Grants (CDBG). Eligible activities include renovation, major rehabilitation, or conversion of buildings for use as emergency shelters for the homeless. With certain limitations, grantees may also spend funds on essential services for the homeless, including homeless prevention efforts. In addition, grantees may spend funds on operating costs such as maintenance, insurance, utilities, and furnishings.

13.1.8 Community Development Block Grants (CDBG)

The program provides annual grants on a formula basis to entitled cities and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunity, principally for low- and moderate-income persons. Entitlement communities develop their own programs and funding priorities. However, grantees must give maximum feasible priority to activities which either benefit low- and moderate-income persons, or aid in the prevention or elimination of slums and blight. In addition, activities may be carried out which the community certifies are designed to meet other community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community where other financial resources are not available to meet such needs.

Activities that can be carried out with block grant funds include the acquisition of real property, relocation and demolition, rehabilitation of residential and nonresidential structures, construction of public facilities and improvements, historic preservation and the conversion of schools for eligible purposes. In addition CDBG

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funds may be used to pay for public services and activities relating to energy conservation.

13.2 State Programs

The State Department of Housing and Community Development (“HCD”) and California Housing Finance Agency (“CalHFA”) together administer more than 25 programs that award loans and grants for the construction, acquisition, rehabilitation and preservation of affordable rental and ownership housing, homeless shelters and transitional housing, public facilities and infrastructure, and the development of jobs for lower income workers. The breadth and financial capacity of available programs greatly expanded in 2002 and again in 2006 with the passage of Propositions 46 and 1C, which together provide \$4.9 billion in housing bond funds. A current listing of programs most applicable to Lompoc is summarized in **Table H-67**. A full listing of all programs available through HCD is contained in a catalogue entitled “Financial Assistance Program Director, April 2008” is available on line at http://www.hcd.ca.gov/fa/LG_program_directory.pdf, while CalHFA’s programs are viewable at <http://www.calhfa.ca.gov>.

Table H-69 State Funding Programs		Programs Administered by HCD	
Rental Programs	Program Description	Total Funds Available	
Multifamily Housing Program (MHP)	Low-interest loans for development of affordable rental housing, disabled persons, low income students and supporting services.	\$70 million	
Local Housing Trust Fund Program	Matching grants to local agencies who operate local housing trust funds.	\$32.5 million	
Affordable Housing Innovation Program	Acquisition financing for the development or preservation of affordable housing.	TBD	
Construction Liability Insurance Reform Pilot Program (CLIRPP)	Predevelopment grants to reduce insurance rates for condominium development.	TBD	
Homeownership Programs	Program Description	Total Funds Available	
CalHome	Grants and loans by HCD to local public agencies and non-profits to fund local home-ownership programs and developments.	\$80.0 million	

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Table H-69 State Funding Programs		Programs Administered by HCD	
Homeownership Programs	Program Description	Total Funds Available	
Building Equity and Growth in Neighborhoods (BEGIN)	Grants by HCD to local public agencies that adopt measures to encourage affordable housing. Grant funds must be used for downpayment assistance for low and moderate income homebuyers.	\$40 million	
CalHome: Self-Help Housing Set Aside	Grants to organizations to assist low and moderate income households who build their own homes.	\$3.3 million	
Mobile Home Park Resident Ownership Program (MPROP)	Low interest loans to assist residents to acquire resident organization, non-profit sponsor or local public agency to purchase a mobilehome park.	\$8 million	
Innovative Homeownership Program	Special financing to increase homeownership.	TBD	
Special Needs Housing	Program Description	Total Funds Available	
Joe Serna Jr. Farmworker Housing Grant Program (JSJFWHG) – General	Grants and loans for development of rental and ownership housing for farmworkers.	\$7.5 million	
Emergency Housing Assistance Program (EHAP & EHAPCD)	Grants for development of emergency shelters (no operating subsidy).	\$34.8 million	
Federal Emergency Shelter Grant Program (FESG)	Grants for operation of emergency shelters.	\$6.4 million	
		Programs Administered by CalHFA	
Program Name	Description	Total Available Funds	
California Homebuyer's Downpayment Assistance Program (CHDAP)	Deferred payment down payment assistance loans for first-time moderate income homebuyers.	Ongoing Application Process	
Residential Development Loan Program	Short term low interest loans to local government agencies for site acquisition and predevelopment related to infill and owner-occupied housing.	\$10 million	
Homeownership in Revitalized Areas Program (HIRAP)	Downpayment assistance targeted to first-time low income homebuyers purchasing in revitalization areas.	Ongoing Application Process	

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Table H-69 State Funding Programs		Programs Administered by CalHFA	
Program Name	Description	Total Available Funds	
School Facility Fee Downpayment Assistance Program	Downpayment assistance grants for homebuyers of newly constructed homes	Ongoing Application Process	
Mortgage Insurance	Insurance for home mortgages.	Ongoing Application Process	
Extra Credit Teacher's Home Purchase Assistance (Extra Credit Teacher Program)	Provides up to 100% financing to eligible teachers, administrators and staff members working in low performing schools	Ongoing Application Process	
Preservation Opportunity Program	Supplemental financing for "at-risk" subsidized rental developments receiving bond financing from CalHFA.	Ongoing Application Process	

Source: HCD and CalFHA, State of California, January 2009.

12.3. Local Programs

12.3.1 Density Bonus Ordinance

As an inducement to produce housing that is affordable to target income groups, California state law requires cities and counties to provide density bonuses to housing developments that propose qualifying percentages of affordable units. In compliance with this mandate, Lompoc adopted a density bonus ordinance in 1997 that incorporates all of the elements stipulated by law in effect at the time of adoption. Since that time, Senate Bill 1818 was passed and became effective on January 1, 2005, that significantly broadens and strengthens density bonus requirements. Previously, communities were required to grant density bonuses of at least twenty-five percent (25%) for projects that provide prescribed percentage of housing for seniors and persons of low and very low income. Senate Bill 1818 broadened this requirement to include condominiums for moderate income persons and increased the density bonus requirement to a maximum of thirty-five percent (35%). The new law also increased the obligations of local government to provide other incentives in the form of reduced parking requirements and modified development standards. In order to conform the City's current density bonus provisions with recent changes in State law, corresponding modifications to the Lompoc Zoning Ordinance are included as an Implementation Measure in the current Housing Element.

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13.3.2 Second Units

A second unit is an additional self-contained living unit, attached to the primary residential unit on a single lot. It has cooking, eating, sleeping, and full sanitation facilities. It is also known as a “granny flat”, “in-law unit”, or an “accessory dwelling.” State law permits second units and establishes minimum standards for their development. The City has adopted a second unit ordinance which conformed with State law at the time of its codification into the Lompoc Zoning Ordinance. Since then, Assembly Bill 1866 was passed and became effective on January 1, 2003, that significantly broadens and strengthens second dwelling requirements. In particular, the new law requires that second units be granted “by right” as a ministerial land use action. The City’s existing ordinance, on the other hand, requires issuance of a Conditional Use Permit for second dwellings within the R-1 Single-Family Residential Zone District. In order to conform the City’s current second unit provisions with recent changes in State law, corresponding modifications to the Lompoc Zoning Ordinance are included as an Implementation Measure in the current Housing Element.

13.3.3 Inclusionary Zoning

As noted in Section 10.7, the City of Lompoc has adopted inclusionary policies that require affordable housing as part of all new residential development in an amount ranging between five and fifteen percent, depending on location and market conditions. For the first ten years of the inclusionary program, most developers satisfied their inclusionary requirements through on-site construction as part of each project. Beginning in 2003, the City’s codified a Housing In-Lieu Fee Program that permits developers to make payments to the City’s Housing Trust Fund in lieu of construction for projects located outside of the City’s Old Town Redevelopment Project, Amendment No. 2 area. Payments deposited to the Housing Trust Fund are irrevocably committed to affirmatively furthering the expansion, improvement and preservation of affordable housing throughout the City.

13.3.4 Redevelopment Program

The Old Town Redevelopment Project Area was established by Ordinance No. 1213(84) on November 20, 1984. The Redevelopment Plan was subsequently amended in 1998 and again in 2002, expanding the boundaries of the original Project Area to its present size of 1,080 acres. State law requires that redevelopment

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agencies set aside no less than 20% of all tax increment revenue derived within designated project areas for activities that increase, improve or preserve the supply of housing affordable to persons of low and moderate income. Such funds may be used to finance home purchases, housing rehabilitation and new construction in neighborhoods inside or outside the Project Area. The estimated amount of redevelopment set aside potentially available to assist in the production, preservation and improvement of affordable housing during the Housing Element cycle between 2007 and 2014 is estimated to be \$4.45 million. In addition, 15% of all new privately developed housing and 30% of Agency-assisted housing within the Project Area must be made affordable to persons and families of low and moderate income. This particular requirement is reflected in Policies 1.11 and 1.12.

Beginning in 1994, and each five years thereafter, every redevelopment agency is required to adopt an Implementation Plan that: outlines the agency's goals and objectives for each project area; describes programs, potential projects and estimated expenditures over the next five years; explains how these activities will aid in the elimination of blight; and addresses needs for new affordable housing and replacement of units lost due to redevelopment. During its most recent Implementation Plan for the fiscal year ending June 30, 2008, the Old Town Redevelopment Project affirmatively furthered affordable housing in the following ways:

- The Agency was awarded an additional \$750,000 in Loan funds from the California Housing Finance Agency (CalHFA) Help Program in 2003.
- The Agency funded a low interest loan assisting 12 units of affordable housing located at 434-438 N. "L" Street.
- Set Aside funds were awarded to Habitat for Humanity in the amount of \$20,000 to facilitate the creation of two low-income family units.
- The Agency funded a \$105,000 predevelopment loan to LHCD to assist a new construction homeownership project that will consist of five (5) units on the 500 block of "T" Street.
- The Agency completed two affordable homes with Habitat for Humanity. The original loan for \$20,000 to Habitat for Humanity was split between the new very low-income families who purchased these homes; each owner assumed a \$10,000 lien against their home and a 45-year covenant was recorded on each

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- unit. The loans remain at 0% interest and will be forgivable at the end of the covenant term.
- Lompoc Housing and Community Development Corporation (LHCDC) completed the rehabilitation of the Casa con Tres apartment complex located at 434-438 North "L" Street. This project provided 12 very low-income housing opportunities for large families in the project area.
 - The Agency funded \$15,000 to the Lompoc Police Activities League (PAL) to assist in operational cost for a youth program that provides a computer training class to youth at local area schools along with outreach to local at-risk youth, and will continue to fund this program over the next several years.
 - The Agency allocated \$320,000 in loan funds to develop and fund a First Time Homebuyer (FTHB) program in fiscal year 2005/2006.
 - The Agency allocated \$150,000 for a multifamily façade improvement program in fiscal year 2005/2006.
 - The Agency allocated \$300,000 to the affordable housing development incentive program in fiscal year 2005/2006.
 - The Agency allocated \$200,000 for the continuation of Affordable Housing Rehabilitation and Acquisition funding utilizing our revolving loan funds in fiscal year 2005/2006.

Major legislation adopted in 2002 (AB 637, SB 701 and SB 711) encourages the integration of General Plan and Housing Element policies with those of the redevelopment Implementation Plan. Coincidentally, the term of the next Implementation Plan will cover the period of January 1, 2009, through December 31, 2013, which corresponds to the planning horizon of the current Housing Element. In furtherance of legislative initiatives to foster integrative housing policies and programs, corresponding modifications to the next Implementation Plan are included as an Implementation Measure in the current Housing Element.

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14.0 Equal Housing Opportunity

Fair Housing Act information is published on posters and in a brochure that is made available to the City by the U.S. Department of Housing and Urban Development. The brochure is published and is available in both English and Spanish. The posters and brochures are prominently displayed in City Hall, the Lompoc Public Library, the Anderson Recreation Center, the Lompoc Valley Community Center, and the Legal Aid Foundation Office. Additionally, whenever the Code Enforcement Officer responds to a tenant- landlord complaint, the Code Enforcement Officer will make a field visit to the property and during the inspection the Fair Housing Act brochure is given to the tenants of the property.

The City of Lompoc contracts with the Legal Aid Foundation (LAF) to provide fair housing services in the City. Contract services with LAF include educating the public in fair housing practices and testing the local market to verify compliance with fair housing laws regarding instances of discrimination based on race, religion, ethnicity, gender preference, marital status, and size and makeup of family.

The LAF maintains an office in Lompoc at 106 South C Street, Suite A, Lompoc, CA 93436, (805) 736-6582. LAF is open from 9:00 a.m. to 4:30 p.m. Monday through Thursday. LAF information is posted at the public counter in the Community Development Department office at City Hall. The LAF office is located across the street to the east of City Hall.

Legal Aid made two community presentations in the past 13 months, one for the general public and one for landlords and property managers. An LAF attorney presented an educational program in September of last year on the Lompoc Police Beat TV Program on the local cable station. A second LAF attorney presented an educational program at the North Santa Barbara County Rental Property Owners and Managers breakfast meeting in May 2003 in the Lompoc Police Department conference room. The attorney discussed Fair Housing rules and regulations, provided handouts, considered hypothetical situations, and answered questions. Twenty-six people were in attendance.

The LAF conducted Fair Housing testing in June 2003 at five realty/apartment management office sites in Lompoc. The testing involved trained volunteers to verify compliance with the Federal Fair Housing law. The tests, so far, have shown that, overall, no overt signs of discrimination were exhibited.

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During the 2002–2003 fiscal year, in the course of its everyday operations, the Lompoc office of LAF has interviewed, either by phone or in person, 139 clients who had landlord/tenant issues. The majority of these cases involved evictions, the remainder of these cases were concerned with lack of or improper repairs, disagreements regarding amounts of refunds on security deposits and habitability issues, such as infestation, leaky roofs, unsafe gas water heaters and furnaces, mold, mildew on walls and floors, and non–functioning plumbing. Habitability is a frequent issue in the Unlawful Detainer (Eviction) cases that come through the Lompoc office of the LAF.

In addition, residential projects in the Lompoc Redevelopment Agency Project Area are required to submit a marketing plan illustrating how the developer of the project will comply with fair housing opportunities.

Also, application packets for single family and multi–family housing rehabilitation loans contain a “Fair Lending Notice” notifying applicants of the fair housing discrimination act. The “Fair Lending Notice” is required to be signed by the applicants of the rehabilitation loan.

Lastly, local newspaper advertising for the City’s rehabilitation loans and the grant process incorporate the fair lending logo.

15.0 Energy Conservation

The Government Code requirements (Section 65583) for housing elements require an analysis of opportunities for energy conservation in regard to residential development.

With respect to housing, energy is consumed both during and after the construction phase, both on–site and off–site. Examples of off–site energy consumption include: increased demand at power generation facilities and increased petroleum consumption associated with vehicular traffic (to and from the residence) both during and after construction. The primary form of energy consumed during the construction phase is petroleum energy used by earthmoving and construction equipment. The greatest amount of energy consumed, however, is after construction in the use of natural gas and electricity to heat, cool, light, and otherwise maintain the individual homes once they are built.

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Many opportunities exist for energy conservation in housing design. Structural orientation, shape, exposure, patterns, windows, wall and roof characteristics, color, texture, and reflective and absorptive surfaces are just a few of the relevant considerations. Mechanical systems may be used to supplement these design considerations when environmental considerations are severe enough to exceed the capacity of the designed envelope to handle them. In other words, air conditioning should not be used as a substitute for proper building design and construction.

Attached dwellings are more energy efficient per unit than are an equivalent number of single family detached-units, due to the decreased wall and surface area being exposed to heat loss during the winter and heat absorption during the summer. Besides dwelling unit type, some energy-reducing measures are possible for Lompoc through better design and more environmentally-sound project orientation. Such measures could also include:

- The use of solar water heating systems.
- Insulation throughout a unit, including insulated glass and insulated hot water lines.
- Design and orientation of the structures. In Lompoc, heavy sun radiation loads will act most decisively on the roof and on the eastern and western exposures during the summer. Eastern and western walls are exposed to the sun for longer periods and with greater intensity than a south wall, which intercepts solar rays at less direct angles. South exposures permit more significant heat gains during the winter (low sun) and less during the summer (high sun). Openings in the east and west walls are subject to direct radiation loads year-round. Thus, buildings in Lompoc are generally best developed with the long axis on the structure and major window openings facing south and reduced east/west exposure.
- Where ideal orientation of the structure is not feasible, the use of overhangs, movable external shading on windows (to deflect sunlight or allow it to enter), and heat-reflective glass, particularly on east and west exposures, can moderate seasonal increases in temperature. It should be noted that reflective and/or absorbing glass is unnecessary on north to northwest-facing windows; and that clear glass is best for south-facing windows.

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- The use of appropriate and well-placed landscaping and reduced paving areas to moderate temperature and decrease wind velocity; for example, deciduous trees located on the south and west provide shade during the summer, yet allow light and heat to enter during the winter months.
- The project designs which encourage walking and bicycle riding. For example, mid-block bicycle and pedestrian easements are a design possibility.

16.0 At Risk Units

16.1 Assisted Housing

Housing element law requires that localities identify and develop a program in their housing elements for the preservation of assisted, affordable multi-family units including units developed pursuant to inclusionary housing and density bonus programs. In the preservation analysis, localities are required to provide an inventory of assisted, affordable units that are eligible to convert to market-rate housing within the five-year planning period of the housing element and the subsequent five-year period following the planning period. As part of the analysis, an estimation of the cost of preserving versus replacing the units is to be included, as well as programs designed to preserve the affordable units.

16.1.1 Inventory of Assisted Housing

The inventory of assisted units includes a review of all multi-family rental units under federal, state and/or local programs, including HUD programs, state and local bond programs, redevelopment programs, and local in-lieu fees (inclusionary, density bonus, or direct assistance programs). The inventory also covers all units that are eligible for change to non-low-income housing units because of termination of subsidy contract, mortgage prepayment, or expiring use restrictions. As noted in **Table H-70** and described below, there are three assisted housing development within the City in which affordability controls are due to expire during the five-year planning period of this Housing Element.

- **Rainbow Plaza.** Rainbow Plaza is located at 220 West Pine Avenue and contains a total of 31 assisted units (27 one bedroom and 4 two bedroom units). This project is funded by HUD and is managed by a property management company. These units were required to be set-aside for occupancy by low-income individu-

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als who are handicapped, disabled, or elderly (age 62 or older). Federal Preference Guidelines allow persons about to lose their homes or those living in substandard housing, who meet the other qualifying criteria, to have preference on the waiting list. Although the original Section 8 contract expired in 2001, the contract was renewed in that same year for a one year period. In 2002, the contract expired but was subsequently renewed for a five year period and was again renewed in 2007. The contract will expire again in 2012 but the risk of conversion is low. Each contract is subject to annual review by Congress. Five years is the maximum renewal period allowed by Congress.

- **Laurel Springs Apartments.** Laurel Springs Apartments is an assisted housing development in which affordability controls are due to expire during the time horizon of the current Housing Element. Laurel Springs Apartments (88 two bedroom units and 6 three bedroom units) currently contain 19 assisted units. These units were required to be set aside for occupancy by low- and moderate-income households. These units are affordability restricted until 2010.

- **Parkside Apartments.** Parkside Apartments is an assisted housing development in which affordability controls for low and very low income households initially applied to 18 of the 48 total dwellings. The Housing Authority of Santa Barbara County (HASBC) has recently acquired the project and extended affordability to all 48 units. The duration affordability is tied to the duration of HASBC ownership.

16.1.2 Conservation of Assisted Housing

The cost of conserving the assisted units is estimated to be significantly less than that required to replace the units through new construction. Conservation of assisted units generally requires subsidizing the difference between market-rate and assisted rents. Since land prices and land availability are generally the limiting factors to development of low-income housing, it is estimated that subsidizing rents to preserve assisted housing is more feasible and economical than new construction.

Based on the recorded value of similar multi-family properties that were sold in the City of Lompoc during 2006, the acquisition cost per unit is approximately \$98,570. At this price, the combined acquisition cost of the 64 multi-family units at Rainbow Plaza, Laurel Springs Apartments and Parkside Apartments would be approximately \$6.3 million excluding closing costs and property repair costs that may be necessary. By comparison, the estimated cost to develop a similar number of new

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units (one, two, and three bedroom units) would be approximately \$205,000 per dwelling unit³. At this cost per unit, the total cost to replace 64 units would be 13.1 million.

**Table H-70
Inventory of Deed Restricted Affordable Housing**

Project Name	Address	Property Owner	Total Units	Total Assisted Units	Type	Affordability Restriction Expiration Date	Type of Assistance/ Program
Rainbow Plaza	220 W. Pine Street	Rainbow Plaza Inc.	31	31 Low	Elderly/ Handicapped	2007	Direct Loan - 40 Years Deed Restriction
Laurel Springs Apartments	812 W. Laurel Avenue	Laurel Springs Associates	19*	9 Low* 10 Moderate*	Family	2010	Multi-Family Housing Revenue Bond
Parkside Apartments	240 W. Pine Avenue	682 Associates	48	18 Very Low/Low	Elderly	2016	Rental Housing Construction Program
Casa Serena	130 S. Fifth Street	Casa Serena Associates	48	24 Very Low 24 Low	Elderly/ Disabled	2050	Tax Credit Redevelopment
Janaki Apartments	536 N. U Street	Rajan Ryyar	11	14 Very Low	Family	2055	Tax Credit
Kailani Village	200 - 310 W. North Street	Kailani Village Ltd.	188	177 Very Low 11 Low	Family	2056	Tax Credit
West Creek Villa	222 N. T Street	Lompoc Village 88	88	88 Very Low	Family	2056	Tax Credit
Arbor Square (Valli-Hi)	800 N. G Street	Pacific American Properties Inc.	125	10 Very Low 115 Low	Family	2031	Tax Credit
T & College	521-537 N. T Street	Lompoc Housing Assistance Corporation (LHAC) ¹	35	35 Very Low	Family	2031	City/State HOME State CHFA
Jay Apartments	501-513 N. S Street 508 N. T Street	LHAC	26	26 Very Low	Family	2032	CDBG State CHFA
Courtyard	733 N. E Street	LHAC	18	18 Very Low	Family	2037	Redevelopment
Portabello	305-309 N. K Street	LHAC	12	12 Very Low	Family	2030	State CHFA
Southern Court	709-713 N. E Street	LHAC	12	12 Very Low	Family	2031	City HOME State CHFA
Casa Con Tres	434-438 N. L Street	LHAC	12	12 Very Low	Family	2058	City HOME State CHFA
Voelker	500-504 N. T Street	LHAC	8	8 Very Low	Family	2032	CDBG
North B Street	503, 507, 507 1/2 N. B Street	LHAC	3	3 Very Low/Low/ Moderate	Family	2029	CDBG
Courtyard South	717-721 N. E Street	LHAC	6	6 Very Low	Family	2029	CDBG City/State HOME
K Street	328-330 N. K Street	LHAC	2	2 Very Low	Family	2031	State CHFA
Chestnut Apartments	401-405 W. Chestnut Avenue	LHAC	3	3 Very Low	Family	2030	Direct Loan Redevelopment Funds
K Street Cottages	120 & 120 1/2 S. K Street	LHAC	2	2 Very Low	Family	2029	Direct Loan Redevelopment Funds
L Street Triplex	115 S. L Street	Frank Signorelli	3	1 Very Low 2 Low	Family	2032	Inclusionary Housing Program; Recorded Covenant

³ The new construction cost figure of \$205,000 per unit is based on a combination of recent development proformas for multifamily residential projects on the Central Coast; most notably, Howling Nursery Expansion (Ventura County, 2007); Paseo Santa Clara (Oxnard 2007) and Villa Cesar Chavez (Oxnard 2006).

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Table H-70 Inventory of Deed Restricted Affordable Housing							
College Park Apartments	201-207 East Col-lege Avenue	LHCDC	34	Low and Mod	Family	2059	State Bonds HOME State CFHA
HomeBase	513 & 519 North G Street	HASBC	39	25 Very Low	Disabled SRO	2063	LHTC State HOME CHFA HELP
<p>Source: Project Files, Redevelopment Agency, City of Lompoc, 2008. Inventory of Publicly Assisted Dwellings, California Housing Partnership Corporation, 2001.</p> <p>Note: See Appendix D for a listing of existing, new and substantially rehabilitated housing units developed or otherwise assisted with RDA funds, or otherwise counted towards the requirements of subdivision (a) or (b) of Section 33413. Some double counting may occur between Table H-68 and Appendix D due to multiple funding sources.</p>							

16.1.2 Preservation of Assisted Housing

Housing element law also requires that localities identify local public agencies, public or private non-profit corporations, and for-profit organizations with the legal and managerial capacity to acquire and manage at-risk projects resulting in the preservation of at-risk units.

Preserving at-risk units can be accomplished through purchase or management of the project by a non-profit organization. This preservation method would eliminate the costs associated with new construction of comparable housing and would eliminate displacement of households while the units are constructed.

The City currently works with several non-profit community-based service organization to provide affordable housing in Lompoc. These organizations include LHCDC, SBHAC and Habitat for Humanity of Northern Santa Barbara County. LHCDC is a certified Community Housing Development Organization (CHDO) and is in the process of becoming a Community Based Development Organization (CBDO). The City has provided loan funds to these organizations to acquire, rehabilitation and develop affordable housing. In addition, the City and RDA jointly facilitated the acquisition of Jay Apartments (26 units for very low income) with a combination of Federal and local funds to extend the duration of affordability through 2032.

16.1.3 Financing and Subsidy Resources for Assisted Housing

As noted in the preceding paragraphs, two types of resources used in efforts to preserve affordable units at risk of conversion to market rate in the

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City of Lompoc are non-profit organizations that can acquire and manage assisted units with City funding.

Community Development Block Grant (CDBG) funding, California Housing Finance Agency (CalHFA), Redevelopment (RDA) set-aside funds, and Federal HOME funds are the primary sources of potential funding for preservation efforts. CDBG funds are used to provide community facilities, services, and residential acquisition and rehabilitation programs, as well as economic development programs in low- and moderate-income areas. CalHFA and Redevelopment set-aside funds and Federal HOME funds provide a variety of housing financing opportunities including residential acquisition and rehabilitation programs.

Since the year 2000 to present, the City of Lompoc appropriated \$3.5 million in CDBG, CHFA, RDA housing set-aside, and HOME funds toward acquisition of affordable housing units. These funds assisted a total of 141 units that are currently or will be affordable to very low- and low-income families. These same financing and subsidy resources are available for the preservation of at-risk units.

As noted in Policy 1.14, the City will monitor previous and new commitments for very low-, low-, and moderate-income publicly assisted housing through quarterly reports published by the City's Community Development Department. These reports will be generated from a database that has been established for tracking assisted projects. In addition to the funding sources used in the past (i.e., CDBG, CHFA, RDA housing set-aside, and HOME), the City will investigate other available funding sources from programs such as the California Multifamily Housing Program and HUD's Office of Multifamily Housing Assistance Restructuring program, and will work with property owners and non-profit organizations to acquire these units.

17.0 Jobs-Housing Balance

Achieving an ideal geographic relationship between the provision of jobs and housing can produce a myriad of measurable and perceived benefits including reduced congestion, improved air quality, more efficient utilization of resources and enhanced quality of life. Achieving such a balance requires a match not only in quantity of jobs and housing but also in quality (relative to income and cost). Available data does not allow for an in-depth analysis but does lend insight into the subject. As shown in **Table H-71**, Lompoc has the closest "steady-state" relative to the number of local jobs and total dwelling units. By SBCAG's own standards, a ratio within the range of 0.75 to 1.25

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evidences a job–housing balance.⁴ Only Lompoc and Guadalupe meet this benchmark. This finding influenced the “weighting” of variables that SBCAG used allocating RHNA goals for the current housing cycle. The result is a more equitable apportionment of future housing needs compared to a heavier emphasis on housing and population forecasts used in the past.

Table H-71 Jobs Housing Balance	Jobs/Housing Ratio	2005 Median Income	Prior Hous- ing Element	2007-14 Goals	
				Original Proposal	Final Allocation
Lompoc	1.03	\$ 41,727	890	950	516
Guadalupe	1.16	\$ 39,555	83	195	88
Carpinteria	1.39	\$ 57,610	75	293	305
Santa Maria	1.58	\$ 42,220	4,837	3,793	3,199
Buellton	1.59	\$ 58,773	536	312	279
Solvang	1.70	\$ 52,778	325	153	170
Santa Barbara	1.76	\$ 55,481	2,333	2,737	4,388
Goleta	2.07	\$ 69,151	2,388	1,355	1,641
Unincorporated	n.a.	n.a.	6,064	1,811	1,017
Total	1.32	\$ 64,700	17,531	11,599	11,603

Source: Regional Growth Forecast 2005–2040, Santa Barbara County Association of Governments, Tables 27 and 28, Pages 52 and 56, August 2007.
Note: Countywide Median Income for 2005 is derived from the U.S. Department of Housing and Urban Development.

18.0 Past Performance

18.1 Background.

As part of the update process, communities are required to assess the achievements realized under their current adopted Housing Element. The analysis is both quantitative and qualitative relative to specific numeric goals and defined actions set forth in the Element. Significant deviations between policy objectives and actual results lend insight into crafting policies and programs for the future. For Lompoc, the existing adopted Housing Element contains both qualitative and quantitative measures; relevant programs are summarized in **Table H-72** while housing production goals ap-

⁴Regional Growth Forecast 2005–2040, Santa Barbara County Association of Governments, Page 52, August 2007.

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pear in **Table H-73**. Shortfalls in goal achievement along with programmatic ramifications are summarized in Section 18.2.

Table H-72 2001-2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>Measure 1: The City shall work with LHCDC, or other non-profit organizations and individuals to identify housing priorities through the Community Development Department's Needs Assessment process and obtain the following funding, when available, from the State's Multifamily Housing Program to address the identified priorities:</p> <p>a. Rental Housing Construction Program (RHCP) for the construction of rental units affordable to low-income households. [Policies 1.1, 1.2, 1.3, 1.4, 1.5, 1.8, 1.11, 1.17, 1.20, 1.23, 1.24, 3.1, 4.1, 4.3]</p> <p>b. California Housing Rehabilitation Program - Rental Component (CHRP-R) for the rehabilitation or acquisition and rehabilitation of substandard low-income rental housing. [Policies 1.24, 2.1, 2.2, 2.5, 3.2, 4.1, and 4.2]</p>	<p>Status: Ongoing.</p> <p>The RDA has received \$1,750,000 in grants from CalHFA Help for financing the acquisition and rehabilitation and/or construction of housing units for low- and very low-income families. RDA has assisted 102 units at 50% of AMI utilizing the \$1,000,000 in CalHFA funds. An additional 19 units are in process of which four units will be restricted to extremely low income and 15 units for very low income.</p>	<p>Separate bond measures passed in 2002 (Proposition 46) and 2006 (Proposition 1C) greatly expanded the range and capacity of programs offered through the State compared to the previous Housing Element cycle.</p> <p>Implication: Update Measure 1 to reflect the broader depth of programs to achieve stated objectives.</p>

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Table H-72 2001-2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>Measure 2: The City shall amend the Zoning Ordinance to allow emergency shelters in low (R-1), medium (R-2), and high (R-3) residential zones. Facilities with six (6) or fewer residents shall be allowed as permitted uses in all three residential zones. Facilities providing shelter for seven (7) or more residents shall be permitted in medium (R-2) and high density (R-3) residential zones subject to a conditional use permit. [Policies 1.1, 1.3, 1.5, and 1.8]</p>	<p>Status: Not Completed.</p> <p>Delayed due to exceptionally high level of development activity in the Community Development Department.</p>	<p>An assessment of special needs populations show that existing zoning regulations potentially inhibit the accommodation of needs particular to elderly, disabled, farmworkers and homeless.</p> <p>Implication: Broaden Measure 2 to include more extensive zoning ordinance amendments for benefit of the special needs populations.</p>
<p>Measure 3: The City shall study the feasibility of allowing emergency shelters in commercial zones subject to a conditional use permit. [Policies 1.1 and 1.8]</p>	<p>Status: Not Completed.</p> <p>Delayed due to exceptionally high level of development activity in the Community Development Department.</p>	<p>Senate Bill 2 passed during the 2007-08 California Legislative Session and effective January 1, 2008, clarifies and strengthens housing element law regarding the accommodation of emergency shelters and transitional housing.</p> <p>Implication: Revamp Measure 3 to require the amendment of the City's zoning ordinance and allow emergency shelters as a permitted use within the C-2, C-O and C-C commercial zone districts.</p>
<p>Measure 4: The City shall work in cooperation with the Lompoc Housing Assistance Corporation, Habitat For Humanity, or other non-profit organizations to identify housing priorities through the Community Development Department's Needs Assessment process and obtain funding from the following U.S. Department of Housing and Urban Development (HUD) programs to address the identified priorities:</p>	<p>Status: Ongoing.</p> <p>The City in cooperation with Community based non-profit organizations have utilized and continue to utilize this measure to disperse funds to increase the supply of housing with supportive services for elderly and disabled persons.</p>	<p>As with State funding, Federal resources change over time.</p> <p>Implication: Update Measure 4 to reflect the broader depth of programs to achieve stated objectives.</p>

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Table H-72 2001–2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>a. Section 202 and Section 811 programs to expand the supply of housing with supportive services for elderly persons and persons with disabilities. [Policies 1.1, 1.3, 1.5, 1.8, 1.20, 1.21, 1.24, and 2.1]</p> <p>b. Homeownership For People Everywhere (HOPE) Program to expand Homeownership opportunities for lower-income families and individuals. [Policies 1.3, 1.5, 1.8, 1.18, 1.19, 1.23, 2.5, 3.1, 3.2, 3.4, 3.5, and 4.1]</p> <p>c. Community Development Block Grant (CDBG) and Santa Barbara County HOME Consortium funds to expand the supply of housing for very low- and low-income families and individuals. [Policies 1.3, 1.5, 1.8, 1.18, 1.19, 1.23, 2.5, 3.1, 3.2, 3.4, 3.5, and 4.1]</p>		
<p>Measure 5: The City shall work in cooperation with mobilehome park resident organizations to pursue State Mobilehome Park Resident Ownership Program (MPROP) funds (when available) to preserve housing affordability for low-income residents. [Policies 1.1, 1.3, 1.6, and 1.19]</p>	<p>Status: Ongoing.</p> <p>The City continues to explore financing options and pursue as funds become available.</p>	<p>Implication: Restate and continue Measure 5</p>

HOUSING ELEMENT

Table H-72 2001-2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>Measure 6: The City shall notify mobilehome park managers of the City's Needs Assessment hearings by providing flyers to post in common areas to facilitate the involvement of mobilehome park residents in the Needs Assessment process to consider the feasibility of applying for State Mobilehome Park Resident Ownership Program (MPROP) funds (when available) in order to preserve housing affordability for low-income residents. [Policies 1.1, 1.3, 1.6, and 1.19]</p>	<p>Status: Ongoing.</p> <p>See Measure 5.</p>	<p>Implication: See Measure 5.</p>
<p>Measure 7: The City shall cooperate with the County of Santa Barbara, the Housing Authority of Santa Barbara, the City of Santa Maria, Lompoc Housing Assistance Corporation, and other faith-based and community organizations in the County's Continuum of Care program to pursue HUD, Emergency Shelter Grant Program (ESGP) and Supportive Housing Program (SHP) funds (when available), to help prevent homelessness in Lompoc. [Policies 1.1, 1.5, 1.8, 1.20, and 2.1]</p>	<p>Status: Ongoing.</p> <p>The City in cooperation with Community based non-profit organizations have utilized and continue to utilize this measure to address the needs of homeless.</p>	<p>Implication: Restate and continue Measure 7.</p>

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Table H-72 2001-2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>Measure 8: The City shall cooperate with the County of Santa Barbara, the Housing Authority of Santa Barbara, the City of Santa Maria, LHDCDC, and other faith-based and community organizations in the County's Continuum of Care program to obtain HUD, Shelter Plus Care Homeless Rental Housing Assistance (S+C/HRHA) Program, Supportive Housing Program (SHP), and Single Room Occupancy Program (SROP) funds, to provide rental housing assistance for homeless persons in Lompoc. [Policies 1.1, 1.5, 1.8, 1.20, 1.24, and 2.1]</p>	<p>Status: Ongoing.</p> <p>See Measure 7.</p>	<p>Implication: See Measure 7.</p>
<p>Measure 9: The City shall work with the Santa Barbara County Housing Authority to:</p> <ul style="list-style-type: none"> a. Encourage the rehabilitation of rental property in order to meet the minimum requirements of the Section 8 Program. [Policies 1.2, 1.3, 1.5, 1.8, 1.24, 2.1, 3.4, and 4.1] b. Secure additional HUD, Section 8 Lower-Income Housing Assistance Program certificates and vouchers to aid very low-income and low-income families in obtaining private accommodations. [Policies 1.2, 1.5, 1.8, 1.18, 3.1, 3.2, and 3.4] 	<p>Status: Ongoing.</p> <p>City Code Enforcement Program monitors properties within the Redevelopment Area, and in other City areas.</p>	<p>Implication: Restate and continue Measure 9.</p>

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Table H-72 2001-2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>Measure 10: The City shall maintain its status as a member of the Santa Barbara County HOME Consortium by renewing its agreement for the prescribed time period to obtain HUD, Home Investment Partnership Act (HOME) funds to retain and expand the supply of affordable housing. [Policies 1.3, 1.4, 1.5, 1.8, 1.19, 1.23, 2.1, .2, and 3.5]</p>	<p>Status: Ongoing.</p> <p>Agreement renewed on September 06, 2006 for a three year term.</p>	<p>Implication: Restate and continue Measure 10.</p>
<p>Measure 11: The City shall work with the Housing Authority of Santa Barbara County through the Community Development Department's Needs Assessment process to consider the feasibility of participating in HUD's Reverse Equity Mortgage Program in order to help elderly homeowners continue to stay in their longtime residences. [Policies 1.5 and 1.19]</p>	<p>Status: Not Completed.</p> <p>The City has concentrated on obtaining CDBG, HOME, CHFA, and RDA funds but will explore financing options and pursue as funds become available.</p>	<p>Implication: Restate and continue Measure 11.</p>
<p>Measure 12: The City shall continue to market the Deferred Single Family Rehabilitation Loan Program to low-income senior households to make necessary upgrades and structural modifications to their homes to facilitate independent living. [Policies 1.5 and 1.19]</p>	<p>Status: Ongoing.</p> <p>The City regularly advertises and markets the Deferred Single Family Rehabilitation Loan Program.</p>	<p>Implication: Restate and continue Measure 12.</p>

HOUSING ELEMENT

**Table H-72
2001–2008 Housing Programs**

Implementation Measures	Accomplishments	Assessment
<p>Measure 13: The City’s Community Development Department will continue to monitor its development review process for ways to facilitate the production of new sources of affordable housing. [Policy 1.9]</p>	<p>Status: Ongoing.</p> <p>Permit Streamlining Report completed in 1996 made recommendations to increase efficiency and services to benefit applicants. Recommendations were implemented including permit tracking system and Development Review Handbook. The City is implementing Policies 1.11 and 1.12 of the Housing Element during all new residential project development review.</p>	<p>Implication: Restate and continue Measure 13.</p>
<p>Measure 14: The City shall amend the Land Use Element Map to provide areas with large minimum lot sizes. [Policies 1.10 and 1.15]</p>	<p>Status: Completed.</p> <p>Accomplished in conjunction with the 2025 General Plan update.</p>	<p>Implication: Delete Measure 14.</p>
<p>Measure 15: The City shall re-search previously-approved assisted-housing units to determine compliance with assisted-housing requirements. Conditions of approval shall be placed on future assisted-housing projects requiring applicants to supply periodic compliance reports. [Policy 1.16]</p>	<p>Status: Ongoing.</p> <p>RDA annually monitors Owner Occupancy, Rents, and Tenant Income of Assisted Units, with quarterly visual monitoring.</p>	<p>Implication: Restate and continue Measure 15.</p>
<p>Measure 16: The City shall work in cooperation with local non-profit corporations to identify housing priorities through the Community Development Department’s Needs Assessment process and obtain California Self-Help Housing Program (CSHHP) funds (when available) to assist low-income and moderate-income families build and rehabilitate their homes with their own labor. [Policies 1.17, 1.19, 2.1, 2.5, 3.4, and 4.2]</p>	<p>Status: Ongoing.</p> <p>City has worked with community based non-profit self-help organization and has concentrated on obtaining RDA funds to assist in the construction of two housing units for very low-income families; City will explore financing options and will pursue as funds become available.</p>	<p>Implication: Restate and continue Measure 16.</p>

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Table H-72 2001-2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>Measure 17: The City shall prepare an annual progress report on the provision of its regional fair share of housing units to monitor the effectiveness of existing policies. [Policy 1.23]</p>	<p>Status: Ongoing.</p> <p>City reports accomplishments in conjunction with annual General Plan Report in compliance with Government Code Section 65400(b)(1).</p>	<p>Implication: Restate and continue Measure 17.</p>
<p>Measure 18: The City shall continue to pursue and loan California Housing Rehabilitation Program - Owner Component (CHRP-O) funds (when available) for the rehabilitation of homes owned and occupied by lower-income households. [Policies 2.1, 2.2, 2.5, 3.2, 4.1, and 4.2]</p>	<p>Status: Ongoing.</p> <p>The City has concentrated on obtaining and utilizing CDBG, HOME, CalHFA Help, and RDA funds but will explore financing options as they become available.</p>	<p>Separate bond measures passed in 2002 (Proposition 46) and 2006 (Proposition 1C) greatly expanded the range and capacity of programs offered through the State compared to the previous Housing Element cycle.</p> <p>Implication: Update Measure 18 to reflect the broader depth of programs to achieve stated objectives.</p>
<p>Measure 19: The City shall amend the Subdivision Ordinance to include design considerations which protect solar exposure.</p>	<p>Status: Not Completed.</p> <p>Tabled due to exceptionally high level of development activity in the Community Development Department.</p>	<p>Implication: Deleted Measure 19.</p>
<p>Measure 20: The City and Lompoc Redevelopment Agency shall encourage and support LHCD and/or other non-profit corporation's utilization of state and federal tax credit programs for very low-income and low-income housing projects within the City. [Policies 1.1, 1.2, 1.3, 1.5, and 1.24]</p> <p>a. Serving as the local reviewing agency (as opposed to an outside agency) for tax credit applications as required by the California Tax Credit Allocation Committee (TCAC).</p>	<p>Status: Ongoing.</p> <p>City supported tax credits for rehabilitation and/or new projects. The RDA reviewed two tax credit projects in 2006-2007. The Agency provided \$1,050,000 in funding to Home Base on G Street, a 39 SRO unit project. The RDA also loaned \$285,000 to Crown Laurel under the Affordable Housing Incentive Program. The RDA provides incentive funding to developers for development of affordable housing within the project area.</p>	<p>Implication: Restate and continue Measure 20.</p>

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Table H-72 2001-2008 Housing Programs		
Implementation Measures	Accomplishments	Assessment
<p>b. Working with tax credit applicants to identify matching funds and additional funding sources.</p> <p>c. Providing gap financing through City/Redevelopment Providing letters of support and technical assistance.</p>		
<p>Measure 21: The City shall continue to promote energy efficiency and water conservation. [Policies 2.2 and 4.1]</p>	<p>Status: Ongoing.</p> <p>The City employs a Utility Conservation Coordinator to conduct energy audits and provide technical assistance to Lompoc residents interested in reducing their household utility consumption; low interest residential rehabilitation loans allows the scope of work to include conversions of energy inefficient appliances; City offers rebate programs for retrofits and electric bills.</p>	<p>Implication: Restate and continue Measure 21.</p>
<p>Measure 22: The City shall amend the Zoning Ordinance to require a finding for any zone changes within or adjacent to residential areas that the zone change is compatible with the character of any affected residential neighborhood. [Policies 2.3 and 2.4]</p>	<p>Status: Not Completed.</p> <p>Delayed due to exceptionally high level of development activity in the Community Development Department.</p>	<p>Implication: Restate and continue Measure 22.</p>
<p>Measure 23: The City shall disseminate fair housing information to the public and continue to fund fair housing services which promote equal housing opportunity within the community. [Policy 1.17]</p>	<p>Status: Ongoing.</p> <p>The City regularly advertises and disseminates fair housing information.</p>	<p>Implication: Restate and continue Measure 23.</p>
<p>Source: City of Lompoc, Annual Report on the General Plan: 2007, March 2008.</p>		

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Table H-73 2001-2006 Housing Production Summary	RHNA Goal	Units Added						Residual Need
		2001	2002	2003	2004	2005	2006	
Very Low	214	42		3	3			166
Low	151	2		4	11			134
Moderate	209			14	11	8		176
Above Moderate	316	1	1	89	83	69	14	59
Total	890	41	1	110	108	77	14	535

Source: City of Lompoc, Annual Report on the General Plan: 2007, March 2008.

Notes: Projects completed and under construction during 2007 and 2008 are not included in the table above. Instead, these units are applied toward RHNA goals for the forthcoming planning cycle to avoid double counting. See Tables H-44 and H-45.

18.2 Program Ramifications

Table H-72 provides a qualitative assessment of existing housing programs along with recommended actions for the future. Of the 23 Implementation Measures, 75% have continued relevance and should be retained; and approximately 25% have either not been achieved, require retooling or should be eliminated for lack of need or priority. **Table H-73** provides a quantitative assessment of numeric goals. In summary, the City realized 40% of its overall RHNA goals; 17% for target income groups and 82% for those earning above moderate income. The shortfall in goal accomplishment for target income groups is moderated by a dramatic reduction in production goals for the forthcoming planning cycle; 332 new units for 2007 to 2014 compared to 574 units for the previous planning period, a reduction of nearly 50%. This moderation notwithstanding, the disparity between goals and production evidences is a clear and convincing need for continued subsidies, land use incentives and layered funding to make development of affordable housing possible.

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Table H-74 2001-2006 Housing Production Allocation				
Income Level Affordability ¹	Units Added 2001 – December 2006		Remaining Need 2001 – June of 2008	
Very Low Units				
Walnut Village – LOM 512 39 units of a single family residential subdivision, between Walnut & Chestnut Avenues, west of Third Street	3	Redevelopment Area/Inclusionary Housing Program [15% affordable]; Very Low-Income; Recorded Covenant until 2049		
222 W. North Avenue	35	Tax Credit Development - Very Low-Income		
222 N. T Street	2	Tax Credit Development - Very Low-Income		
518 W. Laurel Avenue	1	Habitat for Humanity – Direct Loan of Redevelopment Funds, Very Low-Income affordability commitment until 2047		
520 W. Laurel Avenue	1	Habitat for Humanity – Direct Loan of Redevelopment Funds, Very Low-Income affordability commitment until 2047		
115 S. L Street	1	Inclusionary Housing Program; Very Low-Income; Recorded Covenant until 2032		
1000 Blk E. Airport	1	Rental price \$550 ²		
328-330 N. K Street	4	Inclusionary Housing Program; Very Low Income; Recorded Covenant until 2031		
Total for 2001 – 2006 Very Low-Income	48	14%	166	31%
Low Units				
Walnut Village – LOM 512 39 units of a single family residential subdivision, between Walnut & Chestnut Avenues, west of Third Street	1	Redevelopment Area/Inclusionary Housing Program [15% affordable]; Low-Income; Recorded Covenant until 2049		
310 – 314 N. L Street	8	Rental price \$1,000 ³		
403 N. F Street	1	Rental price \$1,100 ⁴		
426 N. G Street	1	Rental price \$1,100 ⁵		
600 Blk. N. Third Street	1	Rental price \$700 ²		
600 Blk. N. Second Street	1	Rental price \$750 ⁵		
400 Blk S. H Street	1	Rental price \$700 ⁵		
300 Blk N. M Street	1	Rental price \$700 ⁵		

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Table H-74 2001-2006 Housing Production Allocation				
115 S. L Street	2	Inclusionary Housing Program; Low-Income; Recorded Covenant until 2032		
Total for 2001 – 2006 Low-Income	17	5%	134	25%
Moderate Units				
Walnut Village – LOM 512 39 units of a single family residential subdivision, between Walnut & Chestnut Avenues, west of Third Street	2	Redevelopment Area/Inclusionary Housing Program [15% affordable]; Moderate-Income; Recorded Covenant until 2049		
213 E. College Avenue	9	2 and 3 Bedroom Rental price \$1,200 and \$1,300 ⁴		
Signorelli Apartments – 14 unit apartment complex, 127, 135, and 139 S. B Street	14	2 Bedroom/2 Bath \$1,100/mo		
Oceanwood Apartments – 8 unit apartment expansion at 217 South U Street	8	2 Bedroom/2 Bath \$1,075 – 1,200 /mo ³		
Total for 2001 – 2006 Moderate-Income	33	9%	176	33%
Above Moderate Units				
Walnut Village – LOM 512 39 units of a single family residential subdivision, between Walnut & Chestnut Avenues, west of Third Street	33	Sales price range \$297,000 - \$440,000 ⁶		
Crown Pointe – LOM 511 86 unit single family residential subdivision, south side of West Olive Avenue at Bodger Road	86	Sales price range \$341,500 - \$600,000 ⁶		
511 West Locust Avenue	1	Sold for \$600,000 ⁶		

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**Table H-74
2001-2006 Housing Production Allocation**

La Purisima Highlands – LOM 472, 121 unit single family residential subdivision, southwest corner of State Highway 1 and Purisima Road	121	Sales price range \$350,000 - \$613,500 ⁶		
908 Clemens Way	1	2004 Assessed Value \$341,273 ⁷		
619 North Third Street	1	2006 Assessed Value \$262,400 ⁷		
438 South K Street	1	2006 Assessed Value \$625,000 ⁷		
133 North A Street	1	Rental price \$1,200 – 1, 500 ⁵		
123 North N Street	3	Rental price \$1,200 – 1, 500 ⁵		
417 North J Street	2	Rental price \$1,200 – 1, 500 ⁵		
522 North L Street	3	Rental price \$1,200 – 1, 500 ⁵		
521 South I Street	3	Rental price \$1,200 – 1, 500 ⁵		
Total for 2001 – 2006 Above-Moderate Income	257	72%	59	11%
Total Housing Unit Production for 2001 – 2006				
	355	100%	535	100%
Source: Fire Department, Building Division, City of Lompoc, 2001 2001- 2006.				
Notes:				
1. This table uses the HCD median income limits for Santa Barbara County.				
2. Rent established from personal phone call to property owner.				
3. Rent established by contact with the property management company.				
4. Rent established through consultation with Building Inspector/Property Owner.				
5. Rent established from survey of similar units in the area.				
6. Transfer amount obtained from the Santa Barbara County 2004-2005 Assessor Secured Roll Books 81-93.				
7. Assessed value obtained from the Santa Barbara County Assessor Secured Roll Books 81-89.				

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19.0 Glossary

Above Moderate-Income Household – A household earning more than 120% of median household income. The City uses the income limits which are determined by HUD and provided to the City by HCD.

Accessible Housing – Units accessible and adaptable to the needs of the physically disabled.

Affordable Housing – Units affordable to target income groups.

Attached Single Family Dwelling – A single family dwelling which is attached to another single family dwelling along a common wall which runs along the shared property line.

CCD – Census County Division.

CDBG – Community Development Block Grant Program.

Detached Single Family Dwelling – A single family dwelling (with or without an attached garage) which has open space on all four sides of the structure.

Dwelling Unit (DU) – A house, apartment, condominium, or mobilehome. See also Housing Unit.

Family Household – Two or more persons living in the same household who are related to each other by birth, marriage, or adoption.

FHA – Federal Housing Administration.

HCD – California Department of Housing and Community Development.

Household – One or more persons who occupy a housing unit.

Housing Affordability – Affordability is a function of household income and housing costs, with adjustments for family size and bedroom count. The thresholds for determining affordability are prescribed by State law and vary according to income category and housing unit type. For rental units, the housing cost threshold is computed as 9% of the areawide median for extremely low income (i.e., $30\% \times 30\% = 9\%$), 15% for very

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low, 18% for lower income and 33% for moderate income. The housing cost threshold for homebuyers is computed as 9% of the areawide median for extremely low income, 15% for very low income, 21% for lower income and 38.5% for moderate income.

Housing Market Area (HMA) – A geographical area which meets the social and economic requirements of the community and provides its population with facilities such that commuting to another housing market area in order to work or shop is elective.

Housing Unit – A house, apartment, condominium, mobilehome, group of rooms, or single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters.

HUD – U.S. Department of Housing and Urban Development.

Inclusionary Zoning – A regulation that requires a minimum percentage of the units in housing projects to be reserved for households of a certain income level (e.g. low- or moderate-income).

Median Household Income – The mid-point at which half of the County's households earn more and half earn less.

MFD – Multi-Family Dwelling.

MH – Mobilehome.

Multiple Family Housing Unit – Housing where two or more units are located in the same structure on a single parcel.

Nonfamily Household – Two or more persons living in the same household who are not related by birth, marriage, or adoption.

Persons per Household – The statistical average number of persons in a household.

RHNP – Regional Housing Needs Plan.

Separate living quarters – Quarters in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall.

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Single Family Dwelling Unit (SFD) – A single dwelling unit located on a single parcel.

SSI – Supplemental Security Income

Target Income Groups – The California Department of Housing and Community Development (HCD) defines household income groups and the U.S. Department of Housing and Urban Development (HUD) calculates income levels relative to the county median for these groups. For purposes of the Housing Element, there are four household income group categories that are the focus of needs assessment and program delivery: extremely low, very low, low and moderate-income. Income limits that define these categories are published annually by HCD and follow (although not precisely) the following formulas: extremely low-income households are households with incomes less than 30 percent of the area median income; very low-income households are households with incomes between 30 and 50 percent of the area median income; low-income households are households with incomes between 51 and 80 percent of the county median income; and moderate-income households are households with incomes between 81 and 120 percent of the county median income.

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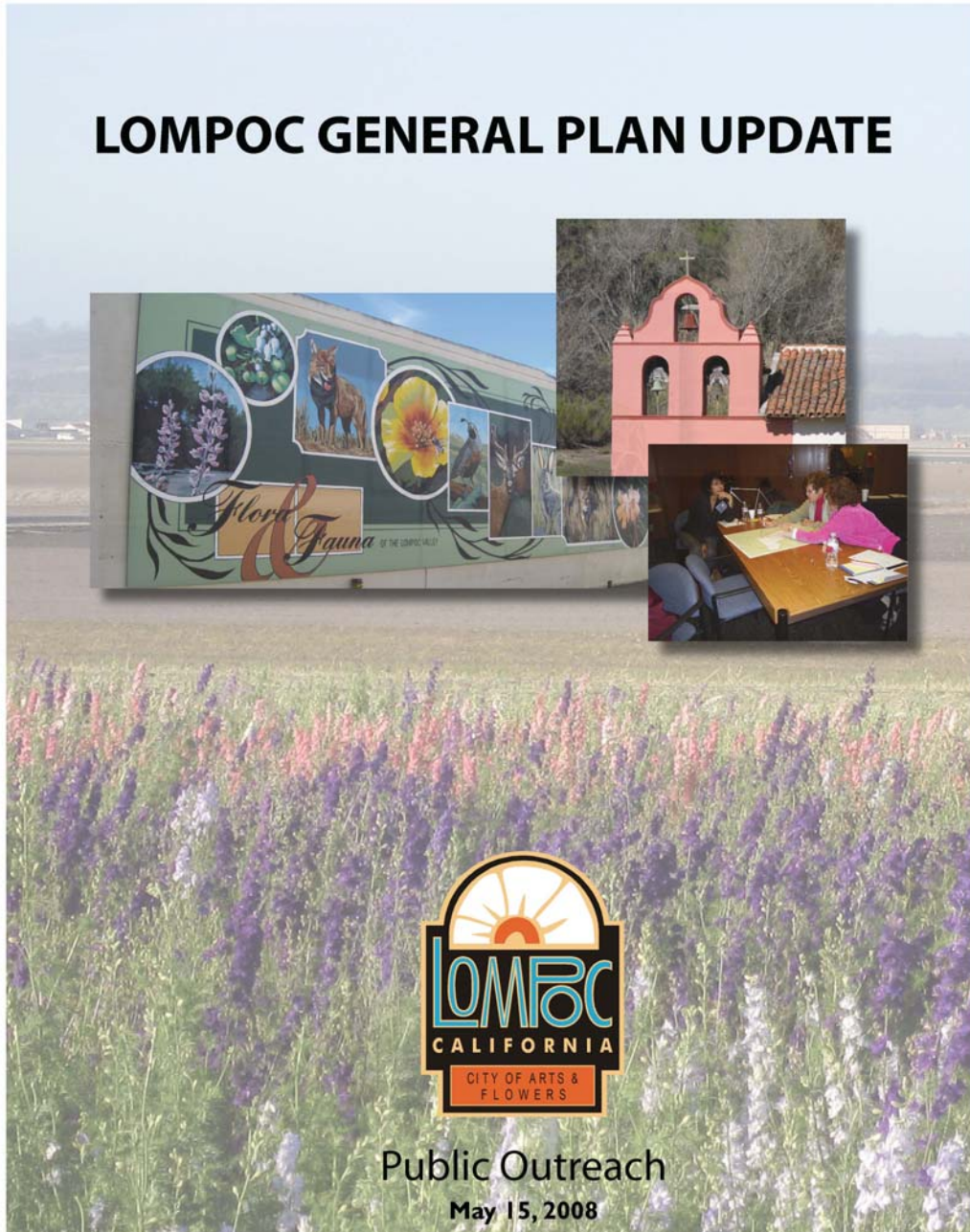
Appendix A.1

Housing Element Appendices

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**APPENDIX A
PUBLIC OUTREACH**

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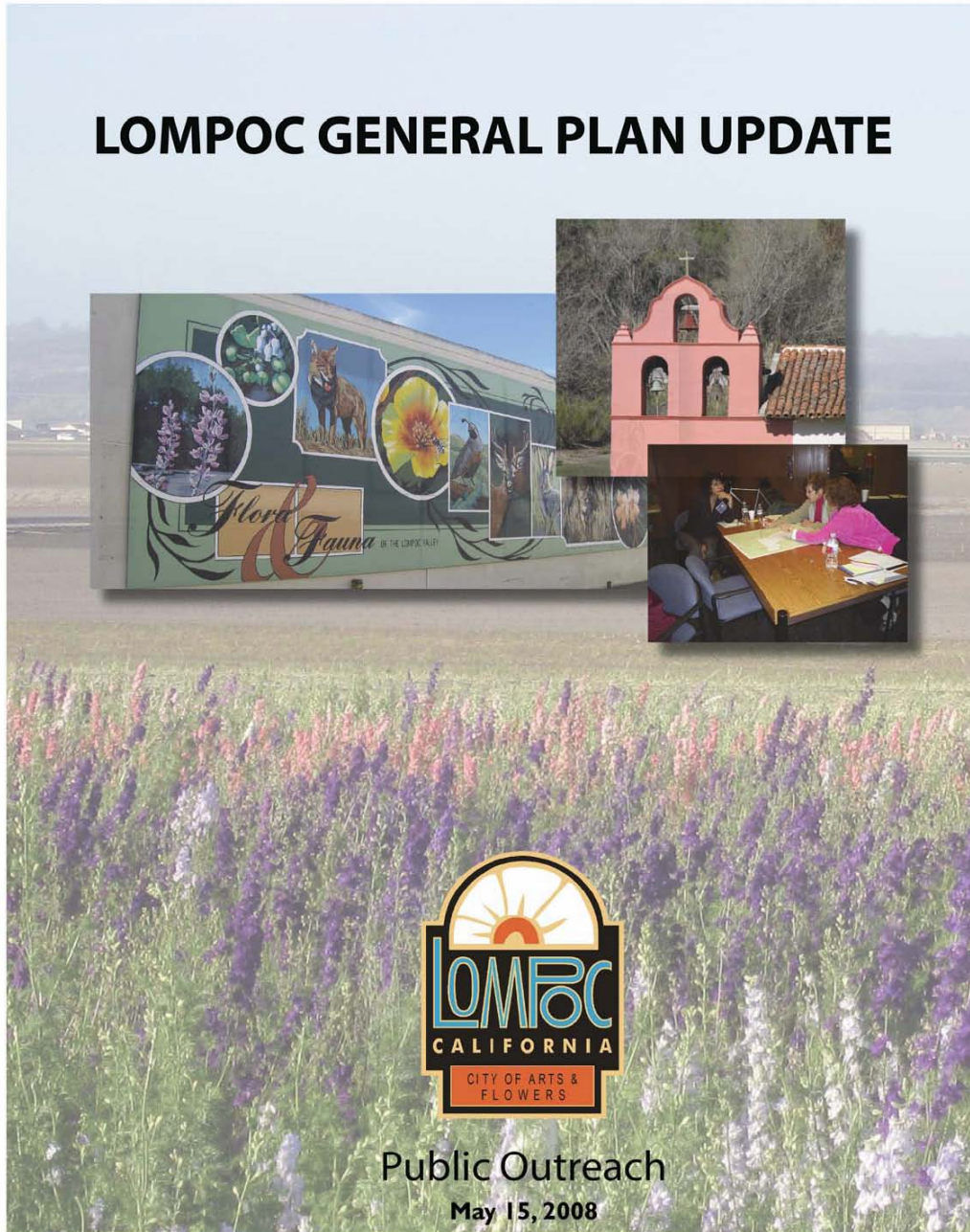
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City of Orosi

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LOMPOC GENERAL PLAN UPDATE

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City of Orosi

Executive Summary

Public outreach has been an integral component of the Lompoc General Plan Update. This document contains all of the General Plan Update public outreach information collected by the City of Lompoc along with Rincon consultants and RRM Design Group. To help with the completion of the General Plan Update a series of community meetings were conducted. These meetings included stakeholder interviews, a neighborhood meeting, a public workshop, and educational workshops.

A series of small group meetings and one-on-one interviews with stakeholders within the community were conducted over a two day period. Interviewees included business, owners, and land owners, and members of interest groups. The meetings were conducted at City Hall and gave the planners a wealth of information which was integral to the process. The purpose of these meetings was to listen to the issues and observations about the city's future in a more private setting. The information collected from the interviews were used to identify key issues and allow the consultant team to understand the desires in terms of physical improvements and quality of life strategies. The stakeholder interview task is a critical step in gaining a candid understanding of conditions and issues from a variety of perspectives. This meeting underscored the City's intent to involve stakeholders and landowners in the dialog process.

The neighborhood meeting was held at La Purisima Catholic Church. This meeting was designed to augment the stakeholder interviews, educate and inform citizens about the General Plan and the process, and continue to build the foundation for the public workshops. It intended to encourage participation of residents and others who do not typically attend public meetings to become involved in City issues.

The public workshop was designed to introduce the community to the General Plan Update (GPU) process including: team, who to contact, overview the process, key milestones, public input opportunities and schedule. The workshop was conducted at a late evening venue and was organized to be fun, interactive and engaging. At the public workshop the use of remote voting software to query attendees on questions of community character, values, identity and other desired input was achieved. The results were made available immediately so participants can measure how their fellow citizens feel about certain issues. The questions were based on the information gathered from the staff meetings and stakeholder interview.

Three educational workshops were performed to educate and inform Council members, Planning Commissioners, business leaders, community members and key stakeholders on: 1) Traffic and Circulation, 2) Housing, and 3) Annexation and Infill. Educational Workshop #1 discussed existing community wide traffic and circulation issues and bring awareness to potential repercussions of future growth on the City's transportation network. Education Workshop #2 presented housing issues and constraints that face the City. State standards and mandates relative to the provisions of adequate housing sites and supporting policies were described. Educational Workshop #3 discussed issues associated with potential annexation areas including infrastructure concerns and potential environmental and land use constraints.

The information gathered from all the previous public outreach forums was summarized and presented to both the planning commission and city council during a joint meeting. The purpose of this meeting was to allow city staff and planning consultants to report back on the information learned from the educational workshops and the public input gathered along the way. This information allowed the council to select expansion areas to study as part of the General Plan EIR process.

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Stakeholder Interviews

November 28-29, 2007

Interviewees:

Denny Anderson – Lompoc Chamber
Kevin McCune – City Engineer
Larry Bean – Public Works
Richard Pata – Farm Bureau Reps
Bob Braitman – LAFCO
Jim Riser - LUSC
Police Chief Dabney
Jack Rodenhi – PC Chair
Dick DeWees – Mayor
Ann Ruhge – City Council
Ron Fink – Planning Commission
Will Schuyler – City Council
Helen Free – Planning Commission
Leroy Scolari – Farm Bureau Reps
Judith Grames-Lyra – Planning Commission
Mike Siminski, City Council
Dewayne Holmdahi – City Council
Michelle Vass – Lompoc Realtors
Gary Keefe – City Administrator
John Walk – Finance Manager
Bob Lingl – Planning Commission
Linual White – Fire Chief

On November 28th and 29th, 2007, and December 12th, 2007, the project team conducted interviews with key stakeholders for the City's General Plan Update. The interviewees were asked a series of questions on community identity/character, land use, growth, housing, water, and public facilities. The following responses were received during the stakeholder interviews.

GENERAL PLAN IMPROVEMENTS

- The General Plan needs to be more flexible.
- "Less is more;" no government intrusion.
- More clarification on State requirements that affect the City.
- Be judicious on any added policies.
- Areas for improving the General Plan:
 - Get as much public input.
 - Proceed quickly and keep on schedule.
 - Simplify to meet state requirements, simply state the policies and goals.
 - Too restrictive in some areas.
 - Make sure policies will be carried out.
 - Need countywide planning effort.

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LOMPOC GENERAL PLAN UPDATE

Stakeholder Interviews

November 28-29, 2007

- Coordination on the application process between the General Plan and the Zoning Plan:
 - Flexibility in zoning for new development.
 - Zoning policies too rigid to allow MU & RD.
 - Zoning & development must parallel the General Plan.
 - Expansion of existing buildings/operations – process tough and unpredictable – need some hand holding.
- Set some community priorities for the General Plan.
- People have to know in advance what the rules are.
- Seriously need to address zoning that is too rigid re: infill and residential development.
- Administration: Develop internet links and a user friendly document for people to access.
- State the policy then the implementation measure, followed by the zoning ordinance and development code to reduce size of the General Plan document.

COMMUNITY IDENTITY/ CHARACTER

- Maintain a small town environment/feel and accommodate reasonable growth.
- Lompoc is not a prime location for tourism; create an attraction for tourism possibly the wineries.
- Lompoc's strength is that it's a refuge from overlying urban development.
- The City doesn't want to become a bedroom community; City needs better jobs to help prevent this.
- Continue support and development for winery industry & tourism industry.
- Need cultural activities to attract and retain young professionals.
- Community participation needed to help create Lompoc.
- Supports the aesthetics and murals that exist in the City.
- Preservation of the character of the Lompoc Valley.
- Lompoc should grow in prestige and be more progressive.
- Doesn't want to look like Santa Maria, where they have built on primary agriculture land.

Ideas to create a community identity:

- Odd Fellows Building – Ocean & "H" Theater project.
- Need sense of place developed within Lompoc.
- Aesthetic environment is a key issue.
- Need more restaurants and brew pubs.
- Encourage and support wine tasting – Capitalize on the cooler weather Lompoc has to offer.
- Continue Farmers Market in the old town area.
- Maintain the cut flower industry.

LAND USE

- Improve the existing residential neighborhoods.
- Maintain industrial/manufacturing sites for future job opportunities.
- Discourage retail strip malls on main streets.
- Coordinate with Santa Barbara County on population and growth.
- Alan Hancock College Lompoc expansion plans offer some opportunities.
- Needs to have a regional effort with Mission Hills Community Service District (CSD) and the County.
- Future development should provide play areas and partnership with Parks & recreation.
- Having a clean City should be more of a community effort; Property maintenance should be a policy.
- Expand the Lompoc Airport to improve economic opportunities.
- Airport highly underutilized.
- Air quality should be a concern – sulfur dioxide, plant on hills.
- Need to consider air quality for existing uses and new industry.
- Provide protection through land use and zoning.
- Against “stacked” overcrowded development/condos.
- Old Town Commercial zoning is problematic due to parking standards.
- Parking & setbacks requirements almost require merging of smaller 50-ft wide properties.
- Consider adopting an in-lieu parking program similar to San Luis Obispo City.
- Look at recently completed developments which are:
 - Aquatic center
 - Hospital
- Laurel Avenue project not great for yards & location.

AGRICULTURE

- Strong preference for Infill within the City and not on agricultural lands.
- The City should build on non-prime agriculture land.
- Williamson Act and preservation of agricultural land is critical.
- Protection of agriculture lands to west and potentially to east and northeast.
- Agriculture business community – land \$40k-50k/acre compared to \$80k/acre.
- Dust from agriculture could cause health problems.
- A good buffer between agricultural & residential is needed to protect agricultural operations.
- A 200ft - 300ft wide buffer with fencing, trees/hedges and groundcover.
- Leave crop discretion up to the farmer.
- Need an adequate buffers zone for agriculture.
- Night spraying vs. spraying during the day which could be windy.
- Night tillage is noisy & dusty.
- Night booster pumps for irrigation, the booster pumps are noisy and have bad lighting.
- No longer doing aerial spraying; done by tractors except for walnut trees & other types of trees.

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Stakeholder Interviews

November 28-29, 2007

- Santa Ynez River provides a good natural buffer.
- New state law may require fencing to separate agriculture area along the River.

INFILL

- Support infill on existing vacant and under-utilized lots before expanding City boundaries.
- Infill development typically occurs on smaller lots.
- Encouraged mixed-use (retail and residential) in infill areas.
- Possibly expand boundaries for more infill.
- Conduct a vacant lot inventory to identify redevelopment opportunities.

GROWTH

- Don't want to see major growth in the City -- about 1% a year for next 5 years.
- Need RHNA and countywide projections to base the vitality for new growth.
- Growth and new development should pay for itself.
- Infrastructure should precede development.

POTENTIAL EXPANSION AREAS

North (PXP):

- Some development to the North and Northeast of the City.
- Limited support for expanding to the North because there are too many houses in the unincorporated area.
- Limit growth to the North as the River creates a natural boundary.
- City should not be bound by the Santa Ynez River.
- Growth to North is a good idea, but concerns with the PXP annexation project.
- PXP annexation would be leap frog development and cause problems with intervening land that is owned by the State.
- Don't want responsibility for Harris Grade Road traffic problems if PXP is annexed.
- Primary concerns are road maintenance costs, fire protection, police patrol.
- A new fire department station at Burton Mesa & Harris Grade. would most likely be needed if the PXP property is annexed.
- One of the positives was that PXP is not on prime agriculture land.

South (Miguelito Canyon):

- Minimal support for expanding to the South to annex the Miguelito Canyon area.
- Growth South and East; Sweeny Road area would be a good place for growth and annexation.
- No development south of the City on the hills.
- Concerns with access in and out of the Canyon; roadways and access into the area need to be developed.
- Hard to build on the Canyon it has a semi-rural environment.
- Miguelito Canyon difficult area to protect & slow response time for both fire

- fighters and police.
- No hillside development except maybe ranchettes hidden from public view.
- Some people support annexation and development of Miguelito Canyon.
- Prefer new development to the south into hills and not into prime agriculture land.

East (Across the Santa Ynez River)

- Support for expanding to the East.
- Supports growth to the east of town; willing to jump the River to the east for possible build-out.
- Growth to the East will be affected by flooding as most property next to the River is within 100 year flood.

West (Bailey Avenue):

- Support for annexing Bailey Avenue corridor to create western City boundary and edge.
- City to expand Bailey West border and to the north.
- Sufficient component for a park in Bailey Avenue.
- Need a buffer in the City; Bailey Avenue might offer buffer.
- Bailey Avenue corridor up in the air as it will cause prime agricultural impacts.
- Not sure about Bailey Avenue development plan.

OPEN SPACE AND CONSERVATION

Preservation:

- Preserve Burton East and the north side of the City.
- Preserve the Santa Ynez River.
- Protect the agricultural lands to the west of the City.
- Keep existing open space as natural as possible.

CIRCULATION

Central Avenue:

- Central Ave extension is in the adopted General Plan.
- Central Avenue extension is a controversial project.
- Central Avenue extension is a priority to relieving congestion in central part of the City Near East Ocean and H Street.
- Central Ave Extension/Bridge likely needs state funding.
- Central Avenue extension politically charged and most likely not supported by shop owners on Ocean Avenue.

Hwy 246:

- 246 needs the most improvement.
- 246 should be widened between Dominguez Road to La Purisima Road and outside of the City.
- 246 and I Street intersection also has circulation problems.

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Stakeholder Interviews

November 28-29, 2007

H Street:

- Better bikeways on H Street.
- Concerned with displacement of retail uses to provide bike lanes.
- H Street & Central Avenue intersection need improvements.
- H Street and Pine Avenue are somewhat congested.
- Expand H Street towards Central.
- Need funding for H Street Bridge expansion.
- H Street traffic, the City infrastructure must be improved before/roads & traffic become apparent.
- H Street and Ocean Avenue have some circulation problems.
- H Street is bad during peak traffic times.
- Biggest concern with H Street & Central Avenue intersection is Caltrans control and lack of funding. In Santa Barbara County, Highway 101 will take all state funds for next 20 years.
- City receives approximately \$2.2 million per year for local streets from SB County Measure D funds. If Measure D is not renewed, the City has problems funding local street projects and maintaining streets.

Other Circulation:

- The only access to the City is over three bridges.
- Traffic impacts on A, O & V Streets need to be mitigated.
- Need resources to improve circulation.
- Possible Harris Grade Road improvement.
- Traffic congestion:
 - Not so bad, except at peak
 - "Wye" area at Purisma Highlands
 - Drive-in site connection
- Transit:
 - Bus system award winning
 - Pretty good ridership
 - Add bussing on Sundays
 - Need reliable inexpensive public transportation
 - Okay public transit, but underutilized
- Pine Avenue North is congestion.
- The "Wye" intersection – westbound left turn lane.
- The "Wye" area is congested because of the houses.
- Renewal of Measure D is important.
- Santa Barbara Association of Governments (SBCAG) feasibility Study for widening the 246 bridge or build another bridge is underway.
- City does not use LOS standards for roadway sections, except for consideration of Bridge width/# lanes.

- The south side of College & Laurel needs improvements.
- Need stop signs to increase safety & better safety near schools & parks during peak times.
- Circulation problems will come with growth – no one-way streets.
- Traffic on 7th and Ocean is a problem during peak hours.
- More bike paths connecting back to parks & other communities.
- Congestion in schools areas (high school & Allan Hancock).
- More north-south & east-west connection.
- Bike path – to connect to our parks, connect Lompoc to Santa Maria.

HOUSING

High End Housing:

- Need upper end housing.
- Need more upper end (retail and housing).
- More executive-level high-end housing.
- No million dollar homes in Lompoc.

Affordable Housing:

- Single family home – self sufficient.
- Need first time home buyer program.
- Need affordable housing RSLs.
- No adequate housing – cheaper to live in Santa Maria.
- Need affordable homes in Lompoc to support police.
- Offer a temporary housing loan of \$50,000 for new police.
- Need a professional housing complex for cadets & firefighters.
- 50% of the police department lives in Santa Maria need affordable housing for better retention of the police force.
- \$200,000-\$250,000 – homes for people that make \$10/hr.

High Density Housing:

- Housing – currently good range of stock in Lompoc Valley.
- Consider impacts on Lompoc community & need for housing.
- Density is not high enough as community could use more affordable housing (example: Centex homes for \$350,000).
- More fire protection resources (crews and equipment) for the taller buildings.
- Higher density leads to overcrowding and associated problems such as noise and lack of privacy.
- Concerned with apartment-style development without common space and architectural treatment.
- High density housing is older in Lompoc and in need of rehabilitation.
- 3rd Street has some high density development.
- Both end housing – low income housing, services providers vs. service users.
- Need policies to encourage developers to build “LEED approved homes”, possibly offer incentives instead of mandates.
- Housing site and building orientation should be considered before development.

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Stakeholder Interviews

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- Not enough variety in housing.
- Mixed-use with housing is a great idea. However, the type mixed-use should be resolved before development.
- More redevelopment needed.
- Laurel & V –has a 72 unit project.
- Ocean & R – Olson Co. expiring 73 units.
- VAFB recently privatized housing – 200-867 units.
- Prioritize housing at Vandenberg Air Force Base (VAFB).
- Future housing in areas without facilities – more busing.
- Laurel & O street – possible mixed-use development, multi-family housing.
- Housing & Rentals needed for students at Vandenberg and Allan Hancock.
- Fire Department supports alleys in commercial development, but not in residential areas.
- Police does not support alleys in residential neighborhoods.
- Enough million dollar homes – not attracting families.
- Maintain neighborhood feel & walking distance parks.
- Need homes with acreage so people can have animals.
- Possible housing off the 246 near Purisma Golf Course.
- Regional housing needs assessment (policy).
- Mission Village – O Street blighted housing/residential.
- Mixed-use considerations:
 - Chestnut Crossing – G-H Streets
 - Residential/commercial
 - Laurel Avenue opportunities
 - Trader Joes, Spencer's Market and Fresh Markets

WATER RESOURCES

Water:

- Concerns regarding the adequacy of utilities/services.
- Need supply and sewage treatment plant to be expandable.
- Water conservation is very important.
- Water consumption stable since 1981.
- Water rights in constant debate.
- 1990 toilet retrofit rebate program was successful.
- City needs water efficiency and conservation measures.

PUBLIC SERVICES AND FACILITIES

Public Facilities:

- The community needs better public facilities, especially for senior citizens.
- Lompoc Community Center to be replaced by parking lot for hospital.
- Need new site for Lompoc Community Center.
- More community outreach programs are needed.
- Need to think about aging population, senior living projects – make sure

- amenities included or are within walking distance.
- Social Service, mental health programs want to come here.

Schools:

- Lompoc Unified School District (LUSD) is declining in enrollment, which means less revenue and not attracting new families.
- Existing facilities sufficient for current enrollment.
- Don't have facilities for schools; the District needs to identify potential school sites.
- If needed, new school sites should go on west side.
- Different student generation rates for different housing types.
- Need better busing to all school sites with safe routes.
- Encourage Joint use parks/facilities such as the Aquatic Center.
- Funding not available so LUSD needs to consider purchasing at pre-develop cost.
- Future building where facilities don't occur will increase the need for new busing or a new school.
- Continue securing funding for schools.

Public Safety:

- Public safety is priority.
- Crime rate actually low for City, but there is still gang activity that must be monitored.
- Gang injunction in place –It's still a social issue. Gang forums and Public Safety forums are being held in the community.
- Police and the fire department still response to places outside the City like Miguelito Canyon & PXP.
- Police officers are under paid and are moving out of town to places like Santa Maria for a better paying job.
- You need .55 firefighters per 1000 people (400 units and only can support .8 of the fire fighters).
- Passive/Sprinklers good help for fire prevention on existing commercial.
- Residential 13R systems would be a good system (sprinkler system) possibly make it a requirement for new development.
- Fire sprinkler ordinance should be offered City wide.
- Fire has not had same retention problems as Police; there are 21 people in the Fire Department that stay and live in Lompoc.
- Strengthen public safety component within Safety Element.
- Approximately 75% of the General Fund is used for public safety, but the total revenues are inadequate for public safety.
- If City adds new development, we need to make sure police and fire fighters are meeting response criteria.
- Miguelito Canyon is difficult for police to access.
- Currently the Police go to River Park even though it is not in the City.
- Brand new communities require little assistance from police and fire department.

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Stakeholder Interviews

November 28-29, 2007

- Alleys good in commercial, not so good in residential (comment from the Fire Chief).
- People park in alley, easier in pursuit (comment from the Fire Police).
- Only 2 bridge to access community. What are we going to do if we have a natural emergency?

PARKS AND RECREATION

- Parks need better amenities, like a dog park.
- Pocket Parks throughout the City is a good idea.
- Need money to improve parks, improvement of funding should be looked at.
- We have park lands we just need to improve on existing parks - Ryon, Thompson, and Pioneer Park.
- Rehabilitate existing parks need new baseball field, basketball courts & soccer fields.
- Expand recreational programs.
- Park areas have doubled, but there is not enough staff or resources to take care of them.
- Adopt-a-Park program would be a good way to improve parks.
- Police & Fire Academy at Ken Adams Park.
- Sunset clause – Enterprise fund for parks.
- What about tax increase to improve parks? What type of funding is there for maintaining existing parks?
- Recycled water for parks could be an idea to save cost and is environmentally friendly.
- Possibly use private funding to help support the parks.
- Parks have inadequate funding, sad shape, consider privatization of parks.
- Park & Recreation Center on Walnut needs more parking.
- River Park has soccer tournaments which provide economic support.
- River Park should be in the City and geared towards recreation.
- Parks are neutral a neighborhood for gangs.
- Parks provides protection from sexual predators which are not allowed 2,000 ft near a park.
- Kids running rampant and congregate in groups in parks.
- New parks:
 - 11-12 soccer fields – River Bend Park near McLaughlin
 - Ken Allen park – 110 acres passive
 - Seabreeze Park
- Parks & recreation important:
- River Bend Park - soccer fields & baseball diamonds, BMX track.
- Great emphasis on park – same importance as Police/Fire.

Aquatic Center:

- 20% of the money goes to the Parks from the Aquatic Center.
- Aquatic center – mostly RDA funds \$13M - \$2M prop tax authorized.

November 28-29, 2007

- Community needs a new gymnasium for:
 - Basketball, boxing ring
 - Full size Parks & Rec. office
 - Skate parks

ECONOMIC DEVELOPMENT

- Make improvements to the golf course so it can be a nice resort to visit.
- Economic growth within the existing buildings and create new business.
- Attract businesses which don't need rail. Bring products by trucks.
- Congestion a disincentive to economic development.
- Retain existing businesses and help them grow.
- More new businesses like Raytheons.
- More cultural amenities for the diverse population within Lompoc.
- More shopping and retail centers.
- Attract higher end residents.
- Need venue for civic events.
- Need cultural amenities such as a destination/ meeting space.
- Need conference facility – cultural resources.
- Create more jobs for the local residents.
- Need more high tech jobs.
- Vandenberg Air Force Base and Lompoc Correctional Facilities offer opportunity for economic growth.
- Sales tax needs to stay in Lompoc and not in Santa Maria.
- Distribution of sales tax needs to be improved.
- What is the future of Vandenberg Air Force Base?
- What is the future of the Penitentiary facility?
- Bring in manufacturing, retail and businesses such as Home Depot.
- Continue to attract retail and higher end jobs.
- ½ cent sales tax increase for 11 police & fire personnel on ballot in February.

- Economic development:
 - Police and fire academy potential.
 - City may give up additional park land for AHC expansion plus police & fire academy.
 - Previous industrial lands converted – halt this and provide more space.
 - 60 acres to build a Target.
- Economic development an issue – City not doing enough:
 - Everybody trying to attract high-paying jobs.
 - Lots of competition.
 - Need adequate land availability for additional housing.
 - Capabilities for industry in buildings.
- Improving business environment is a key issue.
- Facilitating Economic Development key priority.
- Need Incubator industries and R&D companies.
- Priorities: bring in more industry, especially high-tech industry, followed by shopping, restaurants.

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Stakeholder Interviews

November 28-29, 2007

DOWNTOWN REVITALIZATION

- Downtown grow develop and make a destination.
- Development downtown revitalization program.
- Preserve the existing historical district such as:
 - Historical element LAHCDC – old town theater
 - Chestnut theater
 - Historic homes
- Mixed-use should be in the downtown area.
- Downtown needs to change & develop and have an old town vision and how to make it a benefit to community.
- Create some type of downtown character.
- Theater renovation – Ocean & H are keystone for Old Town – Chestnut Crossing entry.
- Increase mixed-use in downtown.
- More trash collectors, we need a clean downtown.
- Need to tidy up downtown & give attention to aesthetics.
- Downtown buildings are attractive.
- Downtown should have some mixed-use areas.

URBAN DESIGN/ INNOVATION

- Innovative – Technology (WiFi) – High speed internet.
- Utilize energy efficiency products and new technology to promote growth.
- More technically savvy – electronically oriented business (continues and moves faster on this).
- Cutting Edge:
 - Greening of the City.
 - New Aquatic center.
 - S.F.H – self sufficiency.
 - Vehicles fuel efficiency of net producers.
 - Working with Chevron project – planned aquatic center for fuel cells.
- Urban use within the City should be considered.
- Urban uses ought to be in urban areas/cities.
- High tech jobs, QAD, software, programmer.

- Other cities should be considered for the development of new policies.
- Council caused problem – important to complete the General Plan.
- Lompoc is hard to work with change of info at counter regarding zoning and General Plan.
- More flexibility in zoning to allow mix of densities.

FINANCE

- RDA already low assessed valuation – so projection is to go higher despite market downturn.

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Stakeholder Interviews

November 28-29, 2007

- Aquatic Center was built with a bond issue in 2004.
- The three biggest revenues:
 - Property tax – 16-17% average take / 12.1% for newly annexed land.
 - Sales tax.
 - Vehicle License Fee (VLF) now growing based on assessed valuation.
- The annual fund is approximately \$28.5 M/yr.
- Passage of a ½ cent sales tax would free up General funds.
- Measure D loss impact:
 - \$2.2 M/yr annually.
 - Streets and sidewalks are a maintenance problems.
 - 40-45% of what is spent.
- \$7-8k/du impact fees for capital improvements and acquisition of new park lands.
- Money for maintenance is barely adequate.
- Development Impact Fees (DIF) were last updated in December 2003, and are adjusted yearly on July 1st.
- Density an issue for MU/old town area and residential parking.
- As growth is added, the City should look for development to pay for services – new homes more property tax.
- City gets Vehicle License Fees (VLF) backfill from State. VLF is driven by the assessed valuation growth.
- Roads – loss of Measure D (40% of that is currently spent on road repair).
- Re: Industries, incentives, reduce business tax on sliding scale.

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LOMPOC GENERAL PLAN UPDATE
Neighborhood Meeting

December 12, 2007

AGENDA
Lompoc General Plan Update
Neighborhood Meeting
December 12, 2007

1. Opening Remarks
2. Introduction of Project Team
3. What is a General Plan and why is it being updated?
4. General Plan Update Process
5. Summary of General Plan Goals and Policies (Land Use, Circulation, and Housing)
6. Vision Exercise
 - Strengths
 - Areas of Improvement
 - Opportunities
 - Neighborhood Image
7. Questions or Comments
8. Next Steps

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LOMPOC GENERAL PLAN UPDATE

Neighborhood Meeting

December 12, 2007



December 12, 2007

Neighborhood Meeting

December 12, 2007

The project team held their first neighborhood meeting for the City's General Plan Update on December 12, 2007. At this neighborhood meeting the project team explained what a general plan is and why it is being update. The community members who attended this meeting were asked a series of questions on the City's vision, strengths, areas of improvement, opportunities and neighborhood image. The following responses were received during the neighborhood meeting.

Comments from meeting:

- I like low density housing.
- Protect view sheds and hillsides.
- Protect agriculture land to the west.
- Building height should be kept at a minimum level.
- Provide land for expanded economic development.
- Maintain an old town character of a neighborhood.
- Develop the old town and make it pedestrian friendly.
- Develop the historic district.
- Maintain the quality of life in Lompoc.
- I worked on general plan committee. I am very interested in the process.
- I would like for the zoning to change back to R-2 zone. We built a 3 bedroom, 3 ½ bathroom, double car garage, yet we can't cook. I have a kitchen but no cooking allowed. I can have an outdoor patio kitchen. I can cook outside but can't cook inside.
- The development of the farmland that is now Home Depot will always be a huge blight on the city. What a travesty that our city council could be so short sighted for the almighty dollar. Now the area of the old gretco site is for sale again. Why hasn't the city already purchased that site? Stop spending money on wifi which should be a private concern and consider that area for a new police/city hall in the future.
- The foolish placement of the new hospital next to Home Depot makes me wonder if anyone has a brain. Where is the area to expand the hospital? The city has to demolish the senior center that cost tax payers \$1 million and to develop for hospital parking. The lack of common sense and vision is astounding.
- Southside should have low density.
- Very few apartments should be in the south side.
- Availability of water should be a concern to future development.
- Should not the beginning of a development plan start with the water aquifers ability to serve the inhabitants. Remember, the population voted against state water.
- Great effort in having a community meeting. I think we need some chamber leaders at the meetings since a lot of questions are about economy...jobs, shops, entertaining...we need to clean up the town.

We want:

- Low density on the south side.
- No development of hill sides to the south of Lompoc.

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Neighborhood Meeting

December 12, 2007

- Protection of the character and quality of life of the south side.
- Protection and preservation of historic homes and areas.
- Protection of the historic Italian Stone Pines on south "H" street.
- I would like to see in Lompoc a place where kids can go after school instead of being in the streets. Yes there is a place but it's too expensive. My daughters are already big and the really need that growing up. But I have nieces who need a place for them to go after school, instead of joining a gang. I have already gone through that and it was horrible. Thank you. (Cecilia R. 417 E. St)

THINGS PEOPLE LIKE ABOUT THEIR COMMUNITY

- *Low density on the south side of town.
- Protect existing view sheds.
- The Ag land to the west should be protected.
- Like the low traffic flow in town.
- Like the view shed looking down.
- *Like low residential housing.
- Three story height limit around town.
- Keep Lompoc at a low crime rate.
- Possibly build in the mountain area.
- Keep the Ag land we have.
- *Like the small town feel and quality of life.
- Like the view shed of the hills, they should protect the city's natural beauty.
- Historic preservation of the mission and school.
- Like mixed used zoning on W. Chestnut.
- Like backyards for housing.
- Like neighborhood gardens in back or front yards.
- Like existing street trees and historical trees should be preserved.
- People like being able to park in public areas.
- Like the quietness a small town brings to the community.
- The existing view shed on the hill side.
- The existing alleys are a great use for the neighborhoods.
- Old town should look like it belongs to Lompoc, possibly similar to Arroyo Grande.
- Like the small business around town, more should be developed.
- Old town is friendly to small business.
- Lompoc is a nice environment to live and have a family to take care of.

* These are things people really liked about their community.

AREAS FOR IMPROVEMENT

- More adequate parking should be improved.
- People would like to see good plans with quality design.
- Protect and enhance the mission.
- Preserve historic mission site.
- Preserve the existing historic neighborhood on the south side of town.
- Old town theater improvements would bring the downtown character to life.

- The entertainment scene downtown should be redeveloped.
- Improve the theater.
- Walk ability around old town market.
- Consultants should “experience” downtown Lompoc.
- People like to see a thriving downtown.
- Entrance to the city should improve.
- More sports fields around town for the youth to enjoy.
- More community participation for the general plan process will help create a better plan.
- Create a south side improvement for entertainment for a small community.
- The city should attract industry.
- Protect the existing Ag land to the west.
- Buildings should be limited to three stories.
- Protect low density character of the neighborhood.
- Bring/ increase law enforcement in residential neighborhoods.
- Locate properties for infill to prevent sprawl.
- Improve sidewalk network- handicapped accessible, trees are uprooting sidewalks.
- Don’t want traffic problems like Santa Barbara.
- Preserve/ emphasize cultural amenities.
- Respect dark skies program.
- No residential development on hillsides.
- Protect south side view shed.
- Trail through south side view shed.
- Protect quality of hillside development through annex.
- Opportunity to convert OTC parking lots to mixed use.
- How do you get out of town during a natural disaster?
- How will the City pay for additional police and fire if the population grows?
- Need adequate parking for residential (2 is not enough).
- Bike path should be provided enhanced along river.
- Enhance tourism.
- Why should people go to Lompoc?
- No a lot to do in Lompoc.
- Improve city process for senior housing apartment complex. Make it easier for “good” development.
- Where have all the alleys gone?
- Improve aesthetic quality of sound walls.
- No gated communities.
- Alley’s are in need of repair.
- Public trail on the south side should be created for the community to enjoy.
- Would like to see a bicycle path where people can ride their bikes safely around town.
- Low income housing should be provided for young professionals trying to start a family.

OPPORTUNITIES

- Light industrial to provide jobs.

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Neighborhood Meeting

December 12, 2007

Sign in sheet

Name	Address	E-mail
John Ruskoski	530 S. K. St	Surfbeachjohn@hotmail.com
Jean Justin Rutge	525 Brookside Dr.	
* John Thermos	321 S. G. St.	Jlthermos@aol.com
* Cecilia Rojas	417 S. G. St.	
Mario Barajas	310 S. G. St.	
C. Mitchell	1004 W.Fir Ave	Charlie@artspad.net
Armandi and Al Hull	226 S. D. St.	
* Tom Milburn	509 S. P. St.	tmilburn@verizon.net
Jay Browder	403 S. H. St.	
* Robert Signorelli	605 Colemon Drive	
Manfrina Merle	501 San Pasqueal	
* Margaret Dover	308 Princeton Place.	
* Rennie Dover	11 526 27 th Ave. SE. Everett WA 98208	Rennie.dover@isumedia.com
* Mark Dubose	218 S. O St.	hzowzrd@aol.com
* Esther Espinoza	3145 Fredrich Dr.	espiboys@verizon.net
Dinah Lockhart	100 Civic Ctr.	
* Butch Browder	403 S. H. St.	
* Lorin Bronson	2. G. St	lbronzon@impluse.net
Ray Leslie	500 Willow	
Barry Weave	652 University	barryweave@mac.com
Will Schkyler	C	
* Judy & Arthur Clifford	1004 W. Fir	judy@artspad.net

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE
Neighborhood Meeting

December 12, 2007

Sign in sheet

Name	Address	E-mail
		art@artspad.net
* Diaz	520 S. B. St.	
Mike Siminski	428 S. A. St.	lompocski@gmail.com
Louisa Aylinson	1273 Miguelito Rd.	
Joseph & Alice Milligan	519 W. Locust	amills@verizon.net
Sonny Arnold	433 S. J. St.	
Arlen Sechrest	520 S. M. St.	
Michelel Vass		
* Kathleen Raplan	924 W. Lime Ave.	akakaplan@aol.com
Robin Bronzon	411 S. G. St. Lompoc, CA 93438	
* Nicholas Gonzales	P.O. Box 776 Lompoc, CA 93438	
* John & Sally	236 S. J. St.	
* Joan & Ed Edman	229 S. D. St.	jjedman@aol.com
Frank D. Dover	308 Princeton	
* Jaime Dover	P.O. Box 1485 APO AP 96555	Jaime.dover@smack.smdc.army.mil
* Martha Barajas	310 S. G. St.	736-1503
Dick Gurnil	656 University Dr.	Dve4@verizon.net
* Glenn Wallace	Village	gwallace@lompocrecord.com

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Neighborhood Meeting

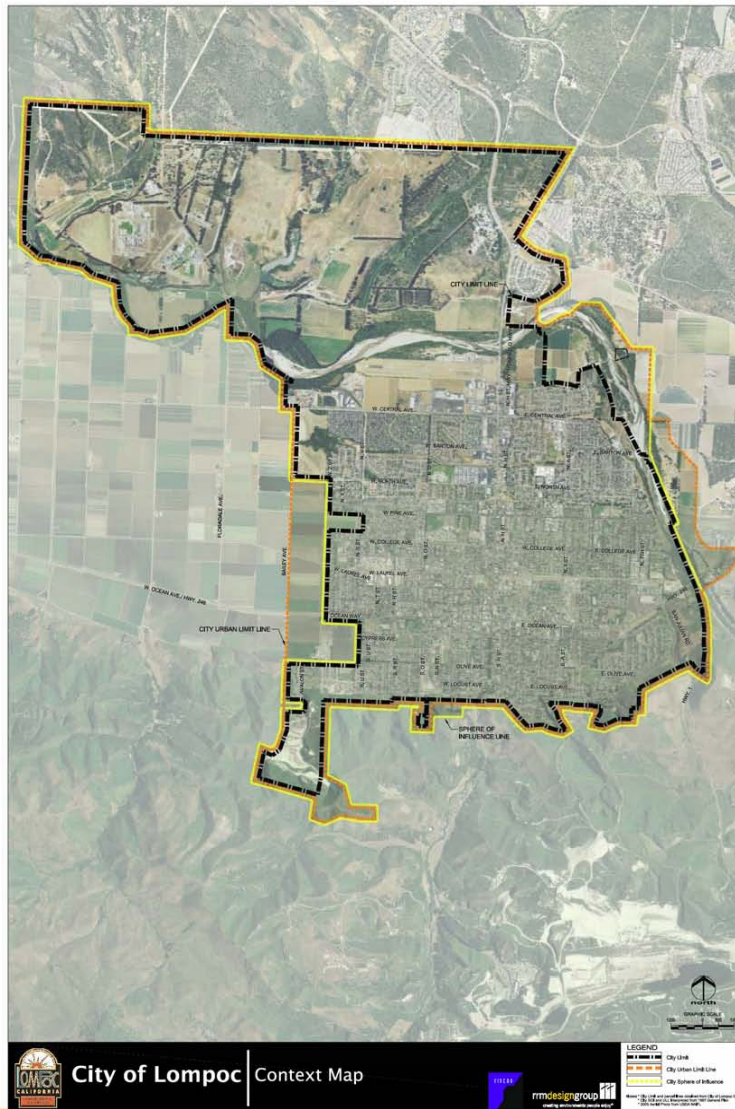
December 12, 2007



HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE
Neighborhood Meeting

December 12, 2007

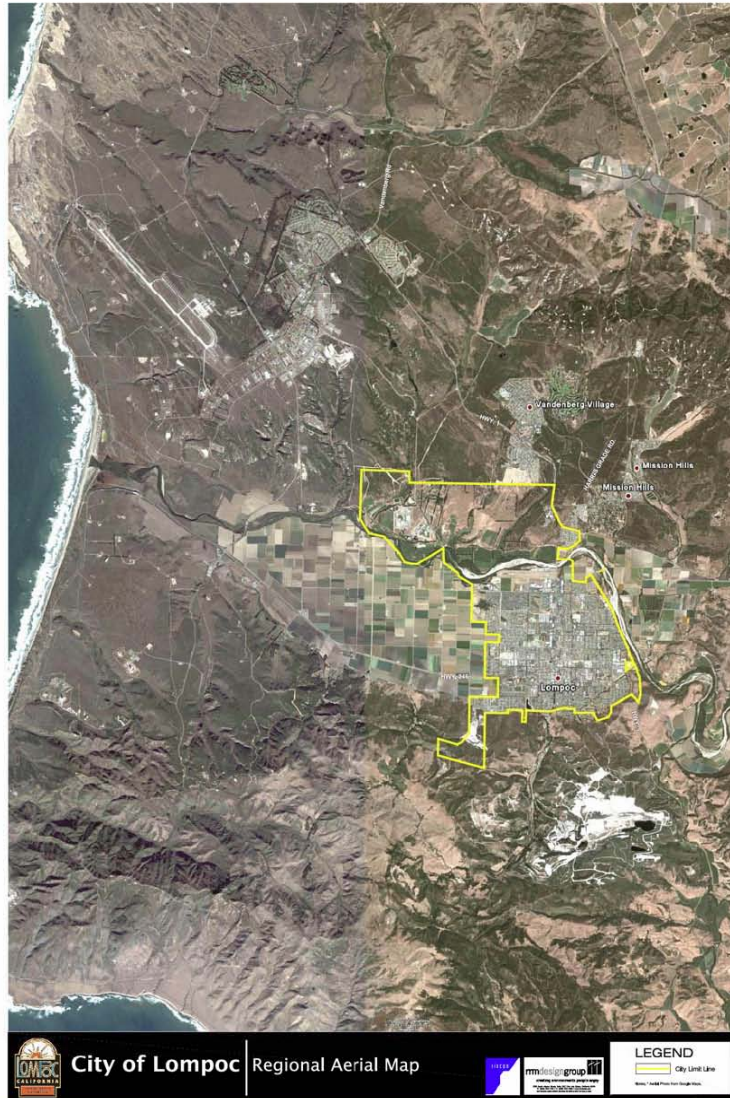


HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Neighborhood Meeting

December 12, 2007



HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE
Neighborhood Meeting

December 12, 2007



HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE



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AGENDA

Lompoc General Plan Update
Public Workshop
January 12, 2008 (9-11 am)

1. Opening Remarks
2. Introduction of Project Team
3. General Plan 101 (What is a General Plan?)
4. General Plan Update Process
5. Summary of Stakeholder Interviews and Neighborhood Meeting
6. General Plan Goals for Land Use, Circulation and Housing
7. Community Participation Exercise
8. Questions or Comments
9. Next Steps

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

On January 12, 2008, the project team held their first public workshop for the City's General Plan Update. At this public workshop the project team gave a presentation about the General Plan Update Process. They also presented a summary of the stakeholder interviews and of the neighborhood meetings. After this they discussed some of the General Plan goals for Land Use, Circulation and Housing. The following are comments and visions people from the community write.

COMMENT CARD FEEDBACK

VISION/COMMENTS

- Downtown should be vibrant pedestrian friendly.
- More businesses and light industry to improve tax base.
- Preserve the agriculture land.
- Preserve the south-side hillside – no building in hills.

VISION/COMMENTS

- Vibrant downtown.
- No development of prime land west / hillsides south of city. Develop rec opportunities east of city by River Park.

COMMENTS

- Find a way to use vacant buildings before putting up new ones.
- Don't expand to east in agriculture land.
- Emphasize the Mission.
- Downplay the Prison.
- Sidewalks needed in older areas of town.

VISION

- Preserve Lompoc's Unique Surroundings (PLUS)

COMMENTS

- Recognize our true assets – the beauty of the area
- Assets: Since we are not on the beaten path (Hwy 101), we should protect and enhance the pluses.
- Provide Community Center –discourage strip development and cutting up of large parcels (agriculture)
- Don't create what everyone is running from! We are fortunate to be away from the mass hysteria of large cities.

CITY IDENTITY

1. NOT maximum security prison (heard too often)
2. La Purisma Mission
3. Rural environmental area – agriculture + Burton Mesa, Reserve
4. Cultural advantages – enhance art & music

VISION

1. Establish development quadrants (neighborhood identity).
2. Industrial/business incentives to expand job base (first year incentives).
3. Ocean + H old town historical culture
Central + H “strip mall” new age culture
4. Improve public facility appearance

SURVEY

- Put on website to broaden response?
- Distribute in utility bills?

VISION

- To see manufacturing well-paying jobs to come here and give commuters and young people a place to work and stay here to help raise our tax bas and help the local economy grow.

VISION

- A community with adequate tax income – property and sales – to provide good public safety, roads, recreation, cultural and educational services to the community.

VISION

- Vibrant and thriving community with a healthy economic sector. Businesses are here and we’re maintaining character of downtown and retaining local dollars.

COMMENTS

- First, how do we attract these businesses to Lompoc?

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

COMMENTS

- Continue improving the downtown area with mixed use, small malls, little shops and restaurants but also provide activities for youth that include such things as art activities, arcades, bowling, games, ping-pong, etc. Continue with arts and flowers, cultural activities, concerts, etc.
- Continue growing south, utilize the hills in a planned and responsible growth as well as hiking trails, bike areas, horseback riding trails.
- Convenient porta-potties for bicyclists on their rides.
- Finish the sidewalks in town.
- Provide more bicycle routes to get from one side of town to the other.

VISION

- Continue to improve downtown area to attract circulation/gatherings.
- Rehabilitate streets/parks
- Continue expansion into wine industry

COMMENTS

- Economic development is lacking and is key to our future! Is it premature for identity: flower, wines
- Economic development is key issue.

VISION

- "Downtown theme" to build on: i.e. Anaheim/Disneyland, San Antonio/The Alamo, Buena Park/Knotts Berry Farm, Pebble Beach/Golf city, Valencia/Magic Mountain

VISION

- Create an environment which encourages people to realize their hopes and dreams.

COMMENTS

- When showing the high density housing examples – the next question should have been "Is it okay next to your house?".

VISION

- Safest community in California
- Clean-up (race) areas currently in "blight" condition; Replace with newer homes and community businesses.

VISION

- H St. and Ocean St. area should be the City's energy center (not just for tourists)

COMMENTS

- I think the "arts" and flowers are stupid. The murals are fine, but I don't see this as a city identity.
- Focus should be for residents, not tourists, etc. I don't want Lompoc to be like strip-mall Santa Maria, but not like touristy Solvang, etc.
- I do not support the Lompoc Theatre redevelopment.

VISION

- An all-weather crossing from Rucker to A so I could enjoy Lompoc without the frustration of "Y." I would also feel safer with an alternative method of emergency exiting the Mission Hills / Mesa Oaks area.

COMMENTS

- The last slides dealing with architecture had dark lettering and were difficult to read
- The last slides emphasized interests of developers – is this the main focus of the General Plan?
- Some poorly constructed questions.

VISION

- Lompoc becomes a community that promotes walking, biking and neighborhoods conducive to physical activity and decreasing car traffic.

COMMENTS

- Clickers are a nice way to get audience involvement, but their use for so many questions controls the agenda excessively and does not allow for adequate comment.

VISION

- First, clean-up the town: weeds, vacant buildings, general decay.
- Mixed-use downtown: pedestrian areas only where people can meet, talk, possibly along mural walk.

VISION

- Enjoyment of the river as a community gathering area for sports, recreation and events.

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

VISION

- Have all existing commercial, retail, and industrial property look occupied and try to get them occupied.

COMMENTS

- Do not plan for bridge across Santa Ynez River at Central Avenue, but plan to improve Robinson Bridge near River Park and Hwy 246 from Purisima Road to Robinson Bridge.
- No PXP housing projects.
- Protect viewshed on south-side hills.
- City identity: physical environment/surroundings plus Flowers & Arts (need public arts project).
- Infill first – intelligent growth: build up, not out.
- Neighborhoods – maintain some, redo others.

VISION

1. Compact urban form with adequate land for housing, retails, public service and parks. Balanced community.
2. Comprehensive circulation system for movement of people and goods.
3. Provide for a variety of housing for income groups.
4. Preservation of historically significant resources.

VISION

- Complete sidewalks along main thoroughfare. Positively rehabilitate downtown with mixed use, not just lip service to do it includes the “condemned building.” Follow through with “village” development on east side near old Grefco site. We have not used the talents/skills of our citizens.
- Non-existent sidewalks on busy streets.

COMMENTS

- Please identify those “stakeholders” with whom you met prior to this workshop. What was their input?
- How will the Lompoc General Plan dovetail as a comprehensive plan which is totally outdated in the 4th Sup. District of Santa Barbara County?

VISION

- Encourage more business in downtown area and have more activities for young people.

- Clean up the town so it looks more inviting to visit and shop.
- Expand circulation to include the extension of Central Avenue.

VISION

- Improve or change location of post office. Presently it is a traffic hazard and not enough parking spaces. As Lompoc grows the post office needs to be considered in the growth.
- Sidewalks need to be improved.
- Street cleaner is not used frequently enough.
- Enforcement of keeping properties in good condition.

VISION

- Since development has already been done east of Bailey Road, why not develop and include in the city limits the land south of the present development all the way to Hwy 246 sometime in the future?
- Build on southern hills to preserve agricultural land.
- Extend East Central across the river to Hwy 246.
- Utilized the vacant lots before expanding city limits.
- Clean up the city. Get vehicles that are parked long term off the street.
- Replace many sub-standard sidewalks and install sidewalks where there are none.

VISION

- Stress quality, aesthetics, recreation opportunities for youth improve/repair vs. expanding facilities that support tourists/community.

COMMENTS

- City identity: Compact/small surrounded by beautiful rural agriculture. No sprawl, this means preserve and support agriculture rather than gradually wiping out agriculture

VISION

- I would like to see fewer empty buildings when I drive around town. But if they must be empty, I would like to see them better maintained.

COMMENTS

- Please check spelling in your questions and consider rewording some of the questions (those that appeared to be statements).

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

VISION

- Complete and expand systems of bikeways to the point that I could ride from V to 7th without riding on a major street and from Vandenberg Village to City Hall without riding on Hwy 1.
- Be able to walk easily through the community without needing to go around blind neighborhoods. For example, no cul-de-sac should stop you from walking out of a neighborhood. There ought to be an opening to the next street for bikes and pedestrians.
- Housing for elderly disabled to take into account they do not drive.
- No sidewalk on Hwy 1 to new developments.

VISION

- We need a Convention Center.
- Improve Hwy 246 to four lanes to Buellton
- Annex east side of river.
- Extend City Sphere of Influence to "wye" valley.
- Annex high volume facilities outside city.
- Promote growth to provide income for city.
- Extend Central Avenue to Hwy 246.

COMMENTS

- Half of Lompoc commutes, none of them are here to comment.

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

Sign in sheet

name	address
Doris J. Lawrence	535A North F Street
John Lawrence	535A North F Street
Art Hibbits	1251 E. Hwy 246, Lompoc
Judith Grames-Lyra	126 N. L, Lompoc
Ron Fink	1332 North E
Al Thompson	1509 E. Cherry Drive
Helen Free	408 Nogal, Lompoc, CA 93436
Frank Hain	317 S. I Street, Lompoc, CA 93436
Alan Rudge	
Justin	
S. A. Johnson	1585 Calle Portes, Lompoc, CA 93436
Gina Lopez	City Hall
Jan Keller	P.O. Box 504, Lompoc, CA 93438
Dorene Wellck	804 N. M, Lompoc, CA 93436
Morgann T. Jack	Mesa Oaks, Lompoc, CA 93436
Will Schuyler	City Hall
Barry Weaver	652 University
Derek Hansen	1337 North E Court, Lompoc, CA 93436
Dick DeWees	City Hall
Frances Romero	UPC
Frank Young	P.O. Box 2760, Lompoc
Tim Dabney	Police

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

Sign in sheet





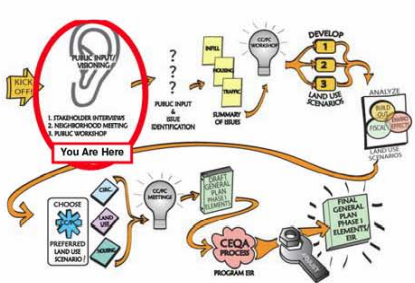
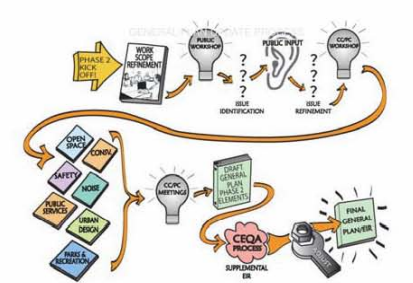
Margaret Weiss	1336 N. G Street, Lompoc
Lena Kaye	512 E. Locust Avenue, Lompoc
Joyce Horin	335 S. H Street
Mike Simimli	428 S. A, 7369365
Ed Shoemaker	805 W. Date, Lompoc
S. ----	1336 N. G Street, Lompoc
Steve Milligan	519 W. Locust, Lompoc
Florence Pata	10 Cambridge Drive, Lompoc
Carol Nash	432 St. Andrews Way, Lompoc
Darrell Tullis	420 S. C Street, Lompoc

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

 <p>CITY OF LOMPOC</p> <p>General Plan Update Workshop #1</p>	<p>Project Team</p> <p>City of Lompoc Arleen Pelster, AICP Community Development Director Lucille T. Breese, AICP City Planner Dinah Lockhart, Community Development Program Manager</p> <p>Rincon Consultants, Inc. Richard Daulton, Environmental Planning Manager Rob Mullane, Senior Planner</p> <p>RRM Design Group John Shoals, Principal Planner Josh Cross, Senior Planner Lance Wierschem, Assistant Planner</p> 
<p>General Plan</p> <ul style="list-style-type: none"> City's "blueprint" for land use planning. 7 state mandated elements: <i>circulation, conservation, housing, land use, noise, open space and safety.</i> <i>Optional elements may be added (recreation, economic dev.)</i> A comprehensive long-term (10 to 20 years) plan for the physical development of the city and related lands outside city boundaries. Establishes Goals, Policies, Objectives and Programs. 	<p>General Plan</p> <ul style="list-style-type: none"> Identifies community's priorities and vision for the future of the City Provides goals, policies, and implementation measures Long-term horizon, but provides general direction for day-to-day planning decisions Must be internally consistent and consistent with zoning Plans and projects must be consistent with the General Plan 
 <p>General Plan Update Process - Phase 1</p> <p>The diagram shows a flow from 'Public Input Visioning' (circled in red) through 'Public Input & Site Identification' to 'Develop Land Use Scenarios'. It includes steps like 'Stakeholder Interviews', 'Neighborhood Meeting', and 'Public Workshop'. A 'You Are Here' marker is placed at the 'Public Input Visioning' stage.</p>	 <p>General Plan Update Process - Phase 2</p> <p>The diagram shows a flow from 'Public Input' through 'Public Workshop' to 'Public Input' and 'Site Identification'. It includes steps like 'Public Meeting', 'Draft General Plan Elements', and 'CEQA Process Supplemental IR'. A 'Final General Plan' is shown at the end.</p>

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LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

<p>Land Use Goals</p> <ul style="list-style-type: none"> GOAL 1: Maintain a compact urban form and growth pattern which, provides adequate space to meet housing, employment, business and public service needs. GOAL 2: Protect and enhance the quality of life of Lompoc residents through the creation and maintenance of affordable, attractive and well-served residential neighborhoods. GOAL 3: Provide and maintain opportunities for diversity of commercial and industrial enterprises to meet the goods, services and employment needs of Lompoc Valley residents, as well as to attain a balance of employment and housing within the Lompoc Valley. GOAL 4: Maintain high-quality public facilities and services. 	<p>Land Use Goals</p> <ul style="list-style-type: none"> GOAL 5: Protect the Lompoc Valley's natural resources. GOAL 6: Protect the community against natural and man-made hazards. GOAL 7: Preserve and protect the highest quality agricultural soils. GOAL 8: Protect and encourage agricultural-support businesses. GOAL 9: Preserve the continued production of specialty crops which are unique to the region. 
<p>Circulation Goals</p> <ul style="list-style-type: none"> GOAL 1: Maximize the efficiency, quality and safety of a multi-modal circulation system which provides for the movement of people, goods, and services to serve the internal circulation needs of the City, while also addressing through travel needs. GOAL 2: Minimize the public's exposure to circulation related noise and safety hazards. GOAL 3: Maximize the viability and convenience of transportation modes that reduce automobile use. GOAL 4: Protect and enhance the visual quality of Lompoc's circulation system. GOAL 5: Reduce automobile use and the associated emissions by maintaining a compact and well-designed urban form which encourages alternative transportation modes. 	<p>Housing Goals</p> <ul style="list-style-type: none"> GOAL 1: Provide a choice of housing opportunities for all economic segments of the community. GOAL 2: Restore, protect and improve the condition of existing housing and neighborhoods. GOAL 3: Locate and design housing so as to assure an attractive and high quality living environment. GOAL 4: Maximize energy efficiency in existing and future residential development. 
<p>Community Input</p>  	<p>Community Input</p> <ul style="list-style-type: none"> Community Identity <ul style="list-style-type: none"> - Don't want to look like Santa Maria - Create an attraction for tourism - Support and develop wine industry - Continue murals program - Capitalize on cut flower industry - Renovate theatre - Have a downtown farmers market 

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008



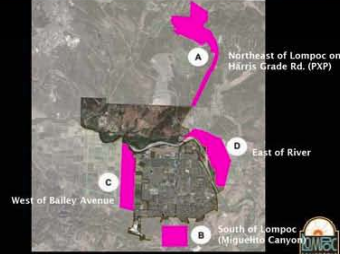







<p>Community Input</p> <ul style="list-style-type: none"> · Land Use <ul style="list-style-type: none"> - Grow north but not PXP - Prefer new development to go south into the hills and away from prime ag land - Do not build on the southern hillsides - Encourage infill development - Protect ag lands to west, east, and north - Maintain industrial/manufacturing sites 	<p>Community Input</p> <ul style="list-style-type: none"> · Growth <ul style="list-style-type: none"> - Don't want to see more than 1% growth per year - The river creates a natural buffer to the north and east - no growth past river - Willing to jump river to the east - Encourage infill development along H Street - Develop north of Lompoc within City limits 
<p>Community Input</p> <ul style="list-style-type: none"> · Housing <ul style="list-style-type: none"> - Need upper end housing - we have enough - Need 1st time buyer program - singles, families - Cheaper to live in Santa Maria - Need to allow for higher density residential to drive down prices - Against apartments - Provide incentives for "green" building - Not enough variety in housing/ enough variety - Mixed-use is a great idea 	<p>Community Input</p> <ul style="list-style-type: none"> · Public Facilities <ul style="list-style-type: none"> - Need facilities for seniors - senior center - Need potential school sites - new school should go on west side - Need better bussing to schools - Provide a public trail on the south - Provide a bike trail along the river 
<p>Community Input</p> <ul style="list-style-type: none"> · Parks & Rec <ul style="list-style-type: none"> - Parks need better amenities - Parks need funding for rehabilitation - Need more staff and resources to maintain parks - Implement an adopt-a-park program for maintenance 	<p>Community Input</p> <ul style="list-style-type: none"> · Circulation <ul style="list-style-type: none"> - Hwy 246 needs the most change - Expand H Street toward Central - H Street is bad during peak traffic times - Traffic congestion at the "Y" - Bus system is award winning - Congestion near schools is a problem - Need more north-south connections 

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

<p>Community Input</p> <ul style="list-style-type: none"> · Downtown <ul style="list-style-type: none"> - Make downtown a destination - Preserve Chestnut theatre & historic homes - Mixed use needs to be incorporated into downtown - Downtown needs to be cleaned up - Downtown buildings are attractive - Downtown needs to embrace Lompoc's character 	<p>Community Input</p> <ul style="list-style-type: none"> · Vision <ul style="list-style-type: none"> - Improve Old Town with restaurants, shopping and cultural activities 
<p>Where do you see Lompoc physically growing over the next 10-20 years?</p>  	<p>Which of these road improvements is the most critical?</p>  
<p>Pursue infill/intensification of H street corridor between College Ave. and Ocean Ave.</p>  	<p>Infill/Underutilized Parcels</p>  <p>Hercules, CA</p> 

Response Report

Session: Lompoc General Plan Questionnaire

Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

1	Do you live in Lompoc?	
A	84%	Yes
B	16%	No

2	Do you own or rent your home?	
A	13%	Rent
B	87%	Own

3	What is your household size?	
A	16%	One person
B	58%	Two people
C	10%	Three people
D	10%	Four people
E	6%	Five or more people

4	In what type of house do you reside?	
A	10%	Apartment/condo
B	0%	Mobile home
C	84%	Single family
D	6%	Duplex

5	When were you born?	
A	0%	Before 1924
B	48%	1925 - 1939
C	32%	1940 - 1959
D	19%	1960 - 1979
E	0%	1980 - Present

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HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Public Workshop

January 12, 2008

Response Report

Page 2

Session: Lompoc General Plan Questionnaire

Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

6 What City do you work in?		
A	39%	Lompoc
B	0%	Bueliton
C	0%	Santa Maria
D	3%	Santa Barbara
E	58%	Other/ I don't work

7 What does Lompoc mean?		
A	17%	Valley of flowers
B	7%	Mountain basin
C	67%	Little lake
D	10%	Named after the Chumash Indian leader - Chief Lompoc

8 What do you like best about Lompoc?		
A	48%	Small town
B	29%	Friendly people
C	0%	Schools
D	6%	Housing costs
E	16%	Location in the County

9 What do you dislike most about Lompoc?		
A	3%	Parking in the downtown
B	32%	Lack of entertainment/ activities
C	3%	Lack of housing choices
D	42%	Lack of good paying jobs
E	19%	Other

10 Where do you shop for clothing?		
A	3%	Online
B	55%	In Lompoc
C	41%	Outside Lompoc

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Response Report

Session: Lompoc General Plan Questionnaire

Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

11	Where do you shop for electronics and large appliances?	
A	6%	Online
B	39%	In Lompoc
C	55%	Outside Lompoc

12	What should be the city's top priority?	
A	45%	Economic development
B	6%	Agricultural preservation
C	13%	Water conservation
D	10%	Housing that is affordable to the average person
E	26%	Developing/enhancing community identity

13	What area do you believe needs the most improvement?	
A	13%	Streets
B	17%	Parks
C	27%	Public Services
D	43%	City identity
E	0%	Housing options

14	Would you support mixed use (retail and housing) projects on "H" street outside the downtown area?	
A	80%	Yes
B	20%	No

15	Where should the city physically grow over the next 10-20 years?	
A	31%	Northeast of Lompoc on Harris Grade Rd.
B	19%	South (Miguelito Canyon)
C	12%	West of Bailey Avenue
D	25%	East of the River
E	12%	All of the above

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LOMPOC GENERAL PLAN UPDATE

Public Workshop

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Response Report

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Session: Lompoc General Plan Questionnaire

Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

16	What public facilities are needed in the community?	
A	0%	Senior center
B	23%	Community center
C	48%	Police/Fire substations
D	19%	Cultural center/ museum
E	10%	Other

17	Is traffic circulation and traffic safety an issue in Lompoc?	
A	87%	Yes
B	13%	No

18	Which of these road improvements is the most critical?	
A	24%	Central Ave. Bridge/ Extension
B	21%	The widening of Hwy 246 outside city limits
C	7%	The intersection of H St. and Central Avenue
D	41%	The Wye intersection
E	7%	H St. and Ocean Avenue

19	Would you use public transit if it were convenient and accessible?	
A	53%	Yes
B	47%	No

20	Would you ride a bicycle if there were bikeways to your destination?	
A	34%	Yes
B	55%	No
C	10%	Depends

21	Do you think the existing public sidewalks are in good condition?	
A	63%	Yes
B	37%	No

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

22 How do your children most often get to school?		
A	18%	Student drives alone or drives with a parent
B	0%	Student rides the school bus
C	0%	Student is part of a carpool
D	11%	Student walks or bicycles to school
E	71%	Other

23 What type of housing is needed most in the community?		
A	20%	Single family detached (low density)
B	53%	Townhomes, condominiums, patio homes (medium density)
C	10%	Apartments (high density)
D	13%	Senior Housing
E	3%	Mobile Homes

24 Do you feel safe while walking the streets of Lompoc?		
A	61%	Yes
B	13%	No
C	26%	Sometimes

25 Provide adequate land area to meet housing, employment, business and public service needs.		
A	62%	Very important
B	10%	Somewhat important
C	10%	Not very important
D	17%	Not at all important

26 Place a higher priority on protecting the environment and open space than on expanding land area for development.		
A	52%	Very important
B	23%	Somewhat important
C	16%	Not very important
D	10%	Not at all important

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

27	Provide for infill and intensification of land uses along the "H" street corridor between College and Ocean Ave.	
A	74%	Very important
B	23%	Somewhat important
C	0%	Not very important
D	3%	Not at all important

28	Continue redevelopment in the Old Town/Downtown to create a town center with a mix of retail shops, businesses and housing.	
A	87%	Very important
B	13%	Somewhat important
C	0%	Not very important
D	0%	Not at all important

29	Protect neighborhood character by encouraging housing types (size and style) that are compatible or complementary to existing homes.	
A	61%	Very important
B	25%	Somewhat important
C	11%	Not very important
D	4%	Not at all important

30	Preserve and enhance landmarks, sites and areas of historical and cultural significance.	
A	86%	Very important
B	3%	Somewhat important
C	7%	Not very important
D	3%	Not at all important

31	Define the desired character of Lompoc and translate that character into guidelines and performance standards.	
A	75%	Very important
B	21%	Somewhat important
C	4%	Not very important
D	0%	Not at all important

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Class Points Avg: N/A

(Includes only students who took assessment)

32	What was the original name for Vandenberg Air Force Base?	
A	97%	Camp Cooke
B	0%	California Missile Command Center
C	3%	Lompoc Air Force Base
D	0%	Camp Davidson

33	Slow traffic or reduce traffic in residential neighborhoods.	
A	35%	Very important
B	27%	Somewhat important
C	31%	Not very important
D	8%	Not at all important

34	Improve circulation by widening existing roads or building new ones.	
A	15%	Very important
B	33%	Somewhat important
C	26%	Not very important
D	26%	Not at all important

35	Offer more buses on existing routes and/or add more bus routes.	
A	18%	Very important
B	29%	Somewhat important
C	29%	Not very important
D	25%	Not at all important

36	The construction of Central Ave. Bridge/Extension.	
A	21%	Very important
B	28%	Somewhat important
C	3%	Not very important
D	48%	Not at all important

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Class Points Avg: N/A

(Includes only students who took assessment)

37	Improve recreation services and facilities for youth.	
A	60%	Very important
B	33%	Somewhat important
C	7%	Not very important
D	0%	Not at all important

38	Improve recreation services and facilities for seniors and adults.	
A	39%	Very important
B	36%	Somewhat important
C	18%	Not very important
D	7%	Not at all important

39	Commercial/ Retail	
		
A	32%	Appropriate
B	23%	Somewhat appropriate
C	26%	Neutral
D	6%	Somewhat not appropriate
E	13%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

40 Commercial/Retail



A	70%	Appropriate
B	20%	Somewhat appropriate
C	7%	Neutral
D	3%	Somewhat not appropriate
E	0%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A
(Includes only students who took assessment)

41	Commercial/ Retail	
A	67%	Appropriate
B	20%	Somewhat appropriate
C	13%	Neutral
D	0%	Somewhat not appropriate
E	0%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

42 Fast Food



A	43%	Appropriate
B	10%	Somewhat appropriate
C	13%	Neutral
D	17%	Somewhat not appropriate
E	17%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

43 Central Gathering Area



A	53%	Appropriate
B	17%	Somewhat appropriate
C	13%	Neutral
D	17%	Somewhat not appropriate
E	0%	Not appropriate

44 Infill/Underutilized Parcels

A	80%	Appropriate
B	13%	Somewhat appropriate
C	3%	Neutral
D	3%	Somewhat not appropriate
E	0%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

45 Estate Homes



A	23%	Appropriate
B	7%	Somewhat Appropriate
C	23%	Neutral
D	13%	Somewhat Not Appropriate
E	33%	Not Appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

46 Residential



A	48%	Appropriate
B	19%	Somewhat appropriate
C	16%	Neutral
D	0%	Somewhat not appropriate
E	16%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

47 Residential - Detached Garage



A	40%	Appropriate
B	20%	Somewhat appropriate
C	20%	Neutral
D	7%	Somewhat not appropriate
E	13%	Not appropriate

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Session: Lompoc General Plan Questionnaire

Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

48 Medium Density Row Houses



A	38%	Appropriate
B	28%	Somewhat appropriate
C	17%	Neutral
D	10%	Somewhat not appropriate
E	7%	Not appropriate

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Response Report

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

49 Residential (3 story)



A	43%	Appropriate
B	17%	Somewhat appropriate
C	17%	Neutral
D	7%	Somewhat not appropriate
E	17%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

50 Mixed Use - Commercial 1st floor, Residential 2nd floor & 3rd floor



A	80%	Appropriate
B	13%	Somewhat appropriate
C	7%	Neutral
D	0%	Somewhat not appropriate
E	0%	Not appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

51 Farmers Market in Downtown



A	90%	Appropriate
B	3%	Somewhat Appropriate
C	3%	Neutral
D	0%	Somewhat Not Appropriate
E	3%	Not Appropriate

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Class: Lompoc

Class Points Avg: N/A

(Includes only students who took assessment)

52 City Wide Public Art Programs



A	84%	Appropriate
B	6%	Somewhat Appropriate
C	6%	Neutral
D	3%	Somewhat Not Appropriate
E	0%	Not Appropriate

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Educational Workshop # 1

January 29, 2008



Circulation & Traffic

AGENDA

Lompoc General Plan Update
Educational Workshop #1
Circulation & Traffic
January 29, 2008

1. Welcome and Introductions
2. Overview of Circulation Element
 - Purpose of the Circulation Element
 - Relationship of Circulation Element to Land Use and Housing Elements
3. Circulation Basics
 - Types of Streets
 - Level of Service (LOS)
4. Circulation Issues
 - Lompoc's Regional Location
 - Jobs/Housing Balance
 - Alternative Transportation
5. Known Circulation Constraints
6. Overview of Existing Circulation Element
 - Existing Goals
 - Existing Roadways
 - Existing Bikeways
7. Community Participation
8. Next Steps

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LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 1

Circulation & Traffic

January 29, 2008

On January 29, 2009 the City's first educational workshop on Circulation and Traffic was held at the City of Lompoc Council Chambers. At this public educational workshop the project team discussed existing traffic and circulation constraints. They also talked about the future repercussions the City might have to face when it comes to new transportation growth. The following are comments and issues people from the community presented.

COMMENT CARD FEEDBACK

- Please keep E. Ocean C-2 – change back, don't change to C-0 – not needed, a waste and hurtful to owners and serves no positive purpose.
- Considering the circulation limitations to the north and east of river, does it make good planning sense to consider annexations?
- Need to reconsider commuter rail between Lompoc to Surf and Surf to SB – use existing tracks and start with self-contained commuter rail cars – must coordinate with local transportation to get people to their home/jobs. Don't remove rail lines.
- No Central Avenue extension bridge – improve 246 along existing route (necessary due to location of new hospital if nothing else) – bridge is poor planning and expensive.
- All City busses and vehicles must use renewable fuel – clean environment.
- Plan for smart cars, etc.
- Fix Wye intersection.
- Consider crossing railroad on Bailey if City pushes westward to Bailey.
- Safe routes to schools must be incorporated.
- Central Avenue should not be extended. If H and Central are already congested, why put more traffic there? The resolution is to expand Hwy 246 and La Purisima Road.
- Re-draw your illustration of "Existing Routes" to clearly show that the eastward extension of Central Avenue is a proposed route and not an existing route.
- Do not assume any annexations to the north. The residents of these areas want to keep this area semi-rural. The recent annexations have caused traffic problems.
- Central Avenue extension does not exist and should never exist if Lompoc wants to keep a vibrant business area on H Street.
- We need Central Avenue extensions.
- We want Class I Bikeway on Bailey Avenue.
- Regarding rail usage: as a commuter to Santa Barbara for 7 years – how to get from Lompoc to rail? How to get from rail to place of work at destination in a timely manner? I have checked the bus schedule and could not get from bus drop off in Santa Barbara to workplace in less than an hour. Rail is definitely not viable if you want to get to work on time.
- Is a central carpool area in the plan like the one at Hwy 154 & 246 in Los Olivos?
- There is NO free lunch! If we want a small peaceful town we cannot add more cars.

January 29, 2008

Circulation & Traffic

We should be thinking long range. We need light rail – use existing tracks – and connect to the Surf Station. Use busses for commuters outside the city. Develop walking, golf cart, bicycle trails to shopping. We need to be creative.

- Protect Central Avenue extension property
- Look at the Wye, no roundy round (roundabout)
- Four lane Hwy 246 east

- A bikeway ought to connect with another bikeway without dismounting and walking the bike. There are signs at Barton and H that say: End Bikeway, dismount and walk south to Embassy Suites.
- Safe routes to school please!
- Interconnected bike paths for true circulation options.
- Traffic congestion is relative. The worst spots in Lompoc are better than most other communities.
- Please stop strip development – the inner-city will die.
- Have a main attraction in center of city to draw people in:
 - Good local restaurant
 - Maybe near river park entry points, etc.
 - Areas near shopping for relaxing and socializing
- Explore using UPRR for commute service: Lompoc, Goleta, Santa Barbara.
- Do not do Central Avenue extension to SR240.
- Do not approve coast hills PXP annexation – will impact Wye even more.
- Please look at local schools and the bike routes to these schools. While H Street is a main thoroughfare, you take your life in your hands riding a bike on it.
- Continue to plan for alternate transportation. We have a problem with air pollution now and it's only going to get worse.
- Look for rail development between Lompoc and surf where it can connect. We need rail to San Francisco area from here.
- Route "workers traffic" around the city.
- The circulation of any community is a network of automobile, bicycle and pedestrian thoroughfares. As the City plans for growth we urge you to take special care that our transit system for bikes and pedestrians is expanded and be maintained. Safe bicycle trails and pedestrian walkways are an important part of transportation demand management. The trickle down effect of more people cycling and walking is a reduction in the average daily trips on roads and this means less traffic congestion and fewer emissions in the air we all breathe.

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LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 1

Circulation & Traffic

January 29, 2008

LVCHO and Lompoc Healthy Kids Initiative Representative

1. Lompoc must have modern "Alternate Routes" into the city from the east, not just one 1930s road over a narrow 1938 bridge; or a winding scenic route on State Highway One.
2. State Highway 246 from Ocean Avenue in Lompoc must be widened with a four-lane boulevard for the 12 miles to Domingos Rd. and it must continue to be the main entrance to Lompoc. A two-lane bridge parallel to the present bridge across the river should be added as was done years ago on North H Street at the river. The 1938 Robinson Bridge may remain.
3. Central Avenue should be extended with a four-lane boulevard across the river connecting with 246 at a stoplight or appropriate traffic control method. A new four-lane bridge should be built. A stoplight should then be placed at A and Central Avenues.
4. To better connect the commuters to the north and south sides of Lompoc, Bailey Road should be developed into a north-south four lane boulevard connecting Olive Street and Central Boulevard. There should be a stop sign or light at Ocean Avenue.
5. Highway One from the stoplight at Ocean Avenue should be extended to Santa Rosa Road as a four-lane boulevard.
6. Rucker Road from Burton Mesa Road in Mission Hills should be widened to a four-lane boulevard connecting to the Central extension at a stoplight.
7. The Purisima Road from H Street to Rucker Road should also be widened to a four-lane boulevard. It should then come to a stop sign at Rucker Road.
8. With these sorely needed improvements in place, the present Purisima Road from the dangerous intersection at 246 to Rucker will then be closed to through traffic as will Mission Gate Road from 246. This section of Purisima Road will serve the Mission State Park and the four residents presently along it. Travelers will then go west to Rucker Road to access 246 through the Central Avenue extension. The four-way flashing red light at Rucker Road and Purisima Roads will be replaced with a two-way stop sign. Rucker Road will go through without a stop at Purisima Road to Central Avenue where there will be a stoplight.

Circulation & Traffic

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 1

January 29, 2008

The following are additional comments people from the community wrote about their vision when it comes to circulation elements and issues.

Circulation Element

When working on new circulation and traffic there should be an environmental review on the impacts it will create to the city.

What relationship does cal-trans have with the city and the general plan correlation?
The Caltrans jurisdiction includes Highway 1 and Highway 246.

Circulation Basics

What are the LOS peak time hours?

The peak time hours are 7am-9am, and 4pm-6pm. The evening one is the busier of the two.

There is also a mid-day peak time in Lompoc and the peak time for commuters in Lompoc should be from 4:30pm to 6:30pm.

The projections of Lompoc should also be based on regional projections from Santa Barbara.

The land use build out is used in correlation with a transportation model. This model will be used to see what Lompoc will look like within the next 5, 10 and 20 years

How do you change a common street and turn it into an arterial?

Street types are based on traffic and local access, which is also used in combination between land use and traffic.

Introduce new measures where walkability and pedestrian mobility within the circulation element create a more pedestrian friendly atmosphere.

Circulation Issues

The job housing ratio is one job per household which is considered high for Lompoc.

The job housing ratio does not include Vandenberg.

A light rail for Lompoc as an alternative transportation use would cost too much for the city. Possibly consider the use of more commuter buses.

What about creating a rail system on the existing rail-way? Right now there is a rail-way in Los Angeles to Santa Barbara.

The surf station is 10 miles away and could be a location for a future stop.
Laurel Ave. rail could be a local commuter service.

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Educational Workshop # 1

Circulation & Traffic

January 29, 2008

Rail development versus road development is a huge difference. It costs 450 million dollars just to build a new rail and 140 million dollars for a new road.

Highway 246 and the "Wye" have circulation issues and should be recognized.

We only have one rail we need two in order for it to work. Consider creating a rail on the 5th and 6th lane of a freeway.

How successful is the clean air with buses?

What about having a light rail on the median similar to what San Francisco has.

We need a 25 year plan to conserve future air pollution and environmental quality in Lompoc.

We should look at both physical improvements versus environmental impacts.

We should stop making improvements for cars and make improvements for other types of alternative transportation.

We should consider alternative uses for cars and traffic lanes.

Overview of Existing Circulation Elements
It is normal to have a bike path on a collector street, based on traffic and location.

On unincorporated areas; can you plan circulation improvements in the circulation element, if that is something you want to plan for.

Class I and Class II are only for adult bicycles, what about the children? Where can they ride and feel safe?

Consider having safe routes to schools and having smaller schools to create better routes.

For transportation improvements we should consider widening La Purisima Rd.

HOUSING ELEMENT

Circulation & Traffic

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 1

January 29, 2008

Sign in sheet

name	name
William H. Johnson	Derek Hansen
Jon Picciuolo	Frank Hain
---- Christensen	Chris Fanello
Joyce Howie	Rob Bravo, LUSD
Frances Romero	Ann Rudge
Margaret Weiss	Mike ----
Alice Mulligin	Claude Lee
Mary Ellen Brooks	Tom Zanic
William Schuyler	Jack Rodenhi
Ed Lardner, Sgt., LPD	Harry W. Klim
Charles E Blair, VUCSD	Jan Keller
Sarah Wagner	Helen Free
Paul Woyak	Glenn Wallace
Carol Nash, 432 St. Andrews Way	Larry Bean
Judy Taggart	Morgann ----
Butch Browder, 403 S. H Street	Judith Grames-Lyra
Bob Lingl	Barry Weaver
Ron Fink	

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Educational Workshop # 1

January 29, 2008

Circulation & Traffic



Local Streets

Collector Streets

Arterial Streets

Freeways

General Plan Update | Streets

mmdesigngroup



Class I - Bike Path

Class II - Bike Lane

Class III - Bike Route

General Plan Update | Bikeways

mmdesigngroup

Circulation & Traffic

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 1

January 29, 2008



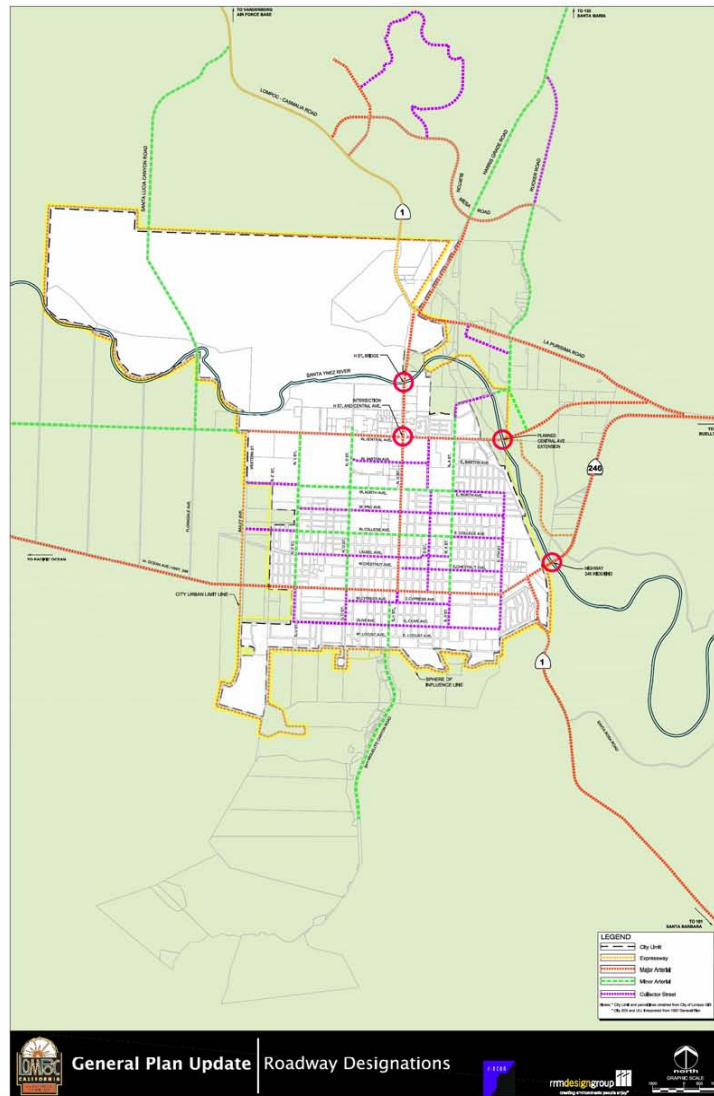
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Circulation & Traffic

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 1


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General Plan Update
Educational Workshop #1
CIRCULATION & TRAFFIC
January 29, 2008

Agenda

1. Overview of Circulation Element
Purpose of the Circulation Element
Relationship to Land Use and Housing Elements
2. Circulation Basics
Type of Streets
Level of Service (LOS)
3. Circulation Issues
Lompoc's Regional Location
Jobs/Housing Balance
Alternative Transportation Modes
4. Known Circulation Constraints
5. Overview of Existing Circulation Element
6. Community Participation
7. Next steps



Project Team

City of Lompoc
Arleen Pelster, AICP Community Development Director
Lucille T. Breese, AICP Planning Manager
Dinah Lockhart, Associate Planner


Rincon Consultants, Inc.
Richard Daulton, Environmental Planning Manager

RRM Design Group
John Shoals, Principal Planner
Josh Cross, Senior Planner
Juana Krause, Assistant Planner

Fehr & Peers
Brian Welch, Principal




Overview of a Circulation Element
John Shoals, RRM Design Group




What is a Circulation Element?

- A required element of the General Plan
 - ✓ Identifies the general location and extent of:
 - Major thoroughfares
 - Transportation routes
 - Terminals
 - Other local public utilities and facilities



What are the contents of a Circulation Element?

- Evaluation of existing circulation system
- Plans for streets, truck routes, bikeways and other facilities
- Statement of Goals, Objectives and Policies relating to circulation
- Implementation Measures (Programs)



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Circulation & Traffic


What is discussed in a Circulation Element?

- Streets and highways
- Public transit routes, stops, and terminals
- Bicycle and pedestrian routes and facilities
- Truck routes
- Railroads and railroad depots
- Buses, Carpools, Van pools, etc.
- Airports



What is discussed in a Circulation Element?


- Parking facilities
- Transportation system management
- Air pollution from motor vehicles
- Emergency routes



Circulation Basics

Brian Welch, Principal

- Types of Streets
- Level of Service



Local Streets



LOCAL STREETS
Serve adjacent properties, only, and carry little through traffic and low traffic volumes. Speed limits on local roadways normally do not exceed 25 miles per hour.

Example:
F Street



Collector Street




COLLECTOR STREETS
Provide a link between local streets and roadways with higher traffic capacity, such as arterials and highways (see below). Generally, collector streets carry light to moderate traffic volumes, and speed limits are usually between 25 to 45 miles per hour.

Example:
Fine Avenue



Arterial Streets



ARTERIAL ROADWAYS
Are fed by local, collector and other arterial roadways, and provide for cross-city travel. Arterials carry larger volumes of traffic, and usually consist of two to four lanes divided by a median or left-turn lane. Speed limits on arterials are usually at least 40 miles per hour.

Example:
North H













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Circulation & Traffic

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January 29, 2008

<p>Freeways</p>  <p>FREEWAYS Serve both inter-city and intra-city travel. Traffic is carried to freeways by collector and arterial streets. Freeways usually have the highest speed limits allowed by law.</p> <p>Example: Highway 1</p> 	<p>Level Of Service</p> 
<p>What Is Level of Service (LOS)?</p> <ul style="list-style-type: none"> • LOS has been utilized by traffic engineers for more than 50 years to qualitatively describe operating conditions for automobile travel on existing or planned roadway systems. • Level of service (LOS) is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. • Lompoc adopted a LOS C for Intersections. 	<p>Level of Service A</p>  <p>Free Flow / Insignificant Delay</p> <p>Extremely favorable progression.</p> <p>Individual users are virtually unaffected by others in the traffic stream.</p> 
<p>Level of Service B</p>  <p>Stable Operations / Minimum Delays</p> <p>Good progression. The presence of other users in the traffic stream becomes noticeable.</p> 	<p>Level of Service C</p>  <p>Stable Operations / Acceptable Delays</p> <p>Fair progression. The operation of individual users is affected by interactions with others in the traffic stream.</p> <p>• Lompoc LOS C</p> 










HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 1

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Circulation & Traffic

<p>Level of Service D</p>  <p>Approaching Unstable Flows / Tolerable Delays</p> <p>Marginal progression. Operating conditions are noticeably more constrained.</p> 	<p>Level of Service E</p>  <p>Unstable Operations / Significant Delays Can Occur</p> <p>Poor progression. Operating conditions are at or near capacity.</p> 
<p>Level of Service F</p>  <p>Forced, Unpredictable Flows / Excessive Delays</p> <p>Unacceptable progression with forced or break-down of operating conditions.</p> 	<p>LOS Policy Evaluation</p> <ul style="list-style-type: none"> • LOS Exceptions • Maintaining a LOS threshold may not always be desirable given the inherent tradeoffs between the construction of roadway improvements to provide for a desired LOS and the potential monetary cost as well as impacts those improvements may have on social conditions or the physical environment. • The cost to provide a desired LOS may be too high for a community or development to support or accept. 
<p>Trade-Offs Not Transparent</p> <ul style="list-style-type: none"> • Roadway improvements vs. social or environmental impacts • Roadway improvements vs. monetary cost • Negatively impact other modes <ul style="list-style-type: none"> - Crossing times at intersections - Transit - Road space for cyclists 	<p>Consequences of LOS C versus LOS E</p>  

Circulation & Traffic

LOMPOC GENERAL PLAN UPDATE
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<p>Quality of Life Issues</p> <ul style="list-style-type: none">• Neighborhood impacts are difficult to measure. How much traffic is "too much" depends upon:• Housing set-backs• Sidewalk design• Neighborhood demographics• Type of traffic (trucks, commuters, etc.)• Speed of traffic• Historical context 	<p>Travel Demand Forecasting</p> <ul style="list-style-type: none">• <u>4-step Travel Forecast Process</u>• Trip Generation (how many?)• Trip Distribution (where do they go?)• Modal Split (what mode do they take?)• Trip Assignment (what routes do they take?) 
<p>Travel Forecasts</p> <ul style="list-style-type: none">• Why Do Forecasts?• Should consider future conditions (5,10,20+ years in future)• Want to consider how system could work with one project combined with others• Small project by itself may not cause impact, 20 small projects together would• Required by CEQA 	<p>Circulation Issues</p> <p>Richard Daulton, Environmental Planner</p> 
<p>Lompoc Circulation Issues</p> <ul style="list-style-type: none">• Lompoc's Regional Location• Jobs/Housing Balance• Alternative Transportation 	<p>Known Circulation Constraints</p> 

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE


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Circulation & Traffic

Known Circulation Constraints

- Access Barriers
 - UPRR Rail Line
 - Santa Ynez River: Three bridges in and out of town (H Street, Highway 246, Santa Lucia Canyon Road)
- Existing or Projected Congestion Areas
 - H Street/Central Avenue Intersection
 - H Street Bridge
- Caltrans Jurisdiction - Improvements to these areas require State approval and are therefore somewhat beyond City's control
 - H Street (Highway 1)
 - Ocean Avenue (Highway 246)
- Funding Limitations



Known Transportation Constraints

Funding Limitations




Regional Map




Overview of Existing Circulation Element

John Shoals, RRM Design Group




Existing Circulation Element Goals

- **GOAL 1:** Maximize the efficiency, quality and safety of a multi-modal circulation system which provides for the movement of people, goods, and services to serve the internal circulation needs of the City, while also addressing through travel needs.
- **GOAL 2:** Minimize the public's exposure to circulation related noise and safety hazards.
- **GOAL 3:** Maximize the viability and convenience of transportation modes that reduce automobile use.



Existing Circulation Element Goals

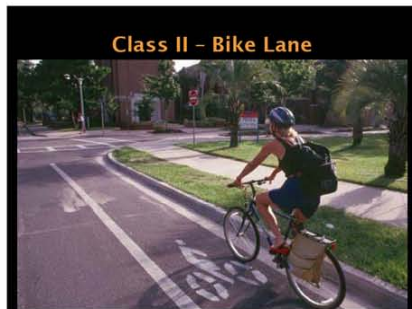
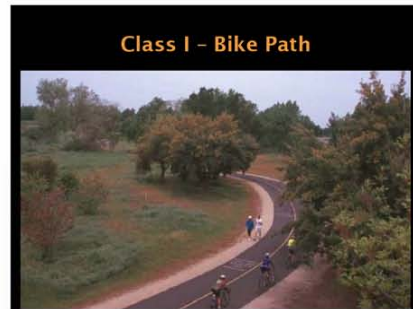
- **GOAL 4:** Protect and enhance the visual quality of LompoC's circulation system.
- **GOAL 5:** Reduce automobile use and the associated emissions by maintaining a compact and well-designed urban form which encourages alternative transportation modes.



Circulation & Traffic

LOMPOC GENERAL PLAN UPDATE
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LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 1

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Circulation & Traffic



Community Participation

Community Input

- Circulation
 - Hwy 246 needs the most change
 - Expand H Street toward Central
 - H Street is bad during peak traffic times
 - Traffic congestion at the "Wye"
 - Bus system is award winning
 - Congestion near schools is a problem
 - Need more north-south connections

Streets Map Group Exercise

Streets Map Questions

- Rank the order of importance of the following circulation improvements (Which one is most important to the community?)
 - Improving the "H" St. Bridge
 - "H" Street and Central Ave. Intersection
 - Extending Central Ave. east of the river
 - Widening S.R. 246
 - Relieving traffic congestion at the "Wye"
 - Other
- Circle other areas that need improving



Bikeway Map Group Exercise

HOUSING ELEMENT

Circulation & Traffic

LOMPOC GENERAL PLAN UPDATE
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<p>Bikeway Map Questions</p> <ul style="list-style-type: none">● Circle the route you use the most.● Circle the most important planned route.● Circle any area that would be a good bike trail or route.● Identify the most important biking destination you use.● Highlight routes your kids ride their bikes. 	 <p>Next Steps</p>
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HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 2

February 12, 2008

Housing



Housing

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 2
February 12, 2008

AGENDA

Lompoc General Plan Update
Educational Workshop #2
Housing
February 12, 2008

1. Overview of Housing Element
2. Housing Element Basics
3. Housing Issues
4. Regional Housing Needs Assessment
5. Community Context and Program Design
6. Next Steps

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 2

Housing

February 12, 2008

On February 12th 2008 the City's second educational workshop on housing was held at the City's Council Chambers. At this public educational workshop the project team discussed housing issues and constraints that the city is concerned about. State standards and mandates relative to the provisions of adequate housing sites and policies were also discussed. The following are comments and feedback received from the community.

COMMENT CARD FEEDBACK

- Since adequate infill land is available, why not take annexation off the table for RHNA purposes?
- It would be helpful to have copies of the existing General Plan to borrow and review.
- On the question of alternate strategies – I suspect this is a fairly homogenous group and does not really represent the views of the wider community.
- I cannot separate from my thoughts the fact that human population – worldwide – is crushing our natural environment and often times destroying a healthy sense of community. I believe that we should control urban sprawl – stop sprawl – and only develop within city boundaries. We should do this for energy purposes but also because sprawl also destroys the very idea of community.
- Workshop figures show that Lompoc (city) has plenty of vacant land to satisfy RHNA requirements. Many people are concerned that City Council may in the future use the RHNA excuse to annex unsuitable unincorporated areas for high density housing.
- There is plenty of older housing that eventually can be considered available to low income. Lompoc needs high quality housing – low density so that people do not feel they need to live in Mesae Oaks and Vandenberg Village in order to live in a nice area.

Housing

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 2

February 12, 2008

DISCUSSION NOTES

Housing Element Basics (topics to talk about)

- Housing for disabled
- Infill
- Demographics
- Jobs/housing balance
- Overpaying
 - How does this compare with other cities?
 - Benchmark placed and should change not 30%
- What can the City do?
 - Negotiate with lenders to bring down payments.
- Overpaying – adjustable?
- General standard 16 units per site / not 20 du/ac
- Subsidized housing – what is the total inventory? Still don't have the info.

Most Important Housing Issues

- What determines density?
- 20 du/ac is the minimum for low income
- Single family with homes - moderate
- Are these numbers real? Legally they are.
- The numbers are higher and are based on the market.
- You can change unit types – market rate to low/affordable housing.
- \$ low / foreclosures → Cycles and funny money, people giving money to places they can't afford.
- Market – inward growth, people being added/migration
- Growth is going to occur – this is the intent. Is migration considered when coming up with numbers?
- In Santa Barbara, how do they build in their city? How did they come up with the numbers? Look on the Santa Barbara website.
- Law states provide the opportunity to include the numbers.
- No, there is no government owned low income housing.
- High density = high crime → there are no studies that show this.
- Keep with character of community – when adding high density
- Can you spread out density? It's all based on design.
- How can we grow with decreasing age distribution?
- Families tend to move where there is low income.
- We don't have things to keep our young people here. Tying people with housing.
- People / Land Use = How do we make it work with housing?

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 2

Housing

February 12, 2008

Sign in sheet

name	Do you live in Lompoc or outside of the city?
Bess Christensen	Outside
Harry Keim	Yes
Jim Jimenez	Outside
John H. Linn	Inside
Arlen Sechrest	Inside
Bob Hamilton	Inside
Barry Weaver	Inside
Carol Nase	V V
Alice Mulligan	Lompoc
Margaret Weiss	Lompoc
Sterling C-----	Lompoc
Julie Levy	Lompoc
Martin Van Enoo	Lompoc
Ed Shoemaker	Lompoc
Helen Free	Lompoc
Robert Bravo	LUSD
Bob Lingl	Lompoc
Ann Rudge	Lompoc
DeWaye H-----	Lompoc
Frank Hain	Lompoc
Al Thompson	Lompoc
Wayne Clevenger	Lompoc
Dave Pierce	Lompoc

HOUSING ELEMENT

Housing

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 2
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Sign in sheet

Tom Zanic	Santa Monica
Frances Romero	Guadalupe
Mary Harvey	Outsied (Mission Hills)
Frank Young	Lompoc
Anita Friedman	Lompoc
Judith Grames-Lyra	Lompoc
----- T. Tuch	Lompoc
Mike Siminski	Lompoc

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 2

Housing

February 12, 2008

General Plan Update | Mixed-use



Mixed Use
Mixed-use development allows more than one type of use in a building or set of buildings. This can mean some combination of residential, commercial, industrial, office, institutional, or other land uses.



General Plan Update | Residential Density "What does it look like?"

Density is typically expressed in dwellings per acre (du/aci) and represents the relationship between land and the number of residential buildings. Density gives us an indication of the spatial distribution of the population.

Different levels of density, along with the mix of uses, creates different types of urban environments. For example, a higher density pattern reduces the demand for car usage services and activities are located within walking distance.


Low density includes single-family dwellings, semi-detached units, row houses and secondary in-law units.

Medium density includes stacked walk up townhouses or flats.


High density includes apartments or attached units. These units usually will have an elevator and corridor access.

Why is density important?
Density creates a more compact and dense land usage and enables more efficient use of urban spaces and resources. Creating more area for attractive open space, landscape and public activities and agricultural uses.



Low Density (2 to 6.2 units per acre)



Medium Density (6.2 to 14.5 units per acre)



High Density (14.5 to 21.8 units per acre)






HOUSING ELEMENT

Housing

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 2

February 12, 2008

 <p>General Plan Update Educational Workshop #2 Housing February 12, 2008</p>	<p>Agenda</p> <ul style="list-style-type: none"> • Overview of Housing Element • Housing Element Basics • Housing Issues • Regional Housing Needs Assessment • Community Context & Program Design • Next Steps 
<p>Project Team</p> <p>City of Lompoc Arleen Pelster, AICP Community Development Director Lucille T. Breese, AICP Planning Manager Dinah Lockhart, Associate Planner</p> <p>Rincon Consultants, Inc. Richard Daulton, Environmental Planning Manager</p> <p>RRM Design Group John Shoals, Principal Planner Josh Cross, Senior Planner Juana Krause, Planner Lance Wierschem, Planner</p> <p>Thomas E. Figg, Consulting Services Tom Figg, Principal</p> 	<p>Overview of Housing Element</p> <p>John Shoals</p> 
<p>What is a Housing Element?</p> <ul style="list-style-type: none"> • A required element of the General Plan; Prepared pursuant to CGC 65580 • Analyzes housing needs of the City • Provides a plan to create housing opportunities • Must be consistent with the rest of the General Plan • Must be updated every 5 years 	<p>What Goes In a Housing Element?</p>  <ul style="list-style-type: none"> • Content <ul style="list-style-type: none"> • Detailed assessment of housing needs • Goals, quantified objectives & policies • Five-year schedule of actions • Focus <ul style="list-style-type: none"> • Continued Relevance of Past Programs • Capacity to Administer Policies • Accommodation of RHNA • User Friendly Presentation 




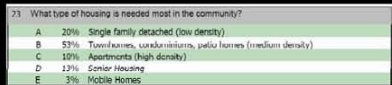



HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 2

February 12, 2008

Housing

<p>Existing Housing Element Goals</p> <ul style="list-style-type: none"> · GOAL 1 - Provide a choice of housing opportunities for all economic segments of the community. · GOAL 2 - Restore, protect and improve the condition of existing housing and neighborhoods. 	<p>Existing Housing Element Goals</p> <ul style="list-style-type: none"> · GOAL 3 - Locate and design housing so as to assure an attractive and high quality living environment. · GOAL 4 - Maximize energy efficiency in existing and future residential development. 																		
<p>Community Opinions Expressed at First Workshop</p> <ul style="list-style-type: none"> · Need upper end housing - we have enough · Need 1st time buyer program - singles, families · Cheaper to live in Santa Maria · Need to allow for higher density residential to drive down prices · Provide incentives for "green" building · Not enough variety in housing/ enough variety · Against apartments · Mixed-use is a great idea 	<p>Community Opinions Expressed at First Workshop</p>  <table border="1"> <thead> <tr> <th>Option</th> <th>Percentage</th> <th>Housing Type</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>20%</td> <td>Single family detached (low density)</td> </tr> <tr> <td>B</td> <td>53%</td> <td>Townhomes, condominiums, patio homes (medium density)</td> </tr> <tr> <td>C</td> <td>10%</td> <td>Apartments (high density)</td> </tr> <tr> <td>D</td> <td>12%</td> <td>Senior Housing</td> </tr> <tr> <td>E</td> <td>3%</td> <td>Mobile Homes</td> </tr> </tbody> </table> 	Option	Percentage	Housing Type	A	20%	Single family detached (low density)	B	53%	Townhomes, condominiums, patio homes (medium density)	C	10%	Apartments (high density)	D	12%	Senior Housing	E	3%	Mobile Homes
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<p>Housing Element Basics</p> <p>Tom Figg</p> 	<p>Housing Element – IT'S THE LAW!</p> <ul style="list-style-type: none"> · Statutory Requirement <ul style="list-style-type: none"> ▪ One of Seven Required Elements ▪ Must be Updated by August 2009 · Distinguishing Features <ul style="list-style-type: none"> ▪ Mandatory Update & Review Process ▪ Explicit Statutory Standards ▪ Potential Penalties for Non- Compliance 																		

HOUSING ELEMENT

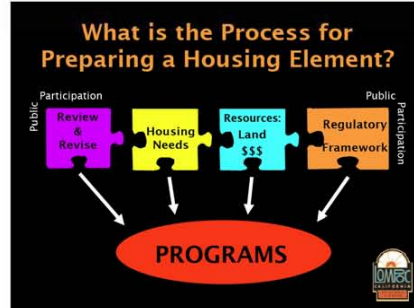
Housing

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 2

February 12, 2008


Why is the Housing Element Important?

- Litigation Vulnerability
- Access to Money
- Punitive - Cumulative
- Quality of Life
- Strategic Planning
 - In-Fill/Mixed Use Concepts
 - Redevelopment/Revitalization Opportunities

Step #1 Review and Revision of Current Element

- Progress
 - Review results of previous policies, programs, and objectives
- Effectiveness
 - Analyze difference between projected goals and achievement
- Appropriateness
 - Describe program changes based on analysis
- Adequate Sites
 - Assess the implementation of adequate sites per AB 1233




Step #2 Housing Needs

- Overpaying - Down payment and rent assistance
- Overcrowding - New larger units/ expand existing units
- Substandard - Housing rehabilitation/Code enforcement
- Disabled - Address ADA needs/Assisted living
- Elderly - Supporting services
- Large Families - Low income and overcrowding
- Female Hslds. - Low/very low income with child care needs
- Farmworkers - Very low income with seasonal & temp. needs
- Homeless - Transitional & emergency housing needs



Step #3 Inventory Housing & Costs

- Inventory of Sites Suitable for Residential Development
- Evaluate Availability and Suitability
- Calculate Realistic Development Potential
- Analyze Densities For Appropriateness (20 du/acre Default)
- Evaluate Zoning to Accommodate Special Needs Housing
- Identify Financial Resources to Assist with Implementation



Step #4 Government Involvement

- Land Use Controls
- Building Codes & Enforcement
- Site Improvement
- Permits Processing Procedures
- Fees & Exactions
- Housing for Disabled



HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

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Housing

Step #5 Develop Programs

PROGRAMS

- Adequate Sites
- Production of Affordable Housing
- Remove/Mitigate Constraints
- Conserve/Improve Existing Housing
- Preserve Units at Risk
- Promote Equal Housing Opportunity



Step #5 Sample Program

PROGRAMS

Specific commitment and timeframe

Agency responsible

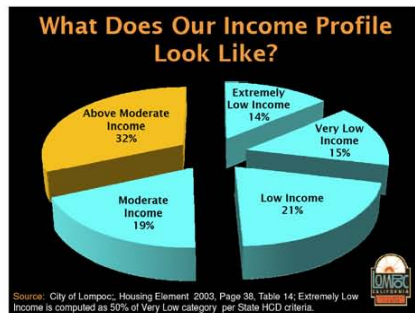
Realistic measurable commitment to implement

Policy: Encourage the development of housing to assist persons with special needs.

Program: The City will amend the zoning ordinance to allow transitional housing facilities without a conditional use permit in multifamily zoning districts.

Responsibility: Planning Dept. & City Council

Timing: December 30, 2009



Who are These People?

Extremely & Very Low

- Farmworker
- Waiter/Waitress
- Hotel Maid
- House Cleaner
- Child Care Provider
- Security Guard



Source: State of California, Department of Employment Development, Occupational Employment (2001) & Wage (2002) Data, Revised January 2003.

Who are These People?

Low

- Janitor
- Medical Assistant
- Landscaper
- Preschool Teacher
- Bank Teller
- Secretary



Source: State of California, Department of Employment Development, Occupational Employment (2001) & Wage (2002) Data, Revised January 2003.

Who are These People?

Moderate

- Social Worker
- Carpenter
- Teacher
- Dental Assistant
- Computer Operator
- Police Dispatcher



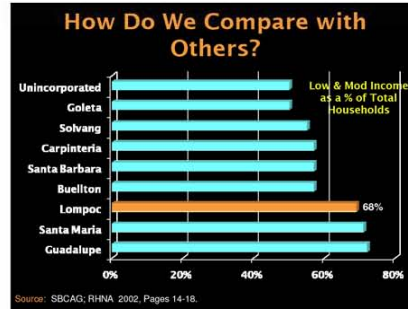
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HOUSING ELEMENT

Housing

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Educational Workshop # 2

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What is Our Housing Mix?

	Actual Distribution	County-wide Rank	Growth Trend
Single Family	60%	3 rd Lowest	=
Multifamily	33%	3 rd Highest	=
Mobile Home	7%	Middle	=
Vacancy	4.1%	3 rd Highest	=

Source: State Department of Finance; Actual Distribution and Countywide Ranking is based on 2007 data; Growth Trend reflects changes between 2001 and 2007.

What is Our Population Make-Up?

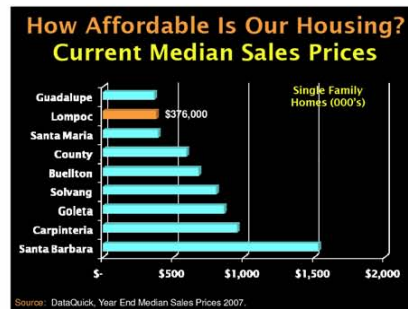
	Actual Distribution	County-wide Rank	Growth Trend
Children	28%	3 rd Highest	=
Seniors	11%	2 nd Lowest	<
Minorities	34%	3 rd Highest	>
Hsld. Size	2.88 Persons	3 rd Highest	>
Median Age	32.2 Years	3 rd Lowest	>

Source: U.S. Bureau of Labor, Census Data; Actual Distribution and Countywide Rank reflects 2000 data; Growth Trend reflects changes between 1990 and 2000.

What Housing Needs Do We Have?

INDICATORS	Owners	Renters
Overpaying	28%	44%
Overcrowding	9%	21%
Substandard	< 1%	1%

Source: U.S. Bureau of Labor, Census Data 2000. A City housing survey conducted in 2003 found that 1.4% of the City's housing stock was substandard in need of major repair.



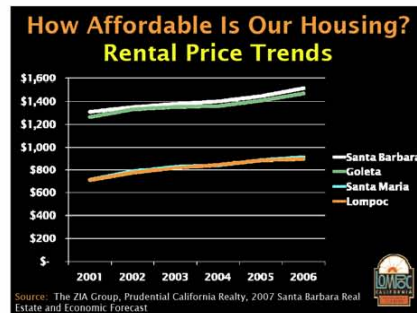
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Housing



Program Development Group Exercise

Most Important Housing Issues

	Most Important → Least Important				
	A	B	C	D	E
Housing Affordability			X		
Insufficient Supply				X	
Overcrowding			X		
Substandard Housing	X				
Lack of Housing Choices			X		
No Available Financing			X		

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Housing

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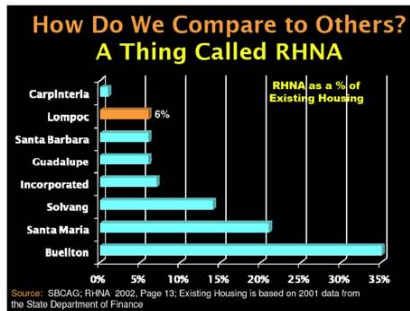
Lompoc's Housing Future - RHNA
Regional Housing Needs Assessment



What About Future Needs? A Thing Called RHNA

Income Group	2001-2008	2007-2014*
Very Low	214	142
Low	151	100
Moderate	209	138
Other	316	209
Total	890	589
Draft Allocation		786 - 985**

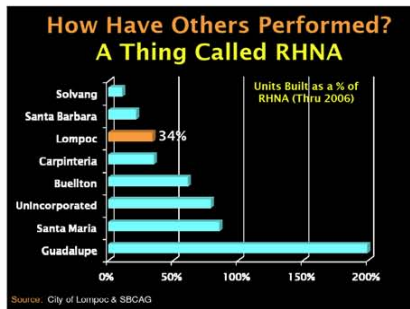
* Figures shown are estimated pending final allocations. Computations assumes that the final SBCAG allocation will follow the same apportionment methodology from the previous Housing Element cycle.
** Current allocation range proposed by SBCAG.



How Have We Performed to Date? A Thing Called RHNA

PAST ACCOMPLISHMENTS (2001-2008)				
Income Group	Goal	Actual 2001-06	Forecast 2007-08	% Achieved
Very Low	214	44	15	23%
Low	151	17	6	19%
Moderate	209	33	11	57%
Other	316	257	86	118%
Total Units	890	351	117	39%

Source: City of Lompoc



What Do We Have to Work With? Vacant Land Inventory

Residential Land Use	Max. Density	No. of Acres	Unit Potential
Very Low Density	1 du/ac.	26	1
Low Density	6 du/ac.	138	460
Medium Density	14 du/ac.	75	1,050
High Density	21 du/ac.	7	150
Total		246	1,661 units

Source: City of Lompoc, Land Use Inventory, 2007.

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

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Housing

What Do We Have to Work With? Density - RHNA Match

Residential Land Use	RHNA Goals	Unit Potential			+/-
		Low	Mod	High	
Very Low Density	1			1	0
Low Density	208			460	+252
Medium Density	138		1,050		+912
High Density	242	150			-92
Total Units	589	150	1,050	461	+1,072

Note: RHNA/Unit Potential apportionment is estimated based on State density factors.

What is our Biggest Challenge?

Achieving a Fit Between Housing Needs, Statutory Requirements and Community Context



Program Development Group Exercise




Alternative Strategies


	Most Appropriate → Least Appropriate				
	A	B	C	D	E
Increased Density		X			
In-Fill Development	X				
Mixed Use Projects	X				
Second Dwelling Units		X			
Housing Rehabilitation	X				
Rezone Commercial Land					X
Rezone Industrial Land					X
Rehabilitate Old Buildings	X				

Residential Density

What Does It Look Like?



Dwelling Unit Density



Very Low Density - Less than 6.2 units/acre

HOUSING ELEMENT

Housing

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 2

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Dwelling Unit Density

Low Density Residential - 6.2 units/acre

Dwelling Unit Density

Medium Density Residential - 6.2 to 14.5 units/acre

Dwelling Unit Density

High Density Residential - 14.5 to 21.8 units/acre

Dwelling Unit Density

High Density Residential - 14.5 to 21.8 units/acre

Conclusions

Tom Figg

Some Initial Impressions

- Youthful Population with Growing Families and Expanding Household Sizes
- Predominate Low & Moderate Income Population That Makes Affordability Problematic
- Remarkably Stable Demographic and Housing Mix with a Healthy Balance of Unit Types and Tenure
- Sufficient Land Base to Accommodate RHNA Without Need for Outward Expansion

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

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February 12, 2008

Housing

Where Do We Go From Here?



- **PART ONE (May 2008)**
 - Demographic Trends
 - Housing Profiles
 - Affordability Analysis
- **PART TWO (Aug. 2008)**
 - Needs Assessment
 - Capacity Analysis
 - Performance Review
- **PART THREE (Dec. 2008)**
 - Program Development
 - Preliminary Housing Plan
 - Final Adoption




Questions

Next Steps

Workshop - February 26
Discuss issues associated with potential annexation areas



Legislative Trends – Where are We Headed?



- Few Pro-Local Bills Have Been Introduced in Recent Times & None Passed
- The Legislative Trend is for More, Not Less Onerous Regulation
- Emergence of a Strong Coalition of Building Industry & Affordable Housing Advocates



Legislative Trends Where are We Headed?

Year	Legislative Summary
2004	-AB 2348: Requires More Detailed Inventory of Potential Housing Sites.
2005	-AB 1233: Institutes Cumulative-Punitive Carryover of Unmet RHNA Needs.
	-SB 1087: Establishes Sewer and Water Priority for Lower-Income Housing.
	-SB 575: Strengthens Anti-NIMBY Laws Protecting Affordable Housing.
2006	-AB 2634: Requires Analysis of Extremely Low Income Needs.
	-AB 2511: Imposes "No-Net" Loss Requirements & Penalties for Non-Reporting.
2007	-SB 2: Broadens Analysis for Emergency Shelters and Requirement for Adequate Sites.

Who are we Planning For?

	Target Income Groups			
	1 Person	2 Person	3 Person	4 Person
Ext. Low (30% of AMI)	\$14,100	\$16,100	\$18,150	\$20,750
Very Low (50% of AMI)	\$23,500	\$26,850	\$30,200	\$33,550
Low (80% of AMI)	\$37,600	\$42,950	\$60,400	\$67,100
Moderate (120% of AMI)	\$56,000	\$64,400	\$72,500	\$80,500
Median (AMI)	\$47,000	\$53,700	\$60,400	\$67,100

Source: State of California, HCD, 2007.

HOUSING ELEMENT

Housing

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 2

February 12, 2008

What is Our Socio-Economic Profile?


	Actual Distribution	County-wide Rank	Growth Trend
Low & Mod	68%	3 rd Highest	=
Poverty	15%	3 rd Highest	=
Unemployment	7.4%	Highest	<
Owners	52%	2 nd Lowest	=
Renters	48%	2 nd Highest	=

Source: U.S. Bureau of Labor, Census Data; Actual Distribution and Countywide Rank reflects 2000 data; Growth Trend reflects changes between 1990 and 2000.

How Affordable Is Our Housing? Definition of Terms

	HOUSING COST THRESHOLDS	
	For Sale	Rental
Ext. Low	30% of 30% of AMI	30% of 30% of AMI
Very Low	30% of 50% of AMI	30% of 50% of AMI
Lower	30% of 70% of AMI	30% of 60% of AMI
Moderate	35% of 110% of AMI	30% of 110% of AMI

AMI = Average Median Income



Source: State of California, Health and Safety Code.

How Affordable Is Our Housing? Financial Gaps

	FOR SALE HOUSING		RENTAL HOUSING	
	Maximum Sales Price	Affordability Gap	Maximum Rental Price	Affordability Gap
Ext. Low	\$35,840	(\$340,160)	\$453	\$(607)
Very Low	\$100,700	(\$294,484)	\$755	\$(305)
Lower	\$127,192	(\$248,808)	\$906	\$(154)
Moderate	\$249,492	(\$126,508)	\$1,661	\$601

Notes: Maximum sales prices are based on State housing cost parameters, using the most preferential lending terms available to Target Income Groups. Rental Affordability is based on a 2-bedroom unit.



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Housing

Response Report

Page 1

Session: Housing Questions

Class: Default Class

Class Points Avg: N/A

(Includes only students who took assessment)

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A	23%	Strongly Agree
B	19%	Agree
C	32%	Neutral
D	16%	Disagree
E	3%	Strongly Disagree

2 Insufficient supply of housing is an issue in the City of Lompoc.		
A	6%	Strongly Agree
B	10%	Agree
C	13%	Neutral
D	42%	Disagree
E	19%	Strongly Disagree

3 Overcrowding is an issue in the City of Lompoc.		
A	0%	Strongly Agree
B	26%	Agree
C	32%	Neutral
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4 Substandard housing is an issue in the City of Lompoc.		
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LOMPOC GENERAL PLAN UPDATE



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Educational Workshop # 3
February 26, 2008

AGENDA

Lompoc General Plan Update
Educational Workshop #3
Annexation & Infill
February 26, 2008

1. Existing General Plan Goals and Policies
2. Community Input "What We've Heard"
3. Annexation Process
4. Potential Annexation Areas
5. Smart Growth and Infill Opportunities
6. Summary
7. Community Survey
8. Workshop Exercise

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 3

Annexation & Infill

February 26, 2008

On February 26th 2008 the City's third educational workshop was held at the City's Council Chambers. At this workshop the project team talked about the annexation process and potential annexation areas. They also talked about smart growth and potential infill opportunities. The following are comments and feedback received from the community.

COMMENT CARD FEEDBACK

- Regarding Bailey Ave – City already required property owner to install sewer lines. If owners are not allowed to develop it could cost Lompoc millions in repayment plus interest.
- Regarding PXP – Owner said, they want to develop as part of Lompoc City but will proceed as County project if Lompoc doesn't Annex. Do we want County to oversee this development or the City? Government seat is 60 miles away other side of mountains or government seat is right here in the valley accessible and responsive.
- Re: PXP – Local opposition to the project will not "kill" it. See above.
- Re: PXP – Many have said "Lompoc should grow to the North but not all the way to PXP." There is no other land available to the North of Lompoc. Should have a map which shows preserve, state mission land, already developed land – to show there is no available land. If we can't go North, that increases pressure to go on hills to the south, or on Ag lands East and West of the City.
- The County has excellent P and D process if the General Plan is honored. Everyone knows the City wants density. You talk like the County is the inferior choice. This is a myth, perpetuated by city fathers and their "cronies" in the development/real estate industries. Those of us who like it the County do so because of the sound policies that used to exist in the county and might again exist after the next County supervisor election.
- Infill – again, why do you have half the audience from outside the City limits here to try to protect their rural lifestyle. The City "stakeholders" the real ones, do not become NIMBY's. They need nice affordable housing.
- PXP Opportunities- Fulfilling "Housing element" – no way this argument can be used – jobs proximity housing ratio. PXP will be high end housing.
- Fiscalization of land use – It has been proven a development pays for itself for 2 years and then becomes a burden on existing community.
- These "audiences" do not represent the demographics of this city. I count 3 non-white faces. Aren't the 40% of the city Hispanic population stakeholders? Where are the translators to accommodate these people? Where are the people who rent? I see 3 developers several real estate agents and many city staff. Some who don't live in the city? You need at least 6 more neighborhood meetings to meet your true stakeholders.
- Wye Commercial Parcel – The city rezoned a commercial parcel across the street to residential. How can the city now try to change residential to commercial? What about the land end owners who bought thinking that parcel would remain residential?

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- Parcel D (east of the river) only has access to city from its north and south ends. Cost of bridges over river to connect area for traffic flow would be astronomical.
- Bailey corridor makes most sense. Defines a straight line western boundary. Has a buffer zone. Has mixed use and would improve west edge as it now exists. Will have a good traffic flow for trucks around city rather than through city. Providing open community space/ trails.
- Wye proposal for commercial would hurt home values for those who have already purchased homes (at high cost) in the area.
- Jobs/ Housing imbalance should be the emphasis movement of people away from center of city encourages urban decay = urban flight not good rural nature of surrounding community is the area's greatest asset.
- Infill is essential. We should put a great deal of resources into Downtown. A two story parking structure might be a beneficial to our goal for downtown. We should not expand to PXP. This is very clear. That development proposed is contrary to our community goals as I see them. The future should be limiting dependence on automobile. We should develop bicycle paths, electric cars, walking areas.
- PXP Annexation runs contrary to many concepts of prudent planning. It negates Lompoc's compact urban form and it presents great difficulties to the city's providing adequate services to the area, particularly public safety services. The proposed PXP residential project will be on an actively-producing oil field and will be immediately adjacent to a major industrial plant that processes oil and natural gas. Overall, the project will be a liability to the city. It is a textbook example of urban sprawl.
- The executive officer of LAFCO is not an elected official what weight should his opinion carry? What are the concerns of the Hispanic community, the small business community and others who are not represented in this planning process? Will there be due process for community input at March 13th meeting? Half our city court was torn down 30 years ago. Why hasn't it been redeveloped already?
- I absolutely opposed to the annexation to the west of "V" Street and East of Bailey Ave. Loss of 250? Acres of the primmest of prime agriculture land should be analyzed in relation to the remainder of prime agriculture land to the west.
- Santa Ynez River should be retained as an absolute boundary to the east.
- Support annexations to the north except prime agriculture land next to the river. Infill should be precedent and an inventory of vacant parcels and empty buildings should be made!
- What are the real and perceived positive and negatives of being in the county vs. city limits-seems to be a general feeling of people in Vandenberg Village. Mesa Oaks and Mission Hills that it is not desirable to be annexed by the city of Lompoc. Why? What will the impact be on the county residents if annexed?
- It is only 1 mile from the "Wye" to Central Ave and shopping. Absolutely no need for commercial development on NE corner of Wye. Existing housing would have their

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views violated and forced to look at retail. When they bought those homes they expected more residential, not commercial.

- I thought these workshops were to gather community input. I noted at least three developers representation in the audience. I question the validity of the input. I don't think developers should participate either verbally or in the voting process.
- The recognized smart growth principles are diametrically opposed to the plans proposed for annexation. Annexation does not have to mean urban sprawl – how do we assume that?
- Conflict zoning may occur when annexation is done.
- City and County – They negotiate between property taxes, but who gets how much? For Goleta (50/50) split is favorable to the city. 12% Property tax usually for the city.
- Resource Management – who is responsible? City usually wants control of these services. Considerations should be made for water services, commercial usage, police, fire and other services to the area when annexation occurs.
- Burton Mesa Chaparral is a state given property. PXP is going to threatened wildlife preservation near Burton Mesa Chaparral.
- PXP constrain is that it's next to oil and mining area. PXP would be costly because the need for public safety and need for police. PXP doesn't create a community identity. What about the culture of the city? Where is this going to fit in with PXP? What about multi-use and transportation issues? PXP doesn't provide this. What about social economics? The city should revitalize in the center of the city, not in PXP. Where is Vandenberg Village in relationship to PXP?
- PXP is near Vandenberg Village and it gets city and public services. Vandenberg Village doesn't have gang kids. Children can go anywhere they want. City is not proposing Vandenberg Village to become part of the city. Why not?
- Vandenberg Village has gang kids too – Lompoc police don't report crimes that happen out there because it is not part of the city.
- Area C – Miguelito Canyon – Has an existing mining operation there and don't want residential soccer areas in the south village, but what about PXP? The developers don't pay their fair share. Mining is providing public services but it's not being accepted.
- Area D – East of the River – Constraints should include the Mission and precedent setting effect to the 246 corridor. These annexation areas don't follow the General Plan policies – everything is open right now and are likely to change.
- Community and stakeholders should work together and not separated.
- Mixed use zoning ordinance in downtown area. City usually has a mixed use overlay. Old town mixed use should extend to I St.
- Lompoc community character should include Wineries.

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Sign in sheet

name	Do you live in Lompoc or outside of the city?
Leorin Bronson	In
Mary Ellen Brooks	Outside
Carol Nash	Outside
Stue Oroze	Outside
Anne Jimenez	Outside
Sterling Collett	In
Will Schyler	In
Pauline Imano	Outside
Mona Swain	Outside
Angela Brooks	In
Judy Osbroans	In
Will Siminski	In
Josie Hernandez	Outside
Allison Campitelli	In
Rob Bravo	In
Erik Pfahler	Outside
Alice Milligan	In
Dulcie Sinn	In
Skye Tirsbier	Outside
Lelposi Scolari	In
Justin Ruhgo	In

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Educational Workshop # 3

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February 26, 2008

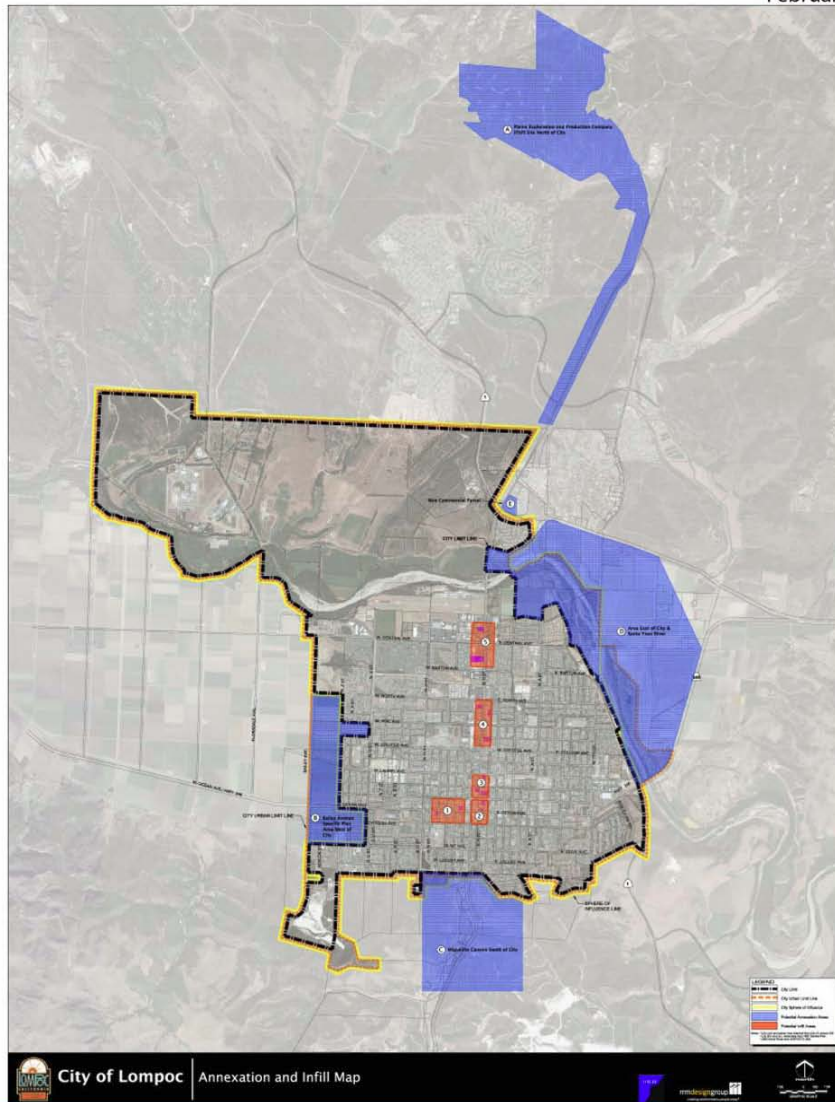
Sign in sheet

Kevin Moor	Outside
Bob Lingl	In
Betty Lewis	
Norm Witt	Outside
Frank Young	In
Owen Downing	Outside
Barry Weaver	In
Helen Free	In
Art Hibbits	Outside
DeWayne Holmdahl	In
Jon Piccinolo	Outside
Karen Doband	Outside
Jim Huseman	In
Derek Hansen	In
Frank Hain	In
Sandy Skimnor	In
Frances Romero	Outside
John Sterling	In
Judy Taggart	In
Bess Christensen	In
Ann Rarked	In
Al Robinson	In

Annexation & Infill

LOMPOC GENERAL PLAN UPDATE
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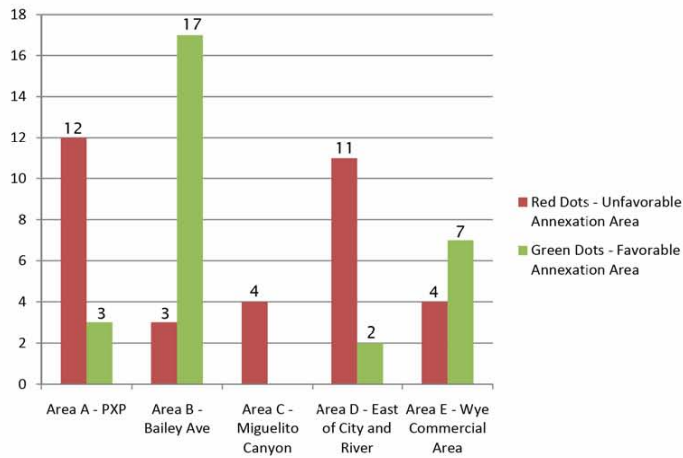
LOMPOC GENERAL PLAN UPDATE

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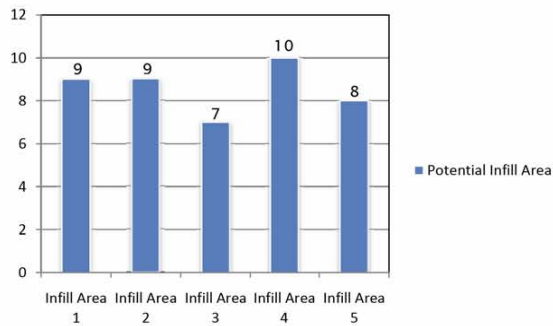
February 26, 2008

Annexation & Infill

DOT EXERCISE CHART



POTENTIAL INFILL AREA CHART

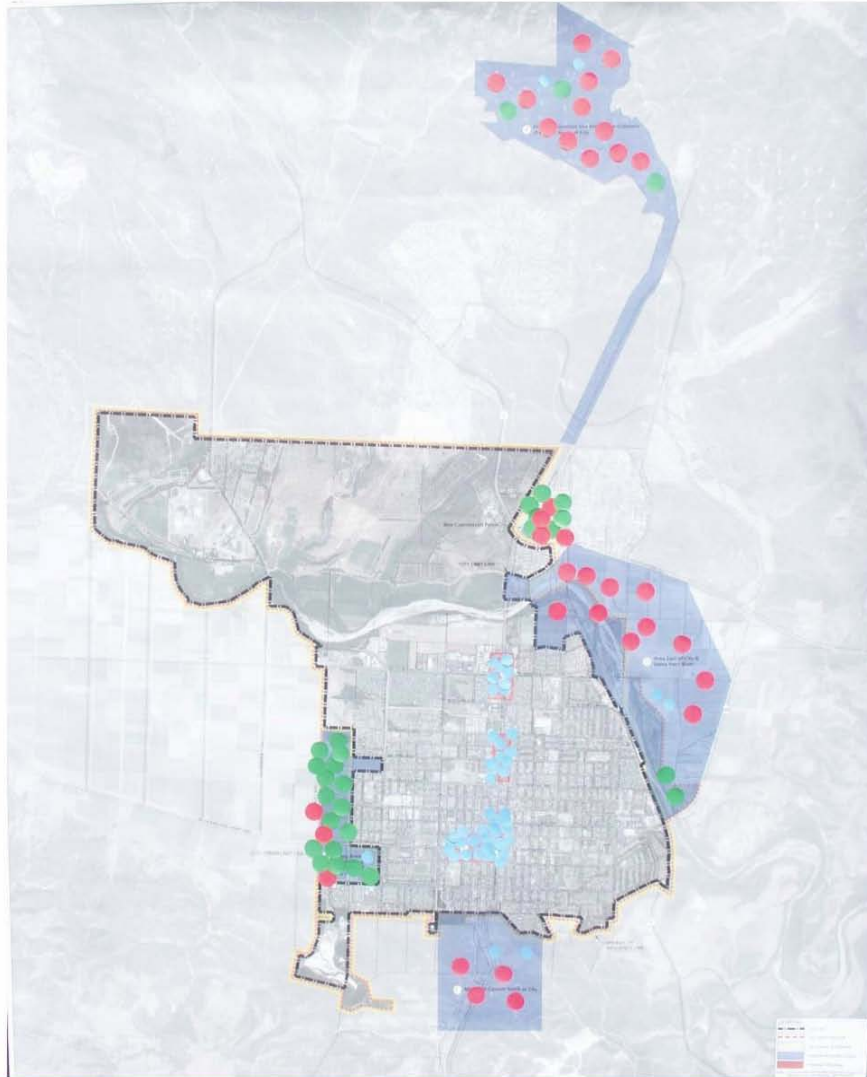


Annexation & Infill

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Dot Exercise Results



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LOMPOC GENERAL PLAN UPDATE

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Annexation & Infill



Existing Old Town



This is what Old Town could look like in 5 yrs.



This is what Old Town could look like in 10 yrs.

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Existing intersection of H St. and Walnut Ave.



This is what the intersection of H St. and Walnut Ave. could look like in 5 yrs.



This is what the intersection of H St. and Walnut Ave. could look like in 10 yrs.

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Educational Workshop # 3

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Annexation & Infill



Existing intersection of H St. and Chestnut Ave.



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Annexation & Infill

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 3

February 26, 2008

 <p>General Plan Update Educational Workshop #3 Annexation & Infill February 26, 2008</p>	<p>Agenda</p> <ol style="list-style-type: none"> 1. Existing General Plan Goals and Policies 2. Community Input "What We've Heard" 3. Annexation Process 4. Potential Annexation Areas 5. Smart Growth and Infill Opportunities 6. Summary 7. Community Survey 8. Workshop Exercise 
<p>Project Team</p> <p>City of Lompoc Arleen Pelster, AICP Community Development Director Lucille T. Breese, AICP Planning Manager Dinah Lockhart, Associate Planner</p> <p>Rincon Consultants, Inc. Richard Daulton, Planning Manager</p> <p>RRM Design Group John Shoals, Principal Planner Josh Cross, Senior Planner Juana Krause, Planner Lance Wierschem, Planner</p> 	<p>Overview of Existing Goals & Policies</p> <p>John Shoals</p> 
<p>Existing Goals & Policies</p> <ul style="list-style-type: none"> • LU Goal #1 – Maintain a compact urban form and growth pattern which provides adequate space to meet housing, employment, business, and public service needs. – Policy 1.2 – The City shall encourage development of underdeveloped and vacant land within its boundaries; and shall oppose urbanization of agricultural lands east of the City and west of Bailey Avenue... – Policy 1.3 – The City shall encourage Santa Barbara County and the LAFCO to plan urbanization within municipalities in order to protect prime agricultural land outside the Urban Limit Line and to efficiently utilize public infrastructure. 	<p>Existing Policies</p> <ul style="list-style-type: none"> – Policy 3.2 – The City shall encourage mixed-use development in appropriate areas to provide opportunities for a jobs and housing balance at the community and neighborhood level. – Policy 4.2 – The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development. – Policy 5.2 – The City shall protect prime agricultural lands east of the City and west of Bailey Avenue. – Policy 5.6 – The City shall maintain a compact urban form 








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<h3>Existing Goals & Policies</h3> <ul style="list-style-type: none"> * Circulation Element Goal #5: Reduce automobile use and the associated emissions by maintaining a compact and well-designed urban form which encourages alternative transportation modes. - Policy 1.4 - The City shall only allow development in areas where adequate circulation facilities and/or services will be available at the time of development. 	<h3>Implementation Measures</h3> <ul style="list-style-type: none"> * LU Measure 1 - The City shall amend the Zoning Ordinance to provide provisions for mixed-use development. * LU Measure 2 - The City shall periodically consider the need for a development priority system... underdeveloped and vacant land within the existing City boundaries would have the highest development priority. 																																																
<h3>What We've Heard</h3> <p><i>From General Plan Update Workshop #1</i></p> <p>15 Where should the City physically grow over the next 10-20 years?</p> <table border="0"> <tr><td>A</td><td>31%</td><td>Northwest of Lompoc on Harris Grade Rd.</td></tr> <tr><td>B</td><td>19%</td><td>South (Miguelito Canyon)</td></tr> <tr><td>C</td><td>12%</td><td>West of Bailey Avenue</td></tr> <tr><td>D</td><td>25%</td><td>East of the River</td></tr> <tr><td>E</td><td>12%</td><td>All of the above</td></tr> </table> <p>14 Would you support mixed use (retail and housing) projects on "H" street outside the downtown area?</p> <table border="0"> <tr><td>A</td><td>80%</td><td>Yes</td></tr> <tr><td>B</td><td>20%</td><td>No</td></tr> </table> 	A	31%	Northwest of Lompoc on Harris Grade Rd.	B	19%	South (Miguelito Canyon)	C	12%	West of Bailey Avenue	D	25%	East of the River	E	12%	All of the above	A	80%	Yes	B	20%	No	<h3>What We've Heard</h3> <p><i>From General Plan Update Workshop #1</i></p> <p>8 What do you like best about Lompoc?</p> <table border="0"> <tr><td>A</td><td>48%</td><td>Small town</td></tr> <tr><td>B</td><td>29%</td><td>Friendly people</td></tr> <tr><td>C</td><td>0%</td><td>Schools</td></tr> <tr><td>D</td><td>6%</td><td>Housing costs</td></tr> <tr><td>E</td><td>16%</td><td>Location in the County</td></tr> </table> <p>27 Provide for infill and intensification of land uses along the "H" Street corridor?</p> <table border="0"> <tr><td>A</td><td>74%</td><td>Very important</td></tr> <tr><td>B</td><td>23%</td><td>Somewhat important</td></tr> <tr><td>C</td><td>0%</td><td>Not very important</td></tr> <tr><td>D</td><td>3%</td><td>Not at all important</td></tr> </table> 	A	48%	Small town	B	29%	Friendly people	C	0%	Schools	D	6%	Housing costs	E	16%	Location in the County	A	74%	Very important	B	23%	Somewhat important	C	0%	Not very important	D	3%	Not at all important
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<h3>What We've Heard</h3> <p><i>From General Plan Update Workshop #1</i></p> <p>44 Infill/Underutilized Parcels? </p> <table border="0"> <tr><td>A</td><td>80%</td><td>Appropriate</td></tr> <tr><td>B</td><td>13%</td><td>Somewhat appropriate</td></tr> <tr><td>C</td><td>3%</td><td>Neutral</td></tr> <tr><td>D</td><td>3%</td><td>Somewhat not appropriate</td></tr> <tr><td>E</td><td>0%</td><td>Not appropriate</td></tr> </table> <p><i>How appropriate is the above image as a development strategy?</i></p> <p>26 Place a higher priority on protecting the environment and open space than on expanding land area for development.</p> <table border="0"> <tr><td>A</td><td>52%</td><td>Very important</td></tr> <tr><td>B</td><td>23%</td><td>Somewhat important</td></tr> <tr><td>C</td><td>16%</td><td>Not very important</td></tr> <tr><td>D</td><td>10%</td><td>Not at all important</td></tr> </table> 	A	80%	Appropriate	B	13%	Somewhat appropriate	C	3%	Neutral	D	3%	Somewhat not appropriate	E	0%	Not appropriate	A	52%	Very important	B	23%	Somewhat important	C	16%	Not very important	D	10%	Not at all important	<h3>What We've Heard</h3> <p><i>From Key Stakeholders, Neighborhood Meeting, and General Plan Update Workshop #1</i></p> <ul style="list-style-type: none"> * Growth: <ul style="list-style-type: none"> - Don't want to see major growth in the city -- about 1% a year for next 5 years. - Need RIRNA and countywide projections to base the need for new growth. - Growth and new development should pay for itself. - Infrastructure should precede development. * Infill: <ul style="list-style-type: none"> - Support infill on existing vacant and underutilized lots before expanding City boundaries. - Utilize vacant lots before expanding city limits. - Encouraged mixed use (retail and residential) in infill areas. - Conduct a vacant lot inventory - Infill first -- intelligent growth: build up, not out. 																					
A	80%	Appropriate																																															
B	13%	Somewhat appropriate																																															
C	3%	Neutral																																															
D	3%	Somewhat not appropriate																																															
E	0%	Not appropriate																																															
A	52%	Very important																																															
B	23%	Somewhat important																																															
C	16%	Not very important																																															
D	10%	Not at all important																																															

HOUSING ELEMENT


Annexation & Infill

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 3
February 26, 2008

What We've Heard

From Key Stakeholders, Neighborhood Meeting, and General Plan Update Workshop #1

- North (PXP):**
 - Some development to the North and Northeast of the city.
 - There is limited support for expanding to the North because there are too many houses in the unincorporated area.
 - Limit growth to the North as the River creates a natural boundary.
 - City should not be bound by the Santa Ynez River to the north.
 - Growth to North is a good idea, but I have concerns with the PXP annexation project.
 - PXP annexation would be leap frog development and may cause problems with intervening land that is owned by the State.
 - Don't want responsibility for Harris Grade Road traffic problems if PXP is annexed.
 - Annex land north of river from Seventh Street to Purisma Road
 - Primary concerns are road maintenance costs, fire protection, and police.
 - A new fire station at Burton Mesa & Harris Grade would be needed.
 - On a positive note, PXP is not on prime agriculture land.
 - Do not assume any annexations to the north. The residents of these areas want to keep this area semi-rural.
 - Recent annexations have caused traffic problems at the Wye.



What We've Heard

From Key Stakeholders, Neighborhood Meeting, and General Plan Update Workshop #1

- South (Miguelito Canyon):**
 - There is minimal support for expanding to the south to annex the Miguelito Canyon area.
 - Growth South and East, Sweeney Road area would be a good place for growth and annexation.
 - No development south of the city on the hills
 - Concerned with access in and out of the Canyon; roadways and access into the area need to be developed.
 - Hard to build in the Canyon as it has a semi-rural environment.
 - Miguelito Canyon difficult area to protect & slow response time for both fire fighters and police.
 - No hillside development except maybe ranchettes hidden from view.
 - Some people support annexation and development of Miguelito Canyon.
 - Prefer new development to the south into hills and not into prime agriculture land.
 - Continue growing south, utilize the hills in a planned and responsible growth as well as hiking trails, bike areas, horseback riding trails.



What We've Heard

From Key Stakeholders, Neighborhood Meeting, and General Plan Update Workshop #1


- East (Across the Santa Ynez River)**
 - Support for expanding to the east.
 - Support growth to the east of town; willing to jump the River to the east for possible build-out.
 - Growth to the east will be affected by flooding as most property next to the River is within the 100 year flood plain.
 - Considering the circulation limitations to the north and east of river, does it make good planning sense to consider annexations?



What We've Heard

From Key Stakeholders, Neighborhood Meeting, and General Plan Update Workshop #1

- West (Bailey Avenue):**
 - Support for annexing Bailey Avenue corridor to create western city boundary and edge.
 - City should expand west to border of Bailey Avenue.
 - Provide a sufficient park component in Bailey Avenue.
 - Need an Ag buffer; Bailey Avenue might offer buffer.
 - Bailey Avenue corridor up in the air as it will cause prime agricultural impacts.
 - Not sure about Bailey Avenue development plan.



What We've Learned

From Educational Workshop #2 - Housing

RHNA
Regional Housing Needs Assessment

Draft RHNA Allocation
500 - 1,000 units by 2,014

Alternative Strategies

	Most Appropriate → Least Appropriate				
	A	B	C	D	E
Increased Density		X			
In-Fill Development	X				
Mixed Use Projects	X				
Second Dwelling Units		X			
Housing Rehabilitation	X				
Rezone Commercial Land					X
Rezone Industrial Land					X
Rehabilitate Old Buildings	X				

HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 3

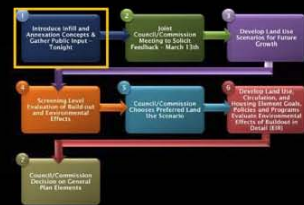
February 26, 2008

Annexation & Infill

Annexation Overview

Richard Daulton

General Plan Update Process



What Is Annexation?

Annexation is the term used when an area of land under county jurisdiction is added to a city.

- Annexation Process Established by State Law
- Negotiation Between City and County
- Overseen by Local Agency Formation Commission (LAFCO)
- The Cortese-Knox Act of 1985 established State Government Sections that provide a framework for considering annexations

The Role of LAFCO

- Local Agency Formation Commission for Each County
- Comprised of Two County Supervisors, Two City Council Members, Two Special District Members, and a Member of the Public
- Reviews Proposals for Boundary Changes
- Establishes the Ground Rules for How the City Will Process an Annexation
- Follows State Guidance but Operates Independently of State

The Role of the City

- City Has the Primary Responsibility for Planning and Regulating Land Use within its Boundaries
- State Law Requires Preparation and Adoption of a "Comprehensive, Long-Term General Plan for the Physical Development" of the Community
- General Plan Must Cover All Incorporated Territory
- Should Also Go Beyond City Limits to Include "Any Land Outside its Boundaries which...Bears Relation to its Planning."
- City Planning of Surrounding Area Signals Future Intent
- Indicates City's Concern for the Future of Surrounding Lands to State and Local Governments
- General Plan May Logically Include Adjacent Lands as Part of Long-Term (e.g., 20-Year) Growth Strategy and Vision

What is the Sphere of Influence?

- A Plan for the Probable Future Boundaries and Service Area of City
- Located Outside Current City Boundary
- Defines Primary Area within which Urban Development Will Be Encouraged
- Intended to Combat Urban Sprawl, Provide Orderly Growth Patterns, and Give Appropriate Consideration to Prime Agricultural Lands and Open Space
- Must Be Consistent with General Plan
- SOI Must Be Adopted Before an Annexation to the City Can Be Considered
- LAFCO's Major Planning Function

Annexation & Infill

LOMPOC GENERAL PLAN UPDATE
Educational Workshop # 3

February 26, 2008

Lompoc's Sphere of Influence

- LAFCO Not Required to Establish a Sphere of Influence Greater than Existing City Boundary
- Lompoc's Sphere of Influence Extends Beyond City Limits in the Following Areas:
 - Open Space Areas East of City Limits, Including River Bend Park
 - Portion of Landfill Property
 - One Very Low Density Residential Area South of West Willow Avenue
 - Wineman property off of V Street
 - Drive-In property
 - River Bend Park area



Pre-Zoning

- City Can "Pre-Zone" Unincorporated Territory it Expects to Annex in the Future
- Proposed Zones Must Be Consistent with General Plan
- Zoning Will Be in Effect Immediately Upon Annexation
- Local Residents Know Land Use Regulations that Would Affect Them Should Annexation Occur
- Notifies LAFCO and Other Agencies of City's Intent Regarding Adjacent Areas



What is the Annexation Process?

- Update General Plan to Indicate Desired Areas for Sphere of Influence and Pre-Zone Future Annexation Areas
- Request Sphere of Influence Amendment, and Possibly Concurrent Annexation, from LAFCO
- LAFCO Has 30 Days to Determine Application Completeness
- LAFCO Reviews Request Against its Adopted Policies
- City and County Negotiate Allocation of Property Tax Revenues
- LAFCO Issues Certificate of Filing



Annexation Process

- LAFCO Public Hearing Within 90 Days of Certificate of Filing
- LAFCO May Approve, Conditionally Approve, or Deny Application
- If Annexation Approved, City Forwards Resolution for Final LAFCO Consideration
- Annexation Certified by LAFCO



Considerations in Amending the Sphere of Influence/Annexation

- What Are the Current and Planned Uses in the Area (Including Agriculture and Open Space)? How Urban Is the Land Expected to Be?
- What Is the Likelihood of Substantial Growth in the Area in the Next 10-15 Years?
- Can City Effectively Provide Public Facilities and Services to the Area?



Considerations in Amending the Sphere of Influence/Annexation

- Are There Natural, Physical Boundaries?
- Would Future Growth Patterns Be Efficient and Logical?
- What Are the Effects on the Tax Base, City Center, Community Identity, and Neighboring Communities?
- Is Vacant Non-Open Space, Non-Prime Agricultural Land Already Available within City?







HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 3

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Annexation & Infill

<p>Why Consider Annexations in the General Plan Update?</p> <ul style="list-style-type: none"> • Long-Term Growth Planning for Buildout Horizon (20 Years) • Control Development Patterns on Lands Currently Outside City Boundaries • Establish Forward-Looking Mechanisms to Pay for Necessary Facility and Service Improvements • Annexations Often Occur on Larger Parcels of Land that Facilitate Large Scale Planning • City Has Recently Received Several Annexation Inquiries 	<p>Potential Annexation Areas</p> <ul style="list-style-type: none"> • Area "A" – Plains Exploration and Production Company (PXP) Site North of City • Area "B" – Bailey Avenue Specific Plan Area West of City • Area "C" – Miguelito Canyon South of City • Area "D" – Area East of City and Santa Ynez River • Area "E" – Wye Commercial Parcel 
<p>Annexation Area Constraints and Opportunities</p> <p><u>Area A - PXP</u></p> <ul style="list-style-type: none"> • 804-Acre Site Located About 3 Miles North of City Boundary West of Harris Grade Road, North of Burton Mesa Chaparral Preserve • Site Historically Used for Oil Production, Currently Being Cleaned Up • Annexation Inquiry Filed for Project with 1,300 Residences, Parks, and Public Uses • Project Would Require General Plan Amendment, Change to SOI Line, Annexation, Zone Change, Specific Plan 	<p>Annexation Area Constraints and Opportunities</p> <p><u>Area A - PXP</u></p> <ul style="list-style-type: none"> • Constraints <ul style="list-style-type: none"> • May Not Represent Logical Growth Pattern • Difficult/Costly to Extend Infrastructure and Provide Services • Public Safety Issues Associated with Historic Use of Site as Oil Field • Proximity to Sensitive Biological Resources – Burton Mesa Chaparral • Community Identity Issues Due to Remote Location • High Vehicle Trip Lengths to Town • Exposure to Fire Hazards 
<p>Annexation Area Constraints and Opportunities</p> <p><u>Area A - PXP</u></p> <ul style="list-style-type: none"> • Opportunities <ul style="list-style-type: none"> • Limited Nuisances on Adjacent Land Uses • Large Parcel of Land Facilitates Large-Scale Planning Effort • Facilitates Housing Production in Accordance with State Mandates • Prevents Sub-Optimal Outcome of Development within County 	<p>Annexation Area Constraints and Opportunities</p> <p><u>Area B - Bailey Avenue Specific Plan Area</u></p> <ul style="list-style-type: none"> • 270-Acre Site Located East of Bailey Avenue, North and South of Ocean Avenue, Contiguous to Existing City Boundary • Site Predominately Vacant • Historically and Currently in Agricultural Use and Zoned by County for Agricultural Use, but Designated by City for Low Density Residential Use • Application Filed for Plan with up to 2,719 Residences, 228,700 Square Feet of Commercial Uses, Parks, and Public Uses • Project Would Continue Bailey Avenue Corridor Agricultural Buffer • Project Would Require General Plan Amendment, Change to SOI Line, Annexation, Zone Change, Specific Plan 

HOUSING ELEMENT

Annexation & Infill

LOMPOC GENERAL PLAN UPDATE


Educational Workshop # 3

February 26, 2008

Annexation Area Constraints and Opportunities

Area B – Bailey Avenue Specific Plan Area


- **Constraints**
 - Conversion of Prime Agricultural Lands
 - Potential Contamination of Soils from Historic Agricultural Use
 - Traffic Impacts on Currently Constrained Intersections
 - Development Would Block Scenic Views to West and Change Aesthetic Character of Site
 - Located at Urban/Rural Interface
 - Site Bisected by Railroad



Annexation Area Constraints and Opportunities

Area B – Bailey Avenue Specific Plan Area


- **Opportunities**
 - Logical Growth Pattern
 - Agricultural Buffer Would Provide Hard Urban Edge and Limit Future Conversion of Agricultural Lands to West
 - Could Help Build Critical Mass of Demand for Old Town and Ocean Avenue Commercial Services
 - Large Parcel of Land Facilitates Large-Scale Planning Effort
 - Facilitates Housing Production in Accordance with State Mandates
 - Prevents Sub-Optimal Outcome of Development within County



Annexation Area Constraints and Opportunities

Area C – Miguelito Canyon


- Area Located Immediately South of City Boundary
- Varied Topography/Hilly Area
- Conceptual Area - No Annexation Inquiries Have Been Filed



Annexation Area Constraints and Opportunities

Area C – Miguelito Canyon


- **Constraints**
 - Development May Be Visible from Town
 - Traffic Through Town Would Need to Cross South Side Neighborhood
 - Possible Precedent-Setting/Growth Inducement Effects
 - Exposure to Fire Hazards



Annexation Area Constraints and Opportunities

Area C – Miguelito Canyon


- **Opportunities**
 - Logical Growth Pattern
 - Could Help Build Critical Mass of Demand for Old Town and Ocean Avenue Commercial Services
 - Facilitates Housing Production in Accordance with State Mandates
 - Prevents Sub-Optimal Outcome of Development within County



Annexation Area Constraints and Opportunities

Area D – Area East of City and Santa Ynez River

- Area Located Immediately East of City Boundary
- Contains Santa Ynez River & River Park
- Most Lands Have Limited Development and/or Are in Agricultural Production
- Annexation Inquiry Filed for Two Parcels (Total of 18 Acres) that Flank the Entrance to River Park and One Parcel (10 Acres) on Sweeney Road, South of SR 246
- Possible RV Park, Senior Housing, or Mobile Home Park, Wine Processing



HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

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February 26, 2008

Annexation & Infill

Annexation Area Constraints and Opportunities

Area D – Area East of City and Santa Ynez River


- **Constraints**
 - Difficult/Costly to Extend Infrastructure and Provide Services Across River
 - Conversion of Prime Agricultural Lands
 - Traffic Impacts on Currently Constrained State Route 246 Intersections
 - Proximity to Sensitive Biological Resources Associated with River
 - Previous Annexation Requests Denied by LAFCO Due to Presence of Natural Barrier (River) and Precedent-Setting Effect



Annexation Area Constraints and Opportunities

Area D – Area East of City and Santa Ynez River


- **Opportunities**
 - Logical Growth Pattern
 - Capture River Park within City Boundary
 - Could Help Build Critical Mass of Demand for Old Town and Ocean Avenue Commercial Services
 - Facilitates Housing Production in Accordance with State Mandates



Annexation Area Constraints and Opportunities

Area E – Wye Commercial Parcel


- 10-Acre Parcel Located Immediately North of City Boundary, at Northeast Corner of Harris Grade Road/Purisima Road
- Lands Are Currently Vacant and Designated by City and County for Low Density Residential Use
- Annexation Inquiry for 120,000 Square Feet of Commercial Use



Annexation Area Constraints and Opportunities

Area E – Wye Commercial Parcel


- **Constraints**
 - Traffic Impacts on Currently Constrained Intersections
 - Access Issues
 - Development Would Alter Aesthetic Character of Site
 - May Divert Commercial Demand from Old Town District and other existing commercial areas



Annexation Area Constraints and Opportunities


Area E – Wye Commercial Parcel

- **Opportunities**
 - Logical Growth Pattern
 - Generation of Tax Revenues
 - Prevents Sub-Optimal Outcome of Development within County



What is Smart Growth?

John Shoals



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LOMPOC GENERAL PLAN UPDATE

Annexation & Infill

Educational Workshop # 3

February 26, 2008

**Smart Growth:
10 Guiding Principles**

1. Mix land uses;
2. Take advantage of compact building design;
3. Create a range of housing opportunities and choices;
4. Create walkable neighborhoods;
5. Foster distinctive, attractive communities with a strong sense of place;




**Smart Growth:
10 Guiding Principles**

6. Preserve open space, farmland, natural beauty, and critical environment areas;
7. Strengthen and direct development towards existing communities;
8. Provide a variety of transportation choices;
9. Make development predictable, fair, and cost effective; and
10. Encourage community and stakeholder collaboration in development decisions"



Infill Development

John Shoals



What is Infill?

- Infill development is the creative use or reuse of vacant or under-utilized properties, within a city or town, to improve or revitalize the community.



What is Mixed Use?

Mixed-use development allows more than one type of use in a building or set of buildings. This can mean some combination of residential, commercial, industrial, office, institutional, or other land uses.



What are the Benefits of Infill?

- Adapts reuse of vacant parcels and empty buildings
- Locates housing near job centers, transit, shopping, and community facilities
- Builds affordable housing
- Enhances and revitalizes downtowns or specific areas









HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

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Annexation & Infill

<p>What are the Benefits of Infill?</p> <ul style="list-style-type: none"> • Increases the base on property tax • Capitalizes on community resources, such as infrastructure, services, and parks • Promotes smart growth rather than sprawl and greenfield development • Provides alternatives to single-occupant vehicles • Can give a sense of being "downtown" 	<p>What are the Infill Challenges?</p> <ul style="list-style-type: none"> • Neighborhood opposition (NIMBYism) • Perception of increased demands on infrastructure and services • Best suited for people who prefer public amenities to private space. Lack of open space for kids & pets. • Land redevelopment • Bank funding and financing • Construction costs • Consumers prefer shopping at "Big Box" retailers aka "one stop shopping" vs. shopping several smaller stores 
<p>Public Education Methods</p> <ul style="list-style-type: none"> • Visual preference surveys • Bus tour with key stakeholders, city officials, and city staff • Camera survey to allow stakeholders and officials to take photos of architecture • Design charrettes • Visual models (3-D CAD), vision posters, and visioning workshops 	<p>H Street & Chestnut Ave.</p>  <p>Today</p>
<p>H Street & Chestnut Ave.</p>  <p>5 Years</p>	<p>H Street & Chestnut Ave.</p>  <p>10 years</p>

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LOMPOC GENERAL PLAN UPDATE
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LOMPOC GENERAL PLAN UPDATE

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Annexation & Infill

Community Survey

Listed below are several types of growth that might occur in an area. Please tell us how strongly you support or oppose that type of growth for Lompoc

- Strongly Support
- Support Somewhat
- Strongly Oppose
- Oppose Somewhat
- No Opinion



Building setback from street with landscaping Buildings at the back of sidewalk with limited landscaping



Community Dot Exercise

- Green = Favorable Annexation Area
- Red = Unfavorable Annexation Area
- Blue = Favorable Infill Areas

Thank You for Coming

Educational Workshop #3
Annexation & Infill

Response Report

Page 1

Session: Annexation and Infill

Class: Annex

Class Points Avg: N/A

(Includes only students who took assessment)

1	Some people say that we must preserve the qualities that make our community special by severely limiting growth. Others say that growth is necessary for our economy and our current regulations are satisfactory. Which of these statements best describes your point of view?	
A	41%	We must preserve the qualities that make our community special by severely limiting growth and preserving natural resources and open space.
B	54%	Growth is necessary for the economy.
C	3%	I have no opinion one way or another.

2	Would you rather develop agricultural land or have high-density residential near your home?	
A	30%	I would prefer to develop prime agricultural land.
B	57%	I would prefer to have high-density residential next door/near my home.

3	Which better reflects how you would like to see Lompoc grow.	
A	27%	Annexation of lands for development of low density residential subdivisions.
B	68%	Infill development on vacant and under-utilized properties within the City limits. Infill development will include commercial, mixed use, medium density, or high density residential development.

4	New residential development that includes apartments as well as homes.	
A	38%	Strongly Support
B	32%	Somewhat Support
C	8%	No Opinion
D	11%	Somewhat Oppose
E	3%	Strongly Oppose

5	New residential that includes homes, but not apartments	
A	11%	Strongly Support
B	19%	Somewhat Support
C	16%	No Opinion
D	32%	Somewhat Oppose
E	16%	Strongly Oppose

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HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Educational Workshop # 3

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Annexation & Infill

Response Report

Page 2

Session: Annexation and Infill

Class: Annex

Class Points Avg: N/A

(Includes only students who took assessment)

6	Encouraging new businesses to locate in our community.	
A	76%	Strongly Support
B	11%	Somewhat Support
C	3%	No Opinion
D	0%	Somewhat Oppose
E	0%	Strongly Oppose

7	Encouraging new businesses to locate nearby, but outside our community.	
A	0%	Strongly Support
B	11%	Somewhat Support
C	11%	No Opinion
D	24%	Somewhat Oppose
E	41%	Strongly Oppose

8	Locating new retail shopping in our community.	
A	70%	Strongly Support
B	14%	Somewhat Support
C	0%	No Opinion
D	5%	Somewhat Oppose
E	0%	Strongly Oppose

9	Locating new shopping nearby but outside our community.	
A	8%	Strongly Support
B	3%	Somewhat Support
C	3%	No Opinion
D	19%	Somewhat Oppose
E	54%	Strongly Oppose

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Response Report

Page 3

Session: Annexation and Infill

Class: Annex

Class Points Avg: N/A

(Includes only students who took assessment)

10 New roadways to meet future transportation needs.		
A	51%	Strongly Support
B	14%	Somewhat Support
C	0%	No Opinion
D	8%	Somewhat Oppose
E	16%	Strongly Oppose

11 Expanding existing roadways.		
A	35%	Strongly Support
B	30%	Somewhat Support
C	5%	No Opinion
D	11%	Somewhat Oppose
E	14%	Strongly Oppose

12 Creating new public transportation services.		
A	41%	Strongly Support
B	30%	Somewhat Support
C	5%	No Opinion
D	5%	Somewhat Oppose
E	8%	Strongly Oppose

13 Which of the following statements best describes your opinion about the community? Would you say that:		
A	46%	We should plan new neighborhoods with smaller lots, sidewalks and playgrounds even if it means that homes have to be built closer together.
B	46%	We should plan new neighborhoods with larger lots even if it means that more land will be used to build these neighborhoods.

14 Which of these two statements comes closest to your opinion? Would you say that:		
A	65%	I would like to see our local governments encourage more housing and business development in the downtown areas rather than outside the city.
B	19%	New businesses and housing are best located on the outskirts of Lompoc rather than in the center of town.

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February 26, 2008

Annexation & Infill

Response Report

Page 4

Session: Annexation and Infill

Class: Annex

Class Points Avg: N/A

(Includes only students who took assessment)

15 The term, "compact urban form" means taller buildings and more residential density in the "downtown core" (Old Town). Would you support taller buildings in the Old Town?		
A	68%	Yes
B	22%	No

16 What should the maximum number of stories be in the downtown core?		
A	3%	1
B	11%	2
C	35%	3
D	30%	4
E	8%	5

17 The "H" Street corridor presents infill development opportunities that could offset the need to expand the City's boundaries. Would you support taller buildings along "H" Street?		
A	68%	Yes
B	19%	No

18 What should the maximum number of stories be in commercial areas along "H" Street.		
A	0%	1
B	22%	2
C	43%	3
D	14%	4
E	8%	5

19 What kind of commercial development guidelines would you prefer to see in the downtown core?		
a. Building setback with landscaping between sidewalk and street		
A	46%	Most Appropriate
B	22%	Somewhat Appropriate
C	16%	Least Appropriate

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Response Report

Page 5

Session: Annexation and Infill

Class: Annex

Class Points Avg: N/A

(Includes only students who took assessment)

20 What kind of commercial development guidelines would you prefer to see in the downtown core?		
b. Buildings at the back of sidewalk with limited landscaping		
A	27%	Most Appropriate
B	32%	Somewhat Appropriate
C	30%	Least Appropriate

21 What kind of commercial development guidelines would you prefer to see in the downtown core?		
c. Parking on the side or rear of buildings		
A	78%	Most Appropriate
B	3%	Somewhat Appropriate
C	14%	Least Appropriate

22 What MOST defines Lompoc's architectural character?		
A	38%	Victorian
B	8%	Mission (Spanish)
C	5%	Craftsman
D	16%	Art Deco
E	30%	Other

23 What MOST defines Lompoc's community character?		
A	16%	Arts and Flowers
B	3%	Views of Mountains
C	22%	Agriculture and Open Space
D	49%	Small town feeling
E	8%	Other

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HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Appendix

NOTICE OF GENERAL PLAN WORKSHOP

DATE: Saturday -- January 12, 2008
TIME: 9:00 a.m. to 11:00 a.m.
LOCATION: City of Lompoc -- Council Chambers
100 Civic Center Plaza
Lompoc CA 93436



The City of Lompoc is holding an initial General Plan Workshop which is intended to advise the public of the process that will be followed in updating the City of Lompoc General Plan.

The existing General Plan for the City was adopted in 1997 and there have been many changes to the community in the past ten years. The City Council has directed staff to proceed with an update to the General Plan. An important component of the update is to obtain citizen input regarding the community vision for the future.

At the January 12 workshop, City staff and the consultant who will be preparing the General Plan will be available to discuss the process.

Additional upcoming meetings are scheduled in the City Council Chambers as follows:

January 29, 2008 Tuesday at 6:30 p.m.
Public Education Workshop -- to discuss existing traffic and circulation issues in the area and potential repercussions of future growth on the City's transportation network.

February 12, 2008 Tuesday at 6:30 p.m.
Public Education Workshop -- to present housing issues and constraints that face the City. State standards and mandates relative to the provisions of adequate housing sites and supporting policies will be described.

February 26, 2008 Tuesday at 6:30 p.m.
Public Education Workshop -- to discuss issues associated with potential annexation areas including infrastructure concerns and potential environmental and land use constraints

March 13, 2008 Thursday at 6:30 p.m.
Joint Council/Commission Meeting -- to review the draft vision document and General Plan Phase 1 element goals to inform residents and solicit feedback and comments. Issues associated with the current General Plan will be reviewed.

If you are unable to attend these meetings please look on the City website for upcoming meetings at <http://www.ci.lompoc.ca.us> and click on "General Plan Update" or contact the staff members listed below for additional information.

City Staff:	Arleen T. Pelster, AICP Community Development Director Telephone: 805-875-8274 e-mail address: apelster@ci.lompoc.ca.us	Lucille T. Breese, AICP Planning Manager Telephone: 805-875-8273 e-mail address: lbreese@ci.lompoc.ca.us
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HOUSING ELEMENT

LOMPOC GENERAL PLAN UPDATE

Appendix

**Infill Defense Tool-Kit
Urban CheckList**



Infill development is the creative use or reuse of vacant or under-utilized properties within a city or town to improve or revitalize the community. This Infill Defense Tool-Kit will help you **Understand Infill, Prepare for Infill, Educate on Infill, and Implement Infill.**

Understand Infill

Benefits and Rewards

- Adapts reuse of vacant parcels and empty buildings.
- Locates housing near job centers, transit, shopping, and community facilities.
- Builds affordable housing.
- Enhances and revitalizes downtowns or specific areas.
- Increases the base on property tax.
- Capitalizes on community resources, such as infrastructure, services, and parks.
- Promotes Smart Growth rather than sprawl and greenfield development.
- Provides alternatives to single-occupant vehicles.

Challenges

- Neighborhood opposition (NIMBYism)
- Perception of increased demands on infrastructure and services
- Land redevelopment
- Bank funding and financing

Prepare for Infill

Infill Development Checklist

- General Plan evaluation (goals to support infill)
- Smart Growth principles
- Zoning ordinance assessment
- Design guidelines
- Builder incentives (density bonuses, parking reductions, etc.)
- City Council buy-in
- Community support
- Evaluation of transit facilities
- Evaluation of existing infrastructure and public services
- Community investment

NIMBY Alarm Checklist

- Active neighborhood group
- Active environmental group



Infill Defense Tool-Kit
Urban CheckList



Educate on Infill

Involve and inform the Public, Stakeholders, City Officials, and City Staff.

- Visual Preference Surveys with handheld remotes.
- Bus Tour
- Camera Architecture Survey to allow stakeholders and officials to take photos of architecture that they deem appropriate for their City.
- Visual Models (3-D CAD), Vision Posters, and Visioning Workshops.
- Design Charrettes



Implement Infill with RRM's Help

Ideas on Processes

- Create a Community Vision Plan.
- Host early and inclusive dialogs with stakeholders.
- Form a Community Infill Taskforce to educate the opposition.
- Ensure that existing and new codes and standards encourage quality development.
- Create form-based or design-based standards that support and guide infill development.
- Demand commitment to quality design and detailing.

Ideas on Design

- Building Height Standards
 - Allow high structures to accommodate the 1st floor's commercial component.
 - Allow for high ceilings, resulting in high buildings.
 - Specify number of floors not a fixed height, promoting height variation.
- Pedestrian-Friendly Components: Wider Sidewalks and Enhanced Streetscapes
 - Require a **minimum** building height for wide streets (over three lanes).
 - Create standards that will provide wide sidewalks on pedestrian-oriented streets.
 - Prohibit (do not forbid) residential uses on "ground floor **street frontage**."
 - Build forms and building placement that frame the street, creating a great streetscape and space for pedestrians.
- Mixed-Use Enhancements
 - Reduce shared parking.
 - Allow for horizontal and vertical mixed-use.
 - Demand buildings with articulate and interesting architecture.



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**APPENDIX B
LAND INVENTORY**

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION			RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast	
Low Density	8306017	VLDR	RA	25.73	\$ -	\$ -	0%	Vacant	0	0	57	19	
Low Density	9725002	LDR4.6	SP	9.27	\$ -	\$ -	0%	Entitled	0	55	55	55	
Low Density	9725005	LDR2.5	SP	23.61	\$ -	\$ -	0%	Entitled	0	210	210	210	
Low Density	9725070	LDR4.6	SP	1.63	\$ -	\$ -	0%	Vacant	0	0	8	2	
Low Density	9725069	LDR4.6	SP	2.49	\$ -	\$ -	0%	Vacant	0	0	12	3	
Low Density	9725051	LDR2.5	SP	32.61	\$ 550,386	\$ -	0%	Vacant	0	0	82	20	
Low Density	9725040	LDR4.6	SP	32.27	\$ 975,106	\$ -	0%	Vacant	0	0	149	37	
Low Density	9725062	LDR2.5	SP	41.05	\$ -	\$ -	0%	Vacant	0	0	103	25	
Low Density	9725050	LDR2.5	SP	3.29	\$ -	\$ -	0%	Vacant	0	0	9	2	
Low Density	9340018	LDR	10R1	0.31	\$ 117,300	\$ -	0%	Vacant	0	0	2	1	
Low Density	9340014	LDR	10R1	0.34	\$ 161,834	\$ -	0%	Vacant	0	0	2	1	
Low Density	9340019	LDR	10R1	0.34	\$ 158,100	\$ -	0%	Vacant	0	0	2	1	
Low Density	9340020	LDR	10R1	0.34	\$ 137,700	\$ -	0%	Vacant	0	0	2	1	
Low Density	9354046	LDR	7R1PD	0.21	\$ 208,141	\$ 280,000	57%	Entitled	0	1	1	1	
Low Density	8904028	LDR	7R1	3.29	\$ 1,196,460	\$ -	0%	Entitled	0	8	8	8	
Low Density	9353001	LDR	7R1PD	0.19	\$ 206,060	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353002	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353003	LDR	7R1PD	0.14	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353004	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353005	LDR	7R1PD	0.20	\$ 208,141	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353006	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353007	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353008	LDR	7R1PD	0.20	\$ 208,141	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353009	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353010	LDR	7R1PD	0.24	\$ 211,262	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353011	LDR	7R1PD	0.16	\$ 203,979	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353012	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353013	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353014	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353015	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353016	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353017	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353018	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353019	LDR	7R1PD	0.16	\$ 203,979	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353020	LDR	7R1PD	0.16	\$ 203,979	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353021	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353022	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353023	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353024	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353025	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353026	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353027	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353028	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353029	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353030	LDR	7R1PD	0.19	\$ 208,141	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353031	LDR	7R1PD	0.17	\$ 206,060	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353032	LDR	7R1PD	0.10	\$ 195,656	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353033	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353034	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353035	LDR	7R1PD	0.11	\$ 195,656	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353036	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353037	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353038	LDR	7R1PD	0.17	\$ 206,060	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353039	LDR	7R1PD	0.19	\$ 206,060	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353040	LDR	7R1PD	0.14	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353041	LDR	7R1PD	0.22	\$ 208,141	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353042	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353043	LDR	7R1PD	0.14	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353044	LDR	7R1PD	0.18	\$ 206,060	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353045	LDR	7R1PD	0.25	\$ 211,262	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353046	LDR	7R1PD	0.17	\$ 206,060	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353047	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353048	LDR	7R1PD	0.11	\$ 195,656	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353049	LDR	7R1PD	0.11	\$ 195,656	\$ -	0%	Entitled	0	1	1	1	
Low Density	9353050	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1	

CITY OF LOMPOC
2030 GENERAL PLAN

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION		RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast
Low Density	9353051	LDR	7R1PD	0.16	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353052	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9353053	LDR	7R1PD	0.24	\$ 211,262	\$ -	0%	Entitled	0	1	1	1
Low Density	9353054	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353055	LDR	7R1PD	0.19	\$ 208,141	\$ -	0%	Entitled	0	1	1	1
Low Density	9353056	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353057	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353058	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353059	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353060	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353061	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353062	LDR	7R1PD	0.18	\$ 206,060	\$ -	0%	Entitled	0	1	1	1
Low Density	9353063	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9353064	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Entitled	0	1	1	1
Low Density	9353065	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Entitled	0	1	1	1
Low Density	9353068	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9353069	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9353070	LDR	7R1PD	0.14	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9353071	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9353072	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9353073	LDR	7R1PD	0.14	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9353074	LDR	7R1PD	0.10	\$ 195,656	\$ -	0%	Entitled	0	1	1	1
Low Density	9353075	LDR	7R1PD	0.10	\$ 195,656	\$ -	0%	Entitled	0	1	1	1
Low Density	9353076	LDR	7R1PD	0.11	\$ 195,656	\$ -	0%	Entitled	0	1	1	1
Low Density	9353080	LDR	7R1PD	0.16	\$ 203,979	\$ -	0%	Entitled	0	1	1	1
Low Density	9353081	LDR	7R1PD	0.17	\$ 206,060	\$ -	0%	Entitled	0	1	1	1
Low Density	9354001	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9354002	LDR	7R1PD	0.19	\$ 206,060	\$ -	0%	Entitled	0	1	1	1
Low Density	9354003	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9354004	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9354005	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9354051	LDR	7R1PD	0.18	\$ 206,060	\$ -	0%	Entitled	0	1	1	1
Low Density	9354052	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Entitled	0	1	1	1
Low Density	9354053	LDR	7R1PD	0.13	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9354054	LDR	7R1PD	0.25	\$ 211,262	\$ -	0%	Entitled	0	1	1	1
Low Density	9354055	LDR	7R1PD	0.18	\$ 206,060	\$ -	0%	Entitled	0	1	1	1
Low Density	9354063	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9354064	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Entitled	0	1	1	1
Low Density	9354065	LDR	7R1PD	0.11	\$ 195,656	\$ -	0%	Entitled	0	1	1	1
Low Density	8534103	LDR	7R1	0.08	\$ 60,000	\$ 15,000	20%	Underutilized	0	0	1	0
Low Density	8929033	LDR	7R1	0.26	\$ 230,000	\$ 100,000	30%	Underutilized	1	0	2	0
Low Density	9354059	LDR	7R1PD	0.11	\$ 197,736	\$ 75,000	27%	Underutilized	1	0	1	0
Low Density	9354027	LDR	7R1PD	0.12	\$ 200,858	\$ 75,000	27%	Underutilized	1	0	1	0
Low Density	9354029	LDR	7R1PD	0.12	\$ 200,858	\$ 75,000	27%	Underutilized	1	0	1	0
Low Density	9354028	LDR	7R1PD	0.15	\$ 201,898	\$ 68,000	25%	Underutilized	1	0	1	0
Low Density	9354058	LDR	7R1PD	0.14	\$ 201,898	\$ 62,000	23%	Underutilized	1	0	1	0
Low Density	9354060	LDR	7R1PD	0.16	\$ 206,060	\$ 62,000	23%	Underutilized	1	0	2	0
Low Density	8533305	LDR	7R1	0.17	\$ 114,426	\$ 49,513	30%	Underutilized	1	0	2	0
Low Density	9112204	LDR	7R1	0.16	\$ 180,000	\$ 30,000	14%	Underutilized	1	0	2	0
Low Density	8528305	LDR	7R1	0.24	\$ 69,776	\$ 26,641	28%	Underutilized	1	0	2	0
Low Density	9123225	LDR	7R1	0.14	\$ 64,354	\$ 19,304	23%	Underutilized	1	0	1	0
Low Density	9116116	LDR	7R1	0.16	\$ 32,489	\$ 8,112	20%	Underutilized	1	0	1	0
Low Density	8521111	LDR	7R1	0.12	\$ 17,231	\$ 6,880	29%	Underutilized	1	0	1	0
Low Density	8910422	LDR	7R1	0.14	\$ 68,949	\$ 620	1%	Underutilized	1	0	1	0
Low Density	8925107	LDR	7R1	0.15	\$ 55,173	\$ 616	1%	Underutilized	1	0	1	0
Low Density	9112225	LDR	7R1	0.16	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	9320314	LDR	7R1	0.13	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	8535205	LDR	7R1	0.16	\$ 9,639	\$ -	0%	Underutilized	1	0	1	0
Low Density	8521304	LDR	7R1	0.16	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	9120221	LDR	7R1	0.16	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	9120220	LDR	7R1	0.16	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	9112224	LDR	7R1	0.16	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	9353066	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Underutilized	1	0	1	0
Low Density	9353067	LDR	7R1PD	0.12	\$ 200,858	\$ -	0%	Underutilized	1	0	1	0
Low Density	9353077	LDR	7R1PD	0.11	\$ 197,737	\$ -	0%	Underutilized	1	0	1	0
Low Density	9353078	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Underutilized	1	0	1	0
Low Density	9353079	LDR	7R1PD	0.15	\$ 201,898	\$ -	0%	Underutilized	1	0	1	0
Low Density	9354006	LDR	7R1PD	0.14	\$ 201,898	\$ -	0%	Underutilized	1	0	1	0

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION		RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast
Low Density	9354007	LDR	7R1PD	0.12	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354008	LDR	7R1PD	0.12	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354009	LDR	7R1PD	0.12	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354010	LDR	7R1PD	0.12	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354011	LDR	7R1PD	0.11	\$ 195,656	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354012	LDR	7R1PD	0.12	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354013	LDR	7R1PD	0.14	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354014	LDR	7R1PD	0.20	\$ 208,141	\$ -	-	0% Underutilized	1	0	2	0
Low Density	9354015	LDR	7R1PD	0.16	\$ 206,060	\$ -	-	0% Underutilized	1	0	2	0
Low Density	9354016	LDR	7R1PD	0.14	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354017	LDR	7R1PD	0.13	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354018	LDR	7R1PD	0.12	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354019	LDR	7R1PD	0.18	\$ 206,060	\$ -	-	0% Underutilized	1	0	2	0
Low Density	9354020	LDR	7R1PD	0.15	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354021	LDR	7R1PD	0.16	\$ 206,060	\$ -	-	0% Underutilized	1	0	2	0
Low Density	9354022	LDR	7R1PD	0.14	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354023	LDR	7R1PD	0.16	\$ 203,979	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354024	LDR	7R1PD	0.16	\$ 203,979	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354025	LDR	7R1PD	0.15	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354026	LDR	7R1PD	0.18	\$ 206,060	\$ -	-	0% Underutilized	1	0	2	0
Low Density	9354056	LDR	7R1PD	0.11	\$ 197,737	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354057	LDR	7R1PD	0.12	\$ 200,858	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354061	LDR	7R1PD	0.15	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354062	LDR	7R1PD	0.16	\$ 203,979	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354066	LDR	7R1PD	0.11	\$ 197,737	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354067	LDR	7R1PD	0.10	\$ 195,656	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354068	LDR	7R1PD	0.15	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	9354069	LDR	7R1PD	0.15	\$ 201,898	\$ -	-	0% Underutilized	1	0	1	0
Low Density	8526047	LDR	7R1	0.36	\$ 214,200	\$ -	-	0% Underutilized	1	0	3	0
Low Density	9322219	LDR	7R1	0.14	\$ -	\$ -	-	0% Underutilized	1	0	1	0
Low Density	8718313	LDR	7R1	0.14	\$ 8,216	\$ -	-	0% Vacant	0	0	1	0
Low Density	8904034	LDR	7R1	0.16	\$ 4,261	\$ -	-	0% Vacant	0	0	2	1
Low Density	8547024	LDR	7R1	0.17	\$ 103,129	\$ -	-	0% Vacant	0	0	2	1
Low Density	8526055	LDR	7R1	0.19	\$ 4,789	\$ -	-	0% Vacant	0	0	2	1
Low Density	8526056	LDR	7R1	0.20	\$ 4,880	\$ -	-	0% Vacant	0	0	2	1
Low Density	8547009	LDR	7R1	0.21	\$ 14,123	\$ -	-	0% Vacant	0	0	2	1
Low Density	8526053	LDR	7R1	0.22	\$ 6,108	\$ -	-	0% Vacant	0	0	2	1
Low Density	8526052	LDR	7R1	0.22	\$ 5,413	\$ -	-	0% Vacant	0	0	2	1
Low Density	8527305	LDR	7R1	0.25	\$ 189,177	\$ -	-	0% Vacant	0	0	2	1
Low Density	9316228	LDR	7R1	0.25	\$ 13,266	\$ -	-	0% Vacant	0	0	2	1
Low Density	8526051	LDR	7R1	0.26	\$ 6,292	\$ -	-	0% Vacant	0	0	2	1
Low Density	8526050	LDR	7R1	0.49	\$ 183,600	\$ -	-	0% Vacant	0	0	4	2
Low Density	8929030	LDR	7R1	0.32	\$ 234,600	\$ -	-	0% Vacant	0	0	3	2
Low Density	8526054	LDR	7R1	0.33	\$ 8,143	\$ -	-	0% Vacant	0	0	3	2
Low Density	9316211	LDR	7R1	0.39	\$ 168,300	\$ -	-	0% Vacant	0	0	3	2
Low Density	9316212	LDR	7R1	0.58	\$ 59,300	\$ -	-	0% Vacant	0	0	4	2
Low Density	8526007	LDR	7R1	0.73	\$ 10,958	\$ -	-	0% Vacant	0	0	5	3
Low Density	9354050	LDR	7R1PD	0.14	\$ 200,858	\$ -	-	0% Vacant	0	0	1	0
Low Density	9307036	MDR	R2PD	3.15	\$ 1,440,000	\$ 10,000	1%	Entitled	1	42	42	41
Low Density	8517103							Entitled	0	60	60	60
Low Density	8950052	MDR	R2PD	0.05	\$ 27,846	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950020	MDR	R2PD	0.05	\$ 27,846	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950027	MDR	R2PD	0.05	\$ 27,846	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950016	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950056	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950019	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950053	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950022	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950049	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950050	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950026	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950055	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950054	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950021	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950010	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950011	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1
Low Density	8950009	MDR	R2PD	0.05	\$ 27,917	\$ -	-	0% Entitled	0	1	1	1

CITY OF LOMPOC
2030 GENERAL PLAN

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION		RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast
Low Density	8950012	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950008	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950007	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950013	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950015	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950057	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950051	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950017	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950018	MDR	R2PD	0.05	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950047	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950068	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950045	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950025	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950028	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950066	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950070	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950071	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950069	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950065	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950030	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950059	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950072	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950031	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950058	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950029	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950046	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950044	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950037	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950043	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950039	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950040	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950036	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950035	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950034	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950033	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950002	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950004	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950063	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950064	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950041	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950024	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950048	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950042	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950067	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950006	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950038	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950073	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950023	MDR	R2PD	0.06	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	8950032	MDR	R2PD	0.06	\$ 27,938	\$ -	0%	Entitled	0	1	1	1
Low Density	8950005	MDR	R2PD	0.06	\$ 27,948	\$ -	0%	Entitled	0	1	1	1
Low Density	8950061	MDR	R2PD	0.06	\$ 27,948	\$ -	0%	Entitled	0	1	1	1
Low Density	8950062	MDR	R2PD	0.06	\$ 27,948	\$ -	0%	Entitled	0	1	1	1
Low Density	8950060	MDR	R2PD	0.06	\$ 27,948	\$ -	0%	Entitled	0	1	1	1
Low Density	8950003	MDR	R2PD	0.07	\$ 27,948	\$ -	0%	Entitled	0	1	1	1
Low Density	8950014	MDR	R2PD	0.07	\$ 27,948	\$ -	0%	Entitled	0	1	1	1
Low Density	8950001	MDR	R2PD	0.08	\$ 27,917	\$ -	0%	Entitled	0	1	1	1
Low Density	9111047	MDR	R2PD	1.36	\$ 72,087	\$ -	0%	Entitled	0	13	13	13
Low Density	9914121	MDR	R2PD	24.93	\$ -	\$ -	0%	Entitled	0	308	308	308
Low Density	9355081	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	64	64	64
Low Density	9355055	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355042	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355048	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355036	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355047	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355009	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355028	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355027	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355021	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION		RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast
Low Density	9355022	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355056	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355010	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355016	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355015	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355041	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355074	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355034	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355068	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355035	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355004	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355062	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355072	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355049	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355051	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355037	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355043	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355007	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355075	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355023	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355046	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355018	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355029	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355067	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355026	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355030	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355003	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355011	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355071	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355070	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355040	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355014	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355032	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355006	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355013	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355031	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355078	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355077	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355065	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355054	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355005	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355020	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355025	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355002	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355044	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355063	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355057	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355061	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355050	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355069	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355024	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355076	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355080	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355012	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355001	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355079	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355058	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355045	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355053	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355017	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355008	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355060	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355038	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355064	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355073	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355059	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355019	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355066	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1

CITY OF LOMPOC
2030 GENERAL PLAN

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION		RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast
Low Density	9355052	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355039	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	9355033	MDR	R2PD	0.00	\$ -	\$ -	0%	Entitled	0	1	1	1
Low Density	8517103	MDR	R2	0.48	\$ 382,500	\$ 1,050,090	73%	Entitled	0	60	60	60
Low Density	8927107	MDR	R2PD	0.04	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	8927230	MDR	R2PD	0.04	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	8927308	MDR	R2PD	0.04	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	8927321	MDR	R2PD	0.04	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	8927420	MDR	R2PD	0.04	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	8927421	MDR	R2PD	0.04	\$ -	\$ -	0%	Underutilized	1	0	1	0
Low Density	8928005	MDR	R2PD	0.08	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	8928009	MDR	R2PD	0.08	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	8928026	MDR	R2PD	0.09	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	8944083	MDR	R2PD	0.11	\$ -	\$ -	0%	Underutilized	1	0	2	0
Low Density	8949001	MDR	R2PD	5.00	\$ -	\$ -	0%	Underutilized	66	0	73	0
Low Density	8518205	MDR	R2	0.48	\$ 228,094	\$ 36,408	14%	Underutilized	0	0	8	5
Low Density	9116308	MDR	R2	0.56	\$ 64,651	\$ 21,542	25%	Underutilized	0	0	9	6
Low Density	8509303	MDR	R2	0.13	\$ 180,000	\$ 80,000	31%	Underutilized	1	0	2	0
Low Density	8509315	MDR	R2	0.13	\$ 68,829	\$ 28,678	29%	Underutilized	3	0	2	-2
Low Density	8509110	MDR	R2	0.24	\$ 95,597	\$ 22,492	19%	Underutilized	1	0	4	1
Low Density	9116206	MDR	R2	0.08	\$ 55,784	\$ 622	1%	Underutilized	1	0	2	0
Low Density	8915102	MDR	R2	0.15	\$ 205,020	\$ -	0%	Vacant	0	0	3	2
Low Density	8915103	MDR	R2	0.15	\$ 210,120	\$ -	0%	Vacant	0	0	3	2
Low Density	8509102	MDR	R2	0.16	\$ 9,588	\$ -	0%	Vacant	0	0	3	2
Low Density	8510112	MDR	R2	0.16	\$ 234,090	\$ -	0%	Vacant	0	0	3	2
Low Density	8520102	MDR	R2	0.24	\$ 14,164	\$ -	0%	Vacant	0	0	4	2
Low Density	9111034	MDR	R2PD	1.81	\$ 135,354	\$ -	0%	Vacant	0	0	27	18
Low Density	9111035	MDR	R2PD	3.33	\$ 240,378	\$ -	0%	Vacant	0	0	49	33
											3577	
High Density	8512304	MU	MU	0.20	\$ 107,161	\$ 23,929	18%	Underutilized	0	0	5	2
High Density	8502101	MU	MU	0.21	\$ 37,047	\$ 13,230	26%	Underutilized	0	0	5	2
High Density	8502104	MU	MU	0.48	\$ 80,504	\$ 3,096	4%	Underutilized	0	0	11	5
High Density	8513301	MU	MU	0.19	\$ 103,244	\$ 35,561	26%	Underutilized	0	0	5	2
High Density	8514113	MU	MU	0.40	\$ 63,437	\$ 26,619	30%	Underutilized	2	0	9	2
High Density	8517104	MU	MU	0.32	\$ 39,327	\$ 14,436	27%	Underutilized	4	0	8	0
High Density	8514111	MU	MU	0.32	\$ 92,537	\$ 27,272	23%	Underutilized	0	0	8	4
High Density	8508208	MU	MU	0.20	\$ 74,454	\$ 17,925	19%	Underutilized	0	0	5	2
High Density	8508210	MU	MU	0.16	\$ 60,172	\$ 16,127	21%	Underutilized	0	0	4	2
High Density	8508204	MU	MU	0.24	\$ 66,287	\$ 11,590	15%	Underutilized	0	0	6	3
High Density	8517113	MU	MU	0.20	\$ 188,700	\$ 10,200	5%	Underutilized	0	0	5	2
High Density	8513305	MU	MU	0.20	\$ 102,468	\$ 9,903	9%	Underutilized	0	0	5	2
High Density	8508203	MU	MU	0.16	\$ 43,907	\$ 7,938	15%	Underutilized	0	0	4	2
High Density	8508205	MU	MU	0.16	\$ 43,907	\$ 7,938	15%	Underutilized	0	0	4	2
High Density	8514112	MU	MU	0.40	\$ 79,584	\$ 6,826	8%	Underutilized	0	0	9	4
High Density	8516319	MU	MU	0.16	\$ 83,420	\$ 29,790	26%	Underutilized	1	0	4	1
High Density	8513116	MU	MU	0.12	\$ 72,680	\$ 22,819	24%	Underutilized	1	0	3	0
High Density	8508206	MU	MU	0.08	\$ 45,885	\$ 17,206	27%	Underutilized	1	0	2	0
High Density	9110211	MU	MU	0.12	\$ 57,357	\$ 12,044	17%	Underutilized	1	0	3	0
High Density	9110210	MU	MU	0.12	\$ 29,509	\$ 11,908	29%	Underutilized	1	0	3	0
High Density	8513206	MU	MU	0.16	\$ 15,057	\$ 5,582	27%	Underutilized	1	0	4	1
High Density	8513302	MU	MU	0.13	\$ 95,937	\$ 691	1%	Underutilized	1	0	3	0
High Density	8513118	MU	MU	0.15	\$ 76,327	\$ 691	1%	Underutilized	1	0	4	1
High Density	8513113	MU	MU	0.32	\$ 278,480	\$ 100,000	26%	Underutilized	0	0	8	4
High Density	8512206	MU	MU	0.24	\$ 85,712	\$ -	0%	Underutilized	2	0	6	1
High Density	8512316	MU	MU	0.08	\$ 37,834	\$ -	0%	Vacant	0	0	2	1
High Density	8512305	MU	MU	0.16	\$ 84,272	\$ -	0%	Vacant	0	0	4	2
High Density	8516318	MU	MU	0.16	\$ 83,420	\$ -	0%	Vacant	0	0	4	2
High Density	8518120	MU	MU	0.16	\$ 43,132	\$ -	0%	Vacant	0	0	4	2
High Density	8513114	MU	MU	0.08	\$ 57,120	\$ -	0%	Vacant	0	0	2	1
High Density	8512205	MU	MU	0.16	\$ -	\$ -	0%	Vacant	0	0	4	2
High Density	8512303	MU	MU	0.20	\$ 107,161	\$ -	0%	Vacant	0	0	5	2
High Density	8502114	MU	MU	0.40	\$ 77,183	\$ -	0%	Vacant	0	0	9	4
High Density	8701159	MU	MU	1.24	\$ 95,883	\$ -	0%	Vacant	0	0	27	14
High Density	8508101	OTC	OTC	0.18	\$ 89,492	\$ 8,605	9%	Entitled	0	34	34	34
High Density	8512318	OTC	OTC	0.20	\$ 285,600	\$ 102,000	26%	Underutilized	0	0	5	2
High Density	8512309	OTC	OTC	0.32	\$ 211,742	\$ 7,833	4%	Underutilized	0	0	8	4
High Density	9110203	OTC	OTC	0.16	\$ 66,899	\$ 7,952	11%	Underutilized	0	0	4	2

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION		RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast
High Density	8512221	OTC	OTC	0.48	\$ 300,900	\$ 5,100	2%	Underutilized	0	0	11	5
High Density	8516124	OTC	OTC	0.16	\$ 34,199	\$ 4,556	12%	Underutilized	0	0	4	2
High Density	8516202	OTC	OTC	0.16	\$ 58,762	\$ 4,496	7%	Underutilized	0	0	4	2
High Density	8516222	OTC	OTC	0.12	\$ 40,141	\$ 4,210	9%	Underutilized	0	0	3	1
High Density	8516121	OTC	OTC	0.32	\$ 58,680	\$ 3,732	6%	Underutilized	0	0	8	4
High Density	8516203	OTC	OTC	0.08	\$ 29,520	\$ 2,247	7%	Underutilized	0	0	2	1
High Density	8516205	OTC	OTC	0.08	\$ 29,520	\$ 2,247	7%	Underutilized	0	0	2	1
High Density	8516204	OTC	OTC	0.08	\$ 29,520	\$ 2,247	7%	Underutilized	0	0	2	1
High Density	9108304	OTC	OTC	0.24	\$ 86,353	\$ 2,080	2%	Underutilized	0	0	6	3
High Density	8512107	OTC	OTC	0.08	\$ 18,432	\$ 2,023	10%	Underutilized	0	0	2	1
High Density	8512115	OTC	OTC	0.24	\$ 70,768	\$ 23,587	25%	Underutilized	0	0	6	3
High Density	8516108	OTC	OTC	0.16	\$ 269,463	\$ 94,676	26%	Underutilized	0	0	4	2
High Density	8512207	OTC	OTC	0.24	\$ 135,125	\$ 27,023	17%	Underutilized	0	0	6	3
High Density	8508214	OTC	OTC	0.40	\$ 155,745	\$ 9,646	6%	Underutilized	0	0	9	4
High Density	9110316	OTC	OTC	0.16	\$ 24,320	\$ 1,443	6%	Underutilized	0	0	4	2
High Density	8516219	OTC	OTC	0.08	\$ 25,304	\$ -	0%	Vacant	0	0	2	1
High Density	9108309	OTC	OTC	0.08	\$ 21,793	\$ -	0%	Vacant	0	0	2	1
High Density	8516218	OTC	OTC	0.08	\$ 25,304	\$ -	0%	Vacant	0	0	2	1
High Density	8512210	OTC	OTC	0.10	\$ 45,499	\$ -	0%	Vacant	0	0	3	1
High Density	9110313	OTC	OTC	0.16	\$ 75,669	\$ -	0%	Vacant	0	0	4	2
High Density	9110321	OTC	OTC	0.20	\$ -	\$ -	0%	Vacant	0	0	5	2
High Density	9110322	OTC	OTC	0.20	\$ -	\$ -	0%	Vacant	0	0	5	2
High Density	9110308	OTC	OTC	0.24	\$ -	\$ -	0%	Vacant	0	0	6	3
High Density	9110319	OTC	OTC	0.28	\$ 130,802	\$ -	0%	Vacant	0	0	7	3
High Density	8512220	OTC	OTC	0.32	\$ 165,000	\$ -	0%	Vacant	0	0	8	4
High Density	9108210	OTC	OTC	0.32	\$ 47,668	\$ -	0%	Vacant	0	0	8	4
High Density	8512222	OTC	OTC	0.46	\$ 243,228	\$ -	0%	Vacant	0	0	11	5
High Density	9106108	HDR	R3	0.26	\$ 249,900	\$ -	0%	Entitled	0	5	5	5
High Density	8916112	HDR	R3	0.32	\$ 151,341	\$ -	0%	Entitled	0	5	5	5
High Density	9107315	HDR	R3	0.40	\$ 366,180	\$ -	0%	Entitled	0	8	8	8
High Density	8515047	HDR	R3PD	0.96	\$ 419,001	\$ -	0%	Entitled	0	15	15	15
High Density	8923210	HDR	R3PD	0.24	\$ 260,000	\$ 115,000	31%	Entitled	1	5	5	4
High Density	8515009	HDR	R3PD	1.90	\$ 1,550,000	\$ 450,000	23%	Entitled	0	40	40	40
High Density	9110109	HDR	R3	0.64	\$ 576,300	\$ 188,700	25%	Underutilized	20	0	15	-10
High Density	9102221	HDR	R3	0.16	\$ 240,000	\$ 100,000	29%	Underutilized	1	0	4	1
High Density	8914307	HDR	R3PD	0.22	\$ 74,885	\$ 10,761	13%	Underutilized	2	0	5	1
High Density	8919101	HDR	R3	0.24	\$ 66,855	\$ 15,798	19%	Underutilized	0	0	6	4
High Density	8517109	HDR	R3	0.20	\$ 31,093	\$ 4,556	13%	Underutilized	0	0	5	3
High Density	9107104	HDR	R3	0.24	\$ 80,379	\$ 3,019	4%	Underutilized	0	0	6	4
High Density	9115216	HDR	R3	0.12	\$ 200,000	\$ 100,000	33%	Underutilized	1	0	3	1
High Density	8516313	HDR	R3	0.16	\$ 200,000	\$ 100,000	33%	Underutilized	3	0	4	-1
High Density	8719305	MDR	R3	0.16	\$ 210,000	\$ 96,000	31%	Underutilized	1	0	4	1
High Density	9108214	HDR	R3	0.23	\$ 240,000	\$ 60,000	20%	Underutilized	1	0	5	2
High Density	9106307	HDR	R3	0.16	\$ 129,720	\$ 54,049	29%	Underutilized	1	0	4	1
High Density	8520321	MDR	R3	0.16	\$ 212,241	\$ 53,060	20%	Underutilized	1	0	4	1
High Density	8907047	HDR	R3	0.62	\$ 119,175	\$ 52,501	31%	Underutilized	2	0	14	7
High Density	8516315	HDR	R3	0.26	\$ 112,468	\$ 50,609	31%	Underutilized	1	0	6	3
High Density	8923311	HDR	R3	0.14	\$ 89,973	\$ 44,985	33%	Underutilized	1	0	4	1
High Density	9108201	HDR	R3	0.23	\$ 90,956	\$ 42,440	32%	Underutilized	1	0	5	2
High Density	9105306	HDR	R3	0.40	\$ 108,240	\$ 40,456	27%	Underutilized	2	0	9	4
High Density	9108113	HDR	R3	0.24	\$ 87,744	\$ 35,115	29%	Underutilized	1	0	6	3
High Density	8914306	HDR	R3PD	0.27	\$ 93,607	\$ 34,983	27%	Underutilized	1	0	6	3
High Density	8725113	HDR	R3	0.72	\$ 222,688	\$ 32,429	13%	Underutilized	1	0	16	10
High Density	9105308	HDR	R3	0.40	\$ 72,935	\$ 32,210	31%	Underutilized	1	0	9	5
High Density	9115105	HDR	R3	0.16	\$ 65,542	\$ 32,172	33%	Underutilized	1	0	4	1
High Density	8515008	HDR	R3	3.15	\$ 91,181	\$ 29,200	24%	Underutilized	2	0	69	47
High Density	9108317	HDR	R3	0.16	\$ 68,217	\$ 28,796	30%	Underutilized	1	0	4	1
High Density	8923323	HDR	R3	0.10	\$ 64,354	\$ 27,494	30%	Underutilized	1	0	3	1
High Density	8724110	HDR	R3	0.16	\$ 71,504	\$ 26,216	27%	Underutilized	1	0	4	1
High Density	8719307	MDR	R3	0.16	\$ 55,198	\$ 23,647	30%	Underutilized	1	0	4	1
High Density	9107305	HDR	R3	0.12	\$ 73,103	\$ 16,868	19%	Underutilized	2	0	3	0
High Density	8923112	HDR	R3	0.26	\$ 80,402	\$ 15,295	16%	Underutilized	1	0	6	3
High Density	8704072	HDR	R3	0.12	\$ 51,621	\$ 14,911	22%	Underutilized	1	0	3	1
High Density	8919107	HDR	R3	0.40	\$ 27,916	\$ 12,805	31%	Underutilized	1	0	9	5
High Density	9109310	HDR	R3	0.23	\$ 64,354	\$ 11,699	15%	Underutilized	1	0	6	3
High Density	9108213	HDR	R3	0.16	\$ 66,156	\$ 11,024	14%	Underutilized	1	0	4	1
High Density	8719314	MDR	R3	0.24	\$ 17,123	\$ 7,838	31%	Underutilized	1	0	6	3

CITY OF LOMPOC
2030 GENERAL PLAN

HOUSING ELEMENT

PARCEL IDENTIFICATION		LAND USE DESIGNATION		PARCEL ATTRIBUTES			CLASSIFICATION		RESIDENTIAL DWELLINGS			
Classification	Parcel No.	General Plan	Zoning	Acres	Land Value	Imp. Value	Value Ratio	Status	Existing	Entitled	Maximum	Forecast
High Density	9106308	HDR	R3	0.40	\$ 27,916	\$ 6,303	18%	Underutilized	1	0	9	5
High Density	8923120	HDR	R3	0.16	\$ 55,794	\$ 6,196	10%	Underutilized	1	0	4	1
High Density	8719310	MDR	R3	0.16	\$ 11,241	\$ 5,866	34%	Underutilized	1	0	4	1
High Density	9107203	HDR	R3	0.03	\$ 21,618	\$ 3,890	15%	Underutilized	1	0	1	0
High Density	9110214	HDR	R3	0.12	\$ 53,823	\$ 1,284	2%	Underutilized	1	0	3	1
High Density	8922204	HDR	R3	3.44	\$ 1,094,080	\$ 486,256	31%	Underutilized	90	0	76	0
High Density	9110218	HDR	R3	0.24	\$ 229,500	\$ 107,100	32%	Underutilized	0	0	6	4
High Density	8520319	MDR	R3	0.16	\$ 104,390	\$ 10,322	9%	Underutilized	0	0	4	2
High Density	8517108	HDR	R3	0.20	\$ 34,477	\$ 5,067	13%	Underutilized	0	0	5	3
High Density	9101315	HDR	R3	0.48	\$ -	\$ -	0%	Underutilized	9	0	11	-2
High Density	8923306	HDR	R3	0.14	\$ -	\$ -	0%	Underutilized	3	0	4	-1
High Density	9108212	HDR	R3	0.16	\$ 66,156	\$ -	0%	Underutilized	3	0	4	-1
High Density	8710208	HDR	R3	0.16	\$ -	\$ -	0%	Underutilized	3	0	4	-1
High Density	8710207	HDR	R3	0.16	\$ -	\$ -	0%	Underutilized	3	0	4	-1
High Density	8710209	HDR	R3	0.16	\$ -	\$ -	0%	Underutilized	3	0	4	-1
High Density	8710213	HDR	R3	0.16	\$ -	\$ -	0%	Underutilized	3	0	4	-1
High Density	8710212	HDR	R3	0.16	\$ -	\$ -	0%	Underutilized	3	0	4	-1
High Density	9105307	HDR	R3	0.48	\$ -	\$ -	0%	Underutilized	1	0	11	6
High Density	9107216	HDR	R3	0.16	\$ 208,080	\$ -	0%	Vacant	0	0	4	2
High Density	8520113	MDR	R3	0.16	\$ 9,588	\$ -	0%	Vacant	0	0	4	2
High Density	8919102	HDR	R3	0.16	\$ 54,699	\$ -	0%	Vacant	0	0	4	2
High Density	9107103	HDR	R3	0.24	\$ 122,927	\$ -	0%	Vacant	0	0	6	4
High Density	8520301	MDR	R3	0.28	\$ 10,248	\$ -	0%	Vacant	0	0	7	4
High Density	9110219	HDR	R3PD	0.08	\$ 76,500	\$ -	0%	Vacant	0	0	2	1
High Density	8914308	HDR	R3PD	0.22	\$ 84,349	\$ -	0%	Vacant	0	0	5	3
High Density	8725101	HDR	R3PD	0.40	\$ 106,843	\$ -	0%	Vacant	0	0	9	6
H Street Infill	8502108	GC	C2	0.16				Vacant	0	0	6	2
H Street Infill	8502113	GC	C2	0.40				Vacant	0	0	14	5
H Street Infill	8724107	GC	C2	0.29				Vacant	0	0	10	3
H Street Infill	8724213	GC	C2	0.16				Vacant	0	0	6	2
H Street Infill	8724215	GC	C2	0.24				Vacant	0	0	8	3
H Street Infill	8724201	GC	C2	0.16				Vacant	0	0	6	2
H Street Infill	8719115	GC	C2	0.16				Vacant	0	0	6	2
H Street Infill	8719105	GC	C2	0.16				Vacant	0	0	6	2
H Street Infill	8719210	GC	C2	0.16				Vacant	0	0	6	2
H Street Infill	8719212	GC	HC	0.16				Vacant	0	0	6	2
H Street Infill	8713101	GC	PCD	0.79				Vacant	0	0	28	9
H Street Infill	8907035	GC	PCD	0.29				Vacant	0	0	10	3
H Street Infill	8907027	GC	PCD	0.30				Vacant	0	0	11	4
H Street Infill	8907030	GC	PCD	0.11				Vacant	0	0	4	1
H Street Infill	8704054	GC	PCD	1.90				Vacant	0	0	18	22
H Street Infill	8704055	GC	PCD	1.50				Vacant	0	0	23	18
H Street Infill	8704056	GC	PCD	1.45				Vacant	0	0	24	17
H Street Infill	8949013	GC	PCD	2.78				Vacant	0	0	97	33
H Street Infill	9345034	GC	PCD	0.85				Vacant	0	0	30	10
H Street Infill	9345033	GC	PCD	0.47				Vacant	0	0	16	6

HOUSING ELEMENT

**APPENDIX C
CURRENT FEE SCHEDULE**

2008-2009 MASTER FEE SCHEDULE

1.00 COMMUNITY DEVELOPMENT DEPARTMENT - PLANNING DIVISION

The following fees shall be charged for the various Planning Services provided in administering the planning regulations of the Lompoc City Code.

<u>1.01</u>	<u>Amendment to Existing Permit/Approval</u>	440.70	(40010-46272)
<u>1.02</u>	<u>Annexation</u>	Actual cost 2,000 deposit	(40010-46225)
<u>1.03</u>	<u>Appeal of Planning Commission or Staff Decision</u>	257.80	(40010-46242)
<u>1.04</u>	<u>Architectural Review</u>	1,043.80	(40010-46273)
<u>1.05</u>	<u>Conditional Use Permit</u>	Actual cost 500 deposit	(40010-46274)
<u>1.06</u>	<u>Design Review (Site Plan/Building Plan)</u>	Actual cost 500 deposit	(40010-46275)
<u>1.07</u>	<u>Development Agreement</u>	Actual cost 500 deposit	(40010-46276)
	<u>Document Imaging Fee</u>	51.60 per application	(40010-46160)
<u>1.08</u>	<u>General Plan Amendment</u>	Actual cost 1,000 deposit	(40010-46211)
	<u>General Plan Maintenance Fee</u>	0.2% of construction value	(40010-46161)
<u>1.09</u>	<u>Environmental Review</u>		
	Negative Declaration.....	91.40	(40010-46277)
	Environmental Impact Report.....	Actual cost 2,000 deposit	(40010-46278)
<u>1.10</u>	<u>Fence Modification</u>	134.10 154.68	(40010-46279)
	Land Use Clearance Fee.....	Ministerial 77.34 Minor Tenant	(40010-46162)
	Land Use Clearance Fee.....	Improvements	(40010-46162)

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

<u>1.11</u> <u>Maps</u>		
CC&Rs & Other Record or Field Research.....	Actual cost	(40010-46280)
	100 deposit	
Certificate of Compliance/Lot Line Adjustment.....	Actual cost	(40010-46281)
	500 deposit	
Lot Merger.....	754.70	(40010-46282)
Parcel Map.....	Actual cost	(40010-46283)
	500 deposit	
Subdivision Map.....	Actual cost	(40010-46284)
	1,000 deposit	
<u>1.12</u> <u>Permits</u>		
Business License Review.....	41.80	(40010-46285)
Home Use Permit.....	92.80	(40010-46286)
Temporary Use Permit.....	124.80	(40010-46287)
Day Care Permit - Large Home.....	15.70	(40010-46288)
Sign Permit Program.....	464.50	(40010-46289)
Single Sign Permit.....	155.20	(40010-46290)
Temporary Sign Permit.....	24.70	(40010-46291)
Pre-Application / Conceptual Review Fee.....	464.00	(40010-46163)
	After 15 Minutes, Charge for Time & Materials	(40010-46164)
Research Fee.....		
<u>1.13</u> <u>Time Extension</u>		
Major (parcel or subdivision maps).....	680.30	(40010-46292)
Minor (architectural or design review).....	74.10	(40010-46293)
<u>1.14</u> <u>Variance</u>		
	Actual cost	(40010-46220)
	500 deposit	
<u>1.15</u> <u>Zone Change</u>		
	Actual cost	(40010-46213)
	1,000 deposit	
<u>Zoning Verification / Rebuild Letter</u>	144.40	(40010-46165)

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

- NOTES
- The actual costs will include staff time, City and Departmental overhead, materials and supplies
 - For services charged on actual cost basis, the applicant will be responsible for costs exceeding estimates, and deposits in excess of actual costs will be refunded
 - Deposit Requirements:
The following schedule will be used in determining the amount of subsequent installment deposits
When the actual cost of work in progress is expected to exceed the fee deposits received, subsequent deposits will be made in accordance with the following schedule:

Under \$2,000	Cash in advance
\$2,000 to \$10,000	35% advance - minimum \$2,000 35% installment 30% installment
\$10,000 & greater	25% advance 25% installment 25% installment 25% installment

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

2.00 ENGINEERING

The following fees and deposits shall be charged for the various services provided by Engineering Division personnel.

2.01 Public Works Capital Programs Actual cost (40010-46460)

2.02 Subdivisions & Single Lot Developments

Tentative Maps, Preliminary Development Plans, Final Maps, Parcel Maps, Grading and Improvement Plans.

A. Preliminary development review, preparation of project conditions, applicant assistance, meeting attendance, plan review, preparation of documents, permit applications and reports, plan revision review, submittal review, record drawing review, project closeout Actual cost (40010-46403)
 \$1,000 deposit

B. Grading Permits - For the inspection of grading, drainage, and parking lot improvements.

1. Permit Preparation..... Actual cost (40010-46403)

2. Inspection -

a. Inspection provided by City personnel (non-refundable fee) (Per Grading Permit Inspection Fee Schedule) (40010-42160)

GRADING PERMIT INSPECTION FEE SCHEDULE				
Volume of cuts plus import	Base		For each (volume in cubic yards or fraction of yards):	Exceeding the base cubic yards of:
	Amount	Plus:		
Less than 50 cu. yds.	\$ 69.40	---	---	---
50 to 100 cu. yds.	\$ 176.10	---	---	---
101 to 500 cu. yds.	\$ 176.10	\$ 32.02	100	101
501 to 5,000 cu. yds.	\$ 304.20	\$ 10.67	100	501
5,001 to 50,000 cu. yds.	\$ 784.40	\$ 3.20	100	5,001
50,001 to 500,000 cu. yds.	\$2,225.10	\$ 3.20	1,000	50,001
500,001 to 1,000,000 cu. yds.	\$3,665.80	\$ 2.13	1,000	500,001
Over 1,000,000 cu. yds.	\$4,733.00	\$ 4.27	10,000	1,000,000

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

- b. The City Engineer will make a determination if permit inspection will be performed by City personnel or by City consultant based on available staffing. Inspection provided by City Consultant..... Actual cost (40010-42160)
(Deposit per Grading Permit Inspection Fee Schedule)

- 3. The following are exempt from grading permit requirements:
 - a. Cemeteries: Cemetary graves.
 - b. Refuse Disposal: Refuse disposal sites controlled by other regulations.
 - c. Wells - Utilities: Excavations for wells, tunnels or utilities.
 - d. Work Within Public Right-of-Way.
 - e. Minor Excavations: An excavation which does not exceed fifty (50) cubic yards, and (a) is less than two (2) feet in depth, or (b) which does not create a slope greater than five (5) feet in height and steeper than two horizontal to one vertical and does not obstruct a drainage course.
 - f. Minor Fills: A fill containing earth material only, which does not exceed fifty (50) cubic yards on any site and does not obstruct a drainage course, and (a) is less than two (2) feet in depth and placed on natural terrain with a slope flatter than five horizontal to one vertical.
 - g. Basements - Footings: An excavation for basements, footings of a building, or retaining wall, or other structure authorized by a valid building permit.
 - h. Soil Testing: Exploratory excavations under the direction of a California licensed Geotechnical Engineer, Civil Engineer, or Engineering Geologist where such excavation is to be returned to the original condition under the direction of such Engineer or Geologist within 45 days after the start of work.

- 4. Grading permits are always required for:
 - a. Excavation in any amount within the archeologically sensitive area as established by Lompoc City Ordinance No. 1521(06) will require a Grading Permit.
 - b. New Parking Lot Construction. Inspection fee will be per Grading Permit Inspection Fee Schedule. For the purposes of this item, "Import" includes sub-base, base, and pavement structural section.

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

- C. Encroachment Permits for the Inspection of Improvements Within Public Right-Of-Way and Easements -
 - 1. Permit Preparation..... Actual cost (40010-46403)
 - 2. Inspection -
 - a. Inspection provided by City personnel (non-refundable fee) 3% of estimated construction costs (40010-46471)
 - b. The City Engineer will make a determination if permit inspection will be performed by City personnel or by City consultant based on available staffing. Inspection provided by City consultant..... Actual cost (40010-46471)
 (3% of estimated construction cost is required for deposit)

2.03 Grading Permits - For Inspection of Grading Not Included in Section 2.02

- A. Permit Preparation..... 117.40 (40010-42161)
- B. Inspection Fee (non-refundable)..... (Per Grading Permit Inspection Fee Schedule in Section 2.02) (40010-42160)
- C. All Exemptions from Grading Permit Requirements in Section 2.02 Apply.

2.04 Work Within Public Right-Of-Way (ROW) and Public Easements

- A. Encroachment Permits for work valued at \$5,000 or less within Public Right-Of-Way and Easements
 - 1. Permit Preparation Fee (non-refundable)..... 117.40 (40010-46472)
 - 2. Inspection Fees (non-refundable):
 - a. Portland Cement Concrete Improvements..... 176.10 (40010-46471)
 (Curb & Gutter, Sidewalk, Access Ramp, Cross Gutters, Spandrel, Driveways, Sidewalk Drains)
 - b. Utility Connections (each)..... 176.10 (40010-46471)
 (Water Services & Sewer Laterals) Not To Exceed 264.19

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

c. Trenching & Boring/Jack (each).....	176.10	(40010-46471)
(Length up to 50 ft.)	Not To Exceed 264.19	
d. Monitoring Wells - Installation or Abandonment.....	176.10	(40010-46471)
(Max 10 Wells Per Site)	Per Site	
3. Southern California Gas Company Inspection Fee.....	85.40	(40010-46471)
(non-refundable, Includes Permit Preparation Fee)		
4. Cost for Inspection of Minor Work Not Included Above.....	176.10	(40010-46471)
B. Encroachment Permits for work valued over \$5,000 within Public Right-Of-Way and Easements		
1. Permit Preparation Fee (non-refundable).....	117.40	(40010-46472)
2. Inspection Fees (non-refundable).....	3% of estimated	(40010-46471)
	construction costs	
<u>2.05</u> <u>Asphalt Paving By City</u> - At the City Street Department's discretion, minor trench and open cut asphalt paving can be performed by the City Street Department for quantities up to 2 Tons (53 square feet at 6- inch depth).		
Paving Fee (non-refundable)		
Less than or equal to 1 Ton.....	234.80	(40010-46464)
Over 1 Ton (2 Ton maximum).....	469.60	(40010-46464)
<u>2.06</u> <u>Public Street and Service Easement Vacations</u>		
Preparation and Processing.....	Actual cost	(40010-46480)
	1,000 deposit	
<u>2.07</u> <u>Encroachment Permit Covenants</u>		
Permit Preparation & Processing Fee (non-refundable).....	384.20	(40010-46473)
<u>2.08</u> <u>Special Projects</u>		
Cost for Work Not Included Above.....	Actual cost	(40010-46405)
At the discretion of the City Engineer, projects not identified within this fee schedule can require a deposit for estimated staff time. Services will be charged on actual cost basis.		

2008-2009 MASTER FEE SCHEDULE

2.09 Additional Notes:

A. Actual Costs:

1. Actual costs will include staff time, City and Departmental overhead, materials, and supplies.
2. For services charged on actual basis, the applicant will be responsible for costs exceeding estimates, and deposits in excess of actual costs will be refunded.
3. Applicant will be invoiced monthly for actual costs.

B. Deposit Requirements:

1. Deposits will be made to the City Engineering Division and placed into a project account prior to any services rendered by the Engineering Division as appropriate.
2. Deposits will be refunded after final actual costs have been invoiced and all invoices have been paid.

C. Estimated Construction Costs:

1. Definition: Cost of all work requiring inspection by the Engineering Division. Work includes, but is not limited to, public improvements, private street improvements, and parking lots.
2. An itemized construction cost based on current published construction cost data will be provided by the permit Applicant or his/her engineer and approved by the City Engineer.

D. Inspections Required Outside regular Working Hours - An inspection fee equivalent to the burdened wage or salary, including any overtime for the time required of the City Inspector, will be charged for inspections made outside regular working hours.

E. Doubled Fees - Encroachment Permit and Grading Permit Fees are are doubled if permit is issued after construction starts.

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

3.00 FIRE DEPARTMENT

The Fire Department has established the following fees for various services provided. In addition to the set fees, an additional fee may be charged for standby personnel and equipment required as determined by the Fire Department at the hourly rates per section 3.08.

<u>3.01</u>	<u>Arson Investigation:</u> upon conviction.....	Actual cost	(40010-46801)
<u>3.02</u>	<u>Permit Fees and Annual Inspection:</u> unless specifically noted, all permits are renewable on a yearly basis.		(40010-46802)
	1. Airport & heliports..... (including repair hangars and refueling vehicles)	177.70	
	2. Automobile tire rebuilding.....	59.60	
	3. Automobile wrecking yards.....	88.70	
	4. Bowling pin or alley refinishing.....	88.70	
	5. Carnivals and fairs.....	162.40	
	6. Cellulose nitrate motion picture film.....	59.60	
	7. Cellulose nitrate plastics (Pyroxlin).....	88.70	
	8. Central station - alarm receiver company.....	88.70	
	9. Combustible fibers.....	88.70	
	10. Compressed gases		
	Nonflammable 6,000 to 12,000 cubic feet.....	88.70	
	Nonflammable over 12,000 cubic feet.....	118.50	
	Flammable 2,000 to 6,000 cubic feet.....	118.50	
	Flammable over 6,000 cubic feet.....	148.30	
	11. Dust-producing operations.....	88.70	
	12. Explosives - use, manufacture, store, etc.....	118.50	
	13. Fireworks - per activity..... (including pyrotechnic special effects)	59.60	
	14. Flammable finishes.....	103.50	
	15. Flammable & combustible liquids		
	Auto fueling stations.....	88.70	
	Underground storage.....	118.50	
	Inside storage.....	118.50	
	Outside above ground storage.....	118.50	
	16. Fumigation & thermal insecticidal fogging.....	59.60	
	17. Garages.....	103.50	
	18. General use permit (for any permit/inspection not specified under Section 3.02).....	59.60	
	19. Combustible material storage 2,500 cu. ft. and high		

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

	piled combustible storage exceeding 2,500 sq. ft.....	118.50	
20.	Liquefied petroleum gases.....	88.70	
21.	Lumber yards.....	118.50	
22.	Magnesium working.....	44.80	
23.	Matches manufacturing.....	88.70	
24.	Mechanical refrigeration.....	59.60	
25.	Motion picture projection		
	New permit application.....	88.70	
	Annual renewal.....	44.80	
26.	Movie/video filming permit (per activity).....	177.70	
27.	Oil burning equipment.....	44.80	
28.	Ovens, industrial baking & drying.....	88.70	
29.	Places of assembly		
	50 - 100 persons occupant load.....	88.70	
	101 - 300 persons occupant load.....	148.30	
	Over 300 persons occupant load.....	237.30	
	(to include candles and open flames in assembly areas)		
30.	Tents.....	103.50	
31.	Welding & cutting, calcium carbide & acetylene.....	44.80	
32.	Woodworking plants.....	103.50	
33.	Tire storage over 1,000 cu. ft.....	59.20	
3.03	<u>FIRE CLEARANCE</u>		(40010-46804)
	1. Board & care homes, 7 or more.....	59.20	
	2. Convalescent & nursing homes, 7 or more.....	118.50	
	3. Hospitals, less than 100 beds.....	118.50	
	4. Hospitals, 100 beds or more.....	147.90	
	5. Group home adults, 7 or more.....	59.60	
	6. Nursery school.....	59.60	
	7. Sanitariums.....	118.20	
	8. Schools, private.....	88.70	
	9. Child day care homes.....	30.10	
	10. Occupancy load increase for special events or situations.....	59.60	
	11. New business inspections & fire clearances.....	103.50	
3.04	<u>FIRE SUPPRESSING SYSTEMS-PLAN CHECK/FIELD TEST & INSPECTION</u>		(40010-46805)
	1. Hood extinguishing system		

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

	Plan review & field inspection.....	59.60	
	Per outlet.....	4.70	
	Additional field test/inspection.....	59.60	
2.	Special sprinkler systems.....	59.60	
	Per head.....	4.70	
	(commercial barbecues, etc.)		
3.	NFPA 13 sprinkler system - fee + \$1.03/head		
	Hydraulically calculated (new).....	355.30	
	Pipe schedule (new).....	177.70	
	Addition or relocation of system.....	118.50	
	Additional field test/inspection.....	59.60	only
4.	NFPA 13D sprinkler system.....	118.50	
5.	Spray booths/inspection & field test.....	118.50	
6.	Standpipe system (wet or dry).....	118.50	
<u>3.05</u>	<u>FIRE DETECTION/ALARM SYSTEM-PLAN CHECK/FIELD TEST & INSPECTION</u>		(40010-46806)
1.	Manual pull alarm system		
	Plan review & one field test & inspection.....	59.60	
	Per pull station.....	7.73	
	Additional field test or inspection.....	59.60	
2.	Automatic heat/smoke detector alarm system		
	Plan review & one field test & inspection.....	177.70	
	Per detector.....	1.56	
	Additional field test or inspection.....	59.60	
<u>3.06</u>	<u>BUILDINGS - PLAN CHECK/FIELD TEST & INSPECTION</u>		(40010-46807)
1.	Hotels & apartment houses (R-1)		
	Additions or interior remodel.....	118.50	
	1 - 5 units.....	118.50	
	6 - 15 units.....	147.90	
	16 - 30 units.....	163.20	
	31 - 50 units.....	177.70	
	51 - 75 units.....	207.20	
	76 - 125 units.....	222.70	
	126 - 250 units.....	237.30	
	251 - 500 units.....	281.20	
	Over 500 units.....	296.50	

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

2. Commercial occupancy (B-2) new & remodel	
0 - 3,000 square feet.....	118.50
3,001 - 5,000 square feet.....	147.90
5,001 - 10,000 square feet.....	163.20
10,001 - 25,000 square feet.....	177.70
25,001 - 40,000 square feet.....	207.20
40,001 - 75,000 square feet.....	222.70
75,001 - 100,000 square feet.....	237.30
Over 100,000 square feet.....	296.50
3. Hazardous occupancies/service station (H, B 1)	
0 - 300 square feet.....	177.70
301 - 5,000 square feet.....	266.40
5,001 - 10,000 square feet.....	326.30
10,001 - 25,000 square feet.....	356.00
25,001 - 40,000 square feet.....	474.50
40,001 - 75,000 square feet.....	889.70
75,001 - 100,000 square feet.....	1,599.40
Over 100,000 square feet.....	1,779.20
Flammable liquid storage/handling room:	
Under 1,000 square feet.....	118.50
Over 1,000 square feet.....	177.70
Installation/removal underground flammable liquid:	
First tank/remodel.....	118.50
Each additional tank.....	59.60
Installation/removal LPG tanks:	
Under 200 gallons.....	118.50
200 - 2,000 gallons.....	147.90
Over 2,000 gallons.....	177.70
Oxygen systems:	
6,000 to 12,000 cubic feet.....	59.60
Over 12,000 cubic feet.....	118.50
4. Flow test fire hydrants - new or altered.....	132.60

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

<u>3.07</u>	<u>SPECIAL SERVICE REQUEST OF OFF DUTY PERSONNEL & EQUIPMENT</u>	(40010-46808)
1.	Equipment - unmanned (per hour)	
	Standard fire engine.....	115.90
	Staff vehicle.....	23.30
	Quint/ladder truck.....	463.50
	Emergency communication van.....	92.50
	Support materials.....	Actual cost
2.	Personnel.....	Actual cost + benefits
<u>3.08</u>	<u>FALSE ALARMS</u>	(40010-46809)
	This fee is based on the number of responses that are required by the fire department during a twelve month period.	
1.	First response & second response.....	0.00
2.	Third response.....	154.60
3.	Fourth response.....	309.40
<u>3.09</u>	<u>SPECIAL PROJECT REVIEW OR INSPECTION</u>	(40010-46810)
1.	Flow testing private fire hydrants.....	132.60
2.	Subdivision housing project review..... (no field inspection included)	44.80
3.	Pre-plan review commercial occupancies.....	118.50
<u>3.10</u>	<u>RESPONDING TO DRIVING UNDER THE INFLUENCE ACCIDENTS</u>	(40010-46811)
	Upon conviction.....	Actual cost - max. allowed by State
<u>3.11</u>	<u>WEED ABATEMENT</u>	Administration fee (40010-46812) + contractor cost Admin fee varies depending on actual time spent per parcel

HOUSING ELEMENT

2008-2009 MASTER FEE SCHEDULE

4.00 POLICE DEPARTMENT

The following fees shall be charged for those police services that are beyond the scope of public protection.

<u>4.01</u>	<u>BAIL BOND SERVICE</u>	27.40	(40010-46301)
<u>4.02</u>	<u>FALSE ALARM</u> - 3rd & subsequent responses (each).....	61.70	(40010-46309)
<u>4.03</u>	<u>FINGERPRINTS</u> (per set).....	16.00	(40010-46350)
<u>4.04</u>	<u>POLICE REPORTS</u> (each).....	11.50	* (40010-46310)
<u>4.05</u>	<u>PUBLIC DISTURBANCE</u> - 2nd & subsequent responses..... upon conviction	Actual cost	(40010-46302)
<u>4.07</u>	<u>SPECIAL PATROL</u>	Actual cost	(40010-46304)
<u>4.09</u>	<u>UTILITY TURN ON</u>	19.80	(40010-46305)
<u>4.10</u>	<u>VEHICLE IMPOUND AND RELEASE</u>	67.90	(40010-46324)
<u>4.11</u>	<u>DAILY JAIL RATE</u>	80.40	(40010-46335)
<u>4.12</u>	<u>VEHICLE IMPOUND AND RELEASE</u> FOR UNLICENCED DRIVERS	120.00	# (40035-46324)

* Exception: victims of crimes may receive their first copy of the applicable police report at no cost.

Represents the vehicle impound fee for unlicensed drivers specifically designated for the OTS Traffic Offender Grant per Resolution # 4824(00).

HOUSING ELEMENT

**APPENDIX D
INVENTORY OF RDA-ASSISTED UNITS WITH AFFORDABILITY COVENANTS**

HOUSING ELEMENT

LOMPOC REDEVELOPMENT AGENCY: Existing Residential Covenants
As of 12/30/2008

PROPERTY ADDRESS	PROJECT NAME (IF APPLICABLE)	APN	# OF RESTRICTED UNITS	UNIT SIZE	DATE CONSTRUCTION OR REHAB COMPLETED	COVENANT RECORDATION DATE	COVENANT RECORDATION #	COVENANT MATURITY	OCCUPIED TRANSFER DATE	INCLUSIONARY	ASSISTED
800 N. G Street	Arbor Square	87-032-01 87-032-02 87-032-03 87-032-04 87-032-05 87-032-06 87-032-07 87-032-08 87-032-13 87-032-14 87-032-15 87-032-16 87-032-17 87-032-18 87-032-19 87-032-20	125	21=1 bd 104=2 bd	12/11/2002	12/19/2001	2001-0110286	12/15/2031	N/A	Yes	No
221 Quail	Walnut Village	85-110-33	1	3 bd	5/19/2004	10/31/2003	2003-0150540	5/20/2049	N/A	Yes	No
257 Quail	Walnut Village	85-110-41	1	3 bd	5/26/2004	10/31/2003	2003-0150540	5/24/2049	N/A	Yes	No
513 Dove	Walnut Village	85-110-48	1	3 bd	6/17/2004	10/31/2003	2003-0150540	7/30/2049	N/A	Yes	No
300 Dove	Walnut Village	85-110-53	1	3 bd	7/19/2004	10/31/2003	2003-0150540	8/13/2049	N/A	Yes	No
513 Quail	Walnut Village	85-110-58	1	3 bd	7/19/2004	10/31/2003	2003-0150540	7/27/2049	N/A	Yes	No
300 Quail	Walnut Village	85-110-62	1	3 bd	7/24/2004	10/31/2003	2003-0150540	8/11/2049	N/A	Yes	No
115 S. L Street	Signorelli Apts	91-093-17	3	1 bd	7/2/2003	3/28/2003	2003-0038990	5/15/2032	N/A	Yes	No
G & E. College	G & College Apts	87-132-01 87-132-04	34	11=2 bd 14=3 bd 9=4 bd	8/14/2008	7/9/2008	2008-0040796	12/15/2059	N/A	Yes	No
513-519 N. G Street	Homebase on G	87-192-20 87-192-19	6	studios	in process	3/7/2008	2008-0013221	2/12/2063	N/A	Yes	No
513-519 N. G Street	Homebase on G	87-192-20 87-192-19	19	studios	in process	2/6/2008	2008-0006863	3/12/2063	N/A	No	Yes
Crown Cr & Plum Ave	Crown Laurel	89-500-04 89-500-06 89-500-11 89-500-15 89-500-32 89-500-38 89-500-46 89-500-54 89-500-66 89-500-68 89-500-73	11	3 bd	in process	3/7/2007	2007-0057324	7/2/2052	N/A	Yes	No
305-309 N. K Street	Portabello Apts	91-021-21 91-021-22	13	12=2 bd 1=1 bd	11/22/2007	11/15/2000	2000-0070646	11/14/2030	N/A	No	Yes
709-713 N. E Street	Southern Court	87-101-09	12	1 bd	2/28/2002	2/28/2001	2001-0014134	2/27/2031	N/A	No	Yes
120 & 120 1/2 S. K Street	K Street Cottages	91-102-17	2	2 bd	8/23/2000	1/24/2000	2000-0004413	11/29/2029	N/A	No	Yes
518 W. Laurel	Habitat-Mitchell	91-430-06	1	3 bd	4/23/2003	3/31/2004	2004-0030332	11/11/2047	N/A	No	Yes
520 W. Laurel	Habitat-Vanwagene	91-430-05	1	3 bd	4/23/2003	3/31/2004	2004-0030336	11/11/2047	N/A	No	Yes
401-405 W. Chestnut	Chestnut Apts	91-021-08	3	2 bd	acquisition only	3/31/2000	2000-0018835	3/31/2030	N/A	No	Yes
521-537 N. T Street	T & College	89-152-02 89-152-03	35	5=1 bd 30=2 bd	1/6/2006	10/10/2001	2001-0087099	10/5/2031	N/A	No	Yes
501-513 N. S Street and 508 N. T Street	Jay Apts	89-161-07 89-161-08 89-161-10	26	2 bd	acquisition only	3/22/2002	2002-0027668	3/14/2032	N/A	No	Yes
434-438 N. L Street	Casa Con Tres	89-231-17 89-231-18	12	3 bd	3/12/2005	7/10/2003	2003-0092008	6/16/2058	N/A	No	Yes
328-330 N. K Street	Courtyard	91-022-17	4	3 bd	9/23/2005	8/14/2001	2001-0069283	7/31/2031	N/A	No	Yes
733 N. E Street	Courtyard	87-101-03 87-101-04 87-101-05	18	2 bd	3/29/2001	6/16/1997	97-033948	6/16/2037	N/A	No	Yes
130 5th Street (RDA Production=24)	Casa Serena	85-190-80	48	10=2 bd 38=1 bd	3/21/2006	5/25/2004	2004-0050029	2/14/2050	N/A	No	Yes
1404 & 1408 W. College	College Avenue	89-151-03	TBD*	TBD*	in process	2/17/2006	2006-0013762	2/15/2051	N/A	No	Yes
308 N. K Street	College Avenue	91-022-21	3*	TBD*	awaiting final plan	2/9/2006	2006-0011381	2/7/2051	N/A	No	Yes
500 Block N. T Street	T Street Condos	89-161-12	5	3=2 bd 2=1 bd	in process	4/12/2006	2006-0028745	3/9/2049	N/A	No	Yes
521-523 W. Ocean Ave	Wolberg Apts	91-073-15	7	3 bd	8/7/2008	8/12/2008	2008-0047784	7/1/2063	N/A	No	Yes
521-523 W. Ocean Ave	Wolberg Apts	91-073-15	1	3 bd	8/7/2008	9/24/2008	2008-0055613	9/3/2063	N/A	No	Yes
114 S. K Street	Casa Del Desarrollo	91-102-18 91-102-19	9	studios	awaiting final plan	1/31/2006	2006-0008407	1/30/2061	N/A	No	Yes
TOTAL UNITS			404								

UNIT SIZE TOTALS:

Studio	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	TBD
34	80	219	59	9	3

*units will be reported when plans are finalized
TBD=To Be Determined

Source: Lompoc Redevelopment Agency, December 31, 2008.

Note: The inventory provided above constitutes all existing, new and substantially rehabilitated, housing units developed or otherwise assisted with moneys from the Low and Moderate Income Housing Fund, or otherwise counted towards the requirements of subdivision (a) or (b) of Section 33413. Some of the units may also appear in Table H-68 where multiple sources of funds are involved.



Appendix B

Notice of Preparation and Responses



City of Lompoc General Plan Update

Notice of Preparation of a Draft Environmental Impact Report

The City of Lompoc will be the Lead Agency for the preparation of an environmental impact report (EIR) for a proposed update to the Lompoc General Plan Land Use, Circulation, and Housing Elements. The proposed project involves the update of the 1997 General Plan, which currently serves as the blueprint for the development of the City. Each of these General Plan elements will be updated with goals, objectives, and policies that reflect the current needs and preferences of the community. The land use map will also be updated. The draft General Plan includes the following elements:

- Land Use
- Housing
- Circulation
- Safety
- Noise
- Open Space
- Conservation
- Parks and Recreation
- Public Services
- Urban Design

The focus of the Environmental Impact Report will be on the Land Use, Circulation, and Housing Element Updates, as these are the only elements being updated at this time. Physical change within the City would generally occur under the Land Use, Circulation and Housing Elements. The remaining elements (i.e., the Safety, Noise, Conservation, Open Space, Parks and Recreation, Public Services, and Urban Design Elements) typically contain policies and guidelines to implement goals of the Land Use, Circulation and Housing Elements. These remaining elements will be updated in a subsequent phase of the General Plan Update. Although these elements generally serve to reduce impacts associated with development envisioned in the Land Use, Circulation, and Housing Elements, they will nevertheless be subject to additional environmental review.

The City wishes to update the General Plan in a way that builds on the current plan, addresses problems that have been experienced under the current plan, and guides future development in a way that will support the needs of the residents of the City.

At this point, the land inventory in the City is largely built out; therefore the updated Land Use Element focuses on development that would generally occur within annexation areas and specified infill development areas. The updated Element includes policies to address issues of infill development, as well as reexamination of the sphere of influence and fine-tuning of the current General Plan. Most of the property within the City would retain existing land use designations.

The updated Circulation Element outlines the transportation network required to support development proposed under the City's Land Use Element. The draft Circulation Element is substantially similar to the current General Plan. However, the underlying data and information have been updated to reflect current conditions and validate the appropriateness of retaining circulation policies. Transportation facilities and their location and accessibility have been, and will continue to be, a major influence in shaping the

development pattern within Lompoc. The Circulation Element addresses the long-term roadway, bikeway, pedestrian, rail, and air traffic systems to serve the long-term growth anticipated in the City. The draft Housing Element is also similar in intent to the Housing Element of the current General Plan. However, similar to the draft Circulation Element, data and information have been updated to reflect current conditions. In addition, new programs have been identified to implement the City's housing objectives and policies.

The Draft EIR will be a program EIR. Per the *CEQA Guidelines*, a program EIR is an EIR that may be prepared on a series of actions that can be characterized as one large project. The purpose of a program EIR is to allow the lead agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.

The EIR will examine each of the issue areas on the City's environmental checklist; therefore, preparation of an initial study was not warranted. Issues to be discussed include:

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural and Historic Resources
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Public Services and Utilities
- Safety and Geologic Hazards
- Transportation/Traffic

In addition to the CEQA-required "no project" alternative, the Draft will examine a range of land use scenarios that address one or more potential environmental effects. These will include alternatives that provide different combinations of annexation areas and infill development.

The City of Lompoc would like to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by the City of Lompoc when considering your permit or other approval of certain aspects of the project.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Lucille Breese, AICP, Planning Manager, at

City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93438

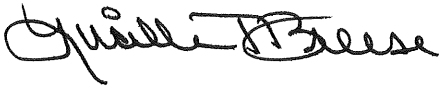
Ms. Breese can be reached at (805) 875-8273. Ms. Breese's email address is L_BREESE@ci.lompoc.ca.us. Please provide the name for a contact person in your agency.

The City will hold an EIR scoping meeting on the General Plan update on August 26, 2008 in the City Council Chambers at Lompoc City Hall, 100 Civic Center Plaza, Lompoc, California. The meeting will begin at 6:30 PM. The purpose of the meeting is to solicit input on the scope and content of the environmental analysis that will be included in the Draft EIR.

Project Title: City of Lompoc General Plan Update

Project Sponsor: City of Lompoc

Date:

Signature: 

Title: Planning Manager, City of Lompoc

Telephone: (805) 875-8273

09/09/2008 09:25 FAX 18584674298

DFB R5 Southcoast Region

001/008



State of California - The Resources Agency

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>
South Coast Region
4949 Viewridge Avenue
San Diego, CA 92123
(858) 467-4201



September 9, 2008

Lucille T. Breese, AICP
City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93436
Fax No.: (805) 875-8375

Subject: Notice of Preparation of a Draft Environmental Impact Report for the City of Lompoc General Plan Update, SCH #2008081032

Dear Ms. Breese:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The proposed project involves updates to the City of Lompoc's adopted General Plan Land Use, Circulation, and Housing Elements.

The California Wildlife Action Plan, a Department guidance document, identified the following stressors affecting wildlife and habitats within the project area: 1) growth and development; 2) water management conflicts and degradation of aquatic ecosystems; 3) invasive species; 4) altered fire regimes; and 5) recreational pressures. The Department looks forward to working with the City of Lompoc to minimize impacts to fish and wildlife resources with a focus on these stressors.

To enable Department staff to adequately review and comment on the proposed project we recommend the following information, where applicable, be included in the Draft Environmental Impact Report:

1. A complete, recent assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats.
 - a. A thorough recent assessment of rare plants and rare natural communities, following the Department's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities (attachment).
 - b. A complete, recent assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Recent, focused, species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and U.S. Fish and Wildlife Service.
 - c. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, § 15380).

Conserving California's Wildlife Since 1870

09/09/2008 09:25 FAX 18584874289

DFG R5 Southcoast Region

002/008

Lucille T. Breeze
September 9, 2008
Page 2 of 4

- d. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 324-3812 to obtain current information on any previously reported sensitive species and habitats, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. Also, any Significant Ecological Areas (SEAs), Significant Natural Areas (SNAs), or Environmentally Sensitive Habitats (ESHs) or any areas that are considered sensitive by the local jurisdiction located in or adjacent to the project area must be addressed.
2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. This discussion should focus on maximizing avoidance, and minimizing impacts.
- a. CEQA Guidelines, § 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.
 - b. Project impacts should also be analyzed relative to their effects on off-site habitats and populations. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems. Impacts to and maintenance of wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas, should be fully evaluated and provided. The analysis should also include a discussion of the potential for impacts resulting from such effects as increased vehicle traffic and outdoor artificial night lighting.
 - c. A cumulative effects analysis should be developed as described under CEQA Guidelines, § 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
 - d. Impacts to migratory wildlife affected by the project should be fully evaluated. This can include such elements as migratory butterfly roost sites and neo-tropical bird and waterfowl stop-over and staging sites. All migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of birds and their active nests, including raptors and other migratory nongame birds as listed under the MBTA.
 - e. Impacts to all habitats from City or County required Fuel Modification Zones (FMZ) should be fully evaluated. Areas slated as mitigation for loss of habitat shall not occur within the FMZ.
 - f. Proposed project activities (including disturbances to vegetation) should take place outside of the breeding bird season (February 1- August 15) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). If project activities cannot avoid the breeding bird season, nest surveys should be conducted and active nests should be avoided and provided with a minimum buffer as determined by a biological monitor (the Department recommends a minimum 500 foot buffer for all active raptor nests).

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DFG R5 Southcoast Region

003/006

Lucille T. Breeze
September 9, 2008
Page 3 of 4

3. An EIR shall describe feasible measures which could minimize significant adverse impacts (CEQA Guidelines §15126.4(a)(1)). Mitigation measures for project impacts to sensitive plants, animals, and habitats should emphasize evaluation and selection of alternatives which avoid or otherwise minimize impacts. Compensation for unavoidable impacts through acquisition and protection of high quality habitat elsewhere should be addressed.
 - a. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts. The List of California Terrestrial Natural Communities is available on request or may be viewed and downloaded online by visiting the Department's website at http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/NaturalCommunitiesList_Oct07.pdf.
 - b. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.
4. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated. A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources including wetlands/riparian habitats, alluvial scrub, coastal sage scrub, native woodlands, etc. should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.
5. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to the proposed project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit (Title 14 §783.3). For these reasons, the following information is requested:
 - a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.
 - b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.
6. The Department opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent, ephemeral, or perennial, must be retained and provided with substantial setbacks which preserve the riparian and aquatic habitat values and maintain their value to on-site and off-site wildlife populations.

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DFG R5 Southcoast Region

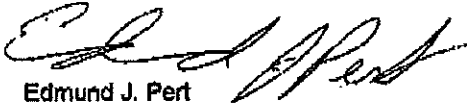
004/006

Lucille T. Breeze
September 9, 2008
Page 4 of 4

- a. The Department requires a streambed alteration agreement, pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to any direct or indirect impact to a lake or stream bed, bank or channel or associated riparian resources. The Department's issuance of a stream bed alteration agreement may be a project that is subject to CEQA. To facilitate our issuance of the agreement when CEQA applies, the Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) document for the project. To minimize additional requirements by the Department under CEQA the document should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources.

The Department suggests a pre-project or early consultation planning meeting for all projects. To make an appointment, please call Martin Potter, Environmental Scientist, at (805) 640-3677. Thank you for this opportunity to provide comment.

Sincerely,



Edmund J. Pert
Regional Manager
South Coast Region

Attachment

cc: Ms. Helen Biras
Department of Fish and Game
Los Alamitos, California

Ms. Betty Courtney
Department of Fish and Game
Santa Clarita, California

Mr. Sean Carlson
Department of Fish and Game
La Verne, California

Mr. Martin Potter
Department of Fish and Game
Ojai, California

Mr. Scott Morgan
State Clearinghouse
Sacramento, California

Chron File, Department of Fish and Game
San Diego, California

08/08/2008 08:26 FAX 18584674288

DFG R5 Southcoast Region

005/008

Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

State of California
THE RESOURCES AGENCY
Department of Fish and Game
December 9, 1983
Revised May 8, 2000

The following recommendations are intended to help those who prepare and review environmental documents determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how field surveys should be conducted, and what information should be contained in the survey report. The Department may recommend that lead agencies not accept the results of surveys that are not conducted according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if an environment worsens.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the names and status of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:

- a. Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- b. Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.

3. Botanical consultants should possess the following qualifications:

- a. Experience conducting floristic field surveys;
- b. Knowledge of plant taxonomy and plant community ecology;
- c. Familiarity with the plants of the area, including rare, threatened, and endangered species;
- d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- e. Experience with analyzing impacts of development on native plant species and communities.

4. Field surveys should be conducted in a manner that will locate any rare, threatened, or endangered species that may be present. Specifically, rare, threatened, or endangered plant surveys should be:

- a. Conducted in the field at the proper time of year when rare, threatened, or endangered species are both evident and identifiable. Usually, this is when the plants are flowering.

When rare, threatened, or endangered plants are known to occur in the type(s) of habitat present in the project

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DFG R5 Southcoast Region

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area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the species are identifiable at the time of the survey.

b. Floristic in nature. A floristic survey requires that every plant observed be identified to the extent necessary to determine its rarity and listing status. In addition, a sufficient number of visits spaced throughout the growing season are necessary to accurately determine what plants exist on the site. In order to properly characterize the site and document the completeness of the survey, a complete list of plants observed on the site should be included in every botanical survey report.

c. Conducted in a manner that is consistent with conservation ethics. Collections (voucher specimens) of rare, threatened, or endangered species, or suspected rare, threatened, or endangered species should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit requirements. A collecting permit from the Habitat Conservation Planning Branch of DFG is required for collection of state-listed plant species. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.

d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas.

e. Well documented. When a rare, threatened, or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5 minute topographic map with the occurrence mapped, should be completed and submitted to the Natural Diversity Database. Locations may be best documented using global positioning systems (GPS) and presented in map and digital forms as these tools become more accessible.

5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations and mitigated negative declarations, Timber Harvesting Plans (THPs), EIR's, and RIS's, and should contain the following information:

- a. Project description, including a detailed map of the project location and study area.
- b. A written description of biological setting referencing the community nomenclature used and a vegetation map.
- c. Detailed description of survey methodology.
- d. Dates of field surveys and total person-hours spent on field surveys.
- e. Results of field survey including detailed maps and specific location data for each plant population found. Investigators are encouraged to provide GPS data and maps documenting population boundaries.
- f. An assessment of potential impacts. This should include a map showing the distribution of plants in relation to proposed activities.
- g. Discussion of the significance of rare, threatened, or endangered plant populations in the project area considering nearby populations and total species distribution.
- h. Recommended measures to avoid impacts.
- i. A list of all plants observed on the project area. Plants should be identified to the taxonomic level necessary to determine whether or not they are rare, threatened or endangered.
- j. Description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s).
- k. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.
- l. Name of field investigator(s).
- m. References cited, persons contacted, herbaria visited, and the location of voucher specimens.

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SB COUNTY ADM. OFFICE

805 568 3414 P.01/02

COUNTY OF SANTA BARBARA

Michael F. Brown
County Executive Officer



EXECUTIVE OFFICE

105 East Anapamu Street, Suite 406
Santa Barbara, California 93101
805/568-3400 • Fax 805/568-3414
www.co.santa-barbara.ca.us

September 9, 2008

Lucille Breese, Planning Manager
City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93438

FAX: 805-736-5347

RE: *Notice of Preparation of a Draft Environmental Impact Report*

Dear Ms. Breese:

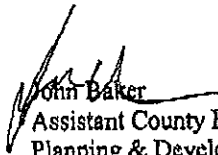
Thank you for the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report. At this time, the County is submitting the attached letter, which details comments from the County Agricultural Commissioner's Office. Additional comments for your consideration are provided below:

Figure 3

Figure 3 highlights proposed land use changes and potential development projects outside of the City of Lompoc's Sphere of Influence (SOI). The Draft Environmental Impact Report should analyze the potential inconsistency with the County of Santa Barbara General Plan and the proposed potential expansion areas. Additionally, pursuant to CEQA Guidelines §15370, the Draft EIR should analyze environmental impacts as well as potential mitigation measures associated with the proposed expansion areas outside of the City's SOI.

The County has no further comments on this project at this time and looks forward to reviewing the Draft Environmental Impact Report. If you should have further questions, please do not hesitate to contact my office directly, or David Matson, Deputy Director in the Office of Long Range Planning at (805) 568-2068.

Sincerely,


John Baker
Assistant County Executive Officer/
Planning & Development Director

cc: John McInnes, Director, Office of Long Range Planning
David Matson, Deputy Director, Office of Long Range Planning
William D. Gillette, Agricultural Commissioner, Agricultural Commissioner's Office

Attachments: *September 9, 2008 Letter-Agricultural Commissioner's Office*

John Baker
Assistant County Executive Officer
jbaker@co.santa-barbara.ca.us

Terrl Maus-Nisch
Assistant County Executive Officer
tmaus@co.santa-barbara.ca.us

Susan Paul
Assistant County Executive Officer
spaul@co.santa-barbara.ca.us

Jason Stilwell
Assistant County Executive Officer
jstl@co.santa-barbara.ca.us

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SB COUNTY ADM. OFFICE

805 568 3414 P.02/02



Agricultural Commissioner's Office
Weights & Measures ■ County of Santa Barbara

William D. Gillette
Commissioner / Director

September 9, 2008

City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93438

Re: City of Lompoc General Plan Update EIR Initial Study

Dear Ms. Breese:

Thank you for the opportunity to comment on the City of Lompoc General Plan Update EIR Initial Study. The Agricultural Commissioner's Office offers the following comments regarding potential impacts to agricultural resources.

The study should consider the quantity and quality of farmland that will be converted from agricultural use to non-agricultural use. According to Figure 3, it appears Area A (Bailey Avenue Specific Plan) and Area B are currently under agricultural production. Area A, located outside the City of Lompoc's existing City Limit and Sphere of Influence, would be developed with approximately 2,700 residential units and other urban uses. Area A is designated as Prime Farmland, contains Prime soils, is zoned as Agriculture. Some of the land is also enrolled in the County's Agricultural Preserve Program. Area B contains Prime soils and Prime Farmland.

The study should also assess potential impacts of the proposed development on adjacent agricultural operations. Cultivated farmland is located west of Bailey Avenue, adjacent to proposed Area A. Unpleasant odors, dust, and noise from agricultural fields may cause land use conflicts between farmers and residents. Urban development next to agriculture can also affect farming practices and increase potential for trespassing, vandalism, and theft on agricultural land. Some land use conflicts can be minimized by strategically placing structures away from agriculture and incorporating physical barriers such as landscaping, fencing and walls.

The Ag Commissioner's Office looks forward to working with the City of Lompoc as the project proceeds. Please contact me or Stephanie Stark, Agricultural Planner, for additional questions or to discuss these issues.

Sincerely,

William D. Gillette

William D. Gillette, Agricultural Commissioner

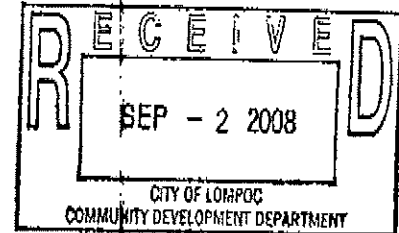
263 Camino del Remedio • Santa Barbara, California 93110
Phone (805) 681-5600 • Fax (805) 681-5603
www.countyofsb.org/agcomm/

TOTAL P.02

PUBLIC UTILITIES COMMISSION

320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013

August 28, 2008

Lucille Breese
City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93436

Dear Ms. Breese:

Re: SCH# 2008081032; City of Lompoc General Plan Update EIR

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.


The Commission's Rail Crossings Engineering Section (RCES) is in receipt of the *Notice of Completion & Environmental Document Transmittal-NOP* from the State Clearinghouse. RCES recommends that the City add language to the General Plan so that any future planned development adjacent to or near the Union Pacific Railroad Company right-of-way be planned with the safety of the rail corridor in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade highway-rail crossings. This includes considering pedestrian circulation patterns/destinations with respect to railroad right-of-way.

Mitigation measures to consider include, but are not limited to, grade separation of major thoroughfares, safety improvements to existing at-grade highway-rail crossings due to an increase in traffic volumes and appropriate fencing to limit the access of trespassers to railroad right-of-way.

The above-mentioned safety improvements should be considered when approval is sought for the new development. Working with commission staff early in the conceptual design phase will help improve the safety to motorists and pedestrians in the city.

If you have any questions, please contact Varouj Jinbanchian, Senior Utilities Engineer at 213-576-7081, vsj@cpuc.ca.gov, or me at rxm@cpuc.ca.gov, 213-576-7078.

Sincerely,



Rosa Muñoz, PE
Utilities Engineer
Rail Crossings Engineering Section
Consumer Protection & Safety Division

C: Dan Miller, UP

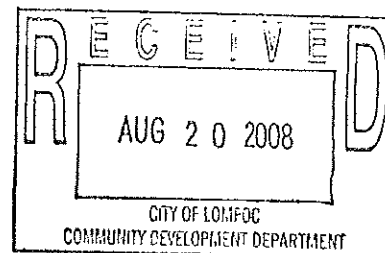
NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax



August 18, 2008

Lucille Breese
City of Lompoc
100 Civic Center Plaza
Lompoc, CA 93436

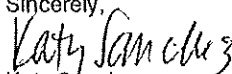


RE: SCH#20081032 City of Lompoc General Plan Update EIR; Santa Barbara County.

Dear Ms. Breese:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
 - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check. USGS 7.5 minute quadrangle name, township, range and section required.
 - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. Native American Contacts List attached.
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
 - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez
Program Analyst

CC: State Clearinghouse

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Santa Barbara County
August 15, 2008

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This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2008081032 City of Lompoc General Plan Update EIR: Santa Barbara County.

Native American Contacts
Santa Barbara County
August 15, 2008

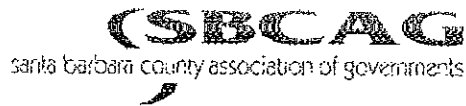
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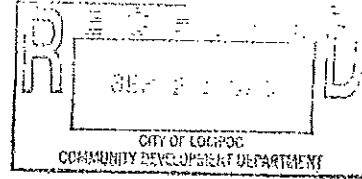


santa barbara county association of governments

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September 22, 2008

Ms. Lucille Breese, AICP
 City of Lompoc
 100 Civic Center Plaza
 Lompoc, CA 93438



Re: SBCAG COMMENTS ON THE NOP FOR THE LOMPOC GP UPDATE DEIR

Dear Ms. Breese,

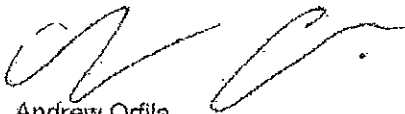
SBCAG staff appreciates the opportunity to review the Notice of Preparation of a DEIR for the Lompoc General Plan Update. SBCAG recommend that the DEIR address the comments outlined below.

- Ensure that the EIR analysis considers the effects that buildout of the General Plan will have on regional roadways, including Route 1 and Route 246. New development in Lompoc may generate new commute trips to/from the Santa Maria Valley and Santa Ynez Valley.
- Ensure that the EIR analysis considers the effects that buildout of the General Plan will have on local and regional transit systems. How will development under the General Plan effect performance of local and regional transit systems?
- The EIR should consider mitigation measures outlined in the Congestion Management Program, including system-wide improvements and designation of infill opportunity zones.
- With the City of Lompoc currently developing its city-wide model, SBCAG would require the General Plan to address traffic issues resulting from the development and completion of the city's "local" model. SBCAG is currently pursuing a policy to promote consistency between SBCAG's regional model and local models to the greatest extent possible. Use of regional model zonal geography, major roadway network structures, external traffic estimates on Route 1 and Route 246, and regional demographic growth forecast estimates would ensure accuracy of local/regional model forecasts on regionally-significant facilities. It is requested that SBCAG be involved in the City's model development through a peer review process as outlined in the TTAC staff report, July 2008 (attached).
- Future build-out traffic scenarios should consider possible impacts from several special traffic generators within, and in the neighborhood of, the city boundary, including the Lompoc Penitentiary, the Space Center, and the Vandenberg AFB.

- Ensure that the DEIR address aviation issues related to Lompoc Airport including Airport Influence Area, noise impacts, and airport safety areas.

SBCAG appreciates the opportunity to review the NOP for the Lompoc General Plan Update DEIR. Should you have any questions, please call me at 961-8907 or via e-mail at aorfila@sbcag.org. For questions related to traffic model consistency and aviation issues, please contact Bill Yim at 961-8906 or via e-mail at byim@sbcag.org.

Sincerely,



Andrew Orfila

Transportation Planner

Attachment: [Travel Models Staff Report](#), Technical Transportation Advisory Committee, July 2008

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STAFF REPORT

SUBJECT: Travel Models

MEETING DATE: July 3, 2008

AGENDA ITEM: 7

RECOMMENDATION:

Receive information on status of travel model development in Santa Barbara County and review factors to achieve consistency between SBCAG regional model and local models.

STAFF CONTACT: William F. Yim and Michael G. Powers

SUMMARY:

For the last few months, several local jurisdictions have been either developing or updating their local travel models. The Cities of Lompoc and Santa Barbara are developing new models. The Santa Maria/Orcutt and Santa Ynez Valley Models are being updated with more recent software platforms. Local models provide local jurisdictions technical capabilities that are needed for local traffic impacts and environmental analysis, but these local models also raise consistency issues with the SBCAG regional model. This staff report provides a status report on travel models used in Santa Barbara County and attempts to clarify the relationship between the regional model and local models and discusses the factors affecting the consistency between them. Recommendations are provided toward achieving model consistency through a peer review process and creation of a Santa Barbara County Model Users Group to promote cooperation and collaboration in achieving model consistency process.

DISCUSSION:

The report provides a status report on travel models used by jurisdictions in the county and describes the relationship between the SBCAG regional model and local models. The objective of this report is to improve consistency between the regional and local models.

Member Agencies

Buellton • Carpinteria • Goleta • Guadalupe • Lompoc • Santa Barbara • Santa Maria • Solvang • Santa Barbara County

Santa Barbara County Travel Model Development

The SBCAG Travel Demand Model: As the Metropolitan Planning Organization for the County of Santa Barbara, SBCAG maintains a countywide regional travel model to forecast changes in trips and traffic growth, assess demand for roadway and intersection improvements, evaluate land use alternatives and transportation control measures (TCMs), and, determine consistency between transportation and air quality plans. Between 2004 and 2007, the SBCAG travel model was improved for application in the 101 In-Motion Program and the update of the 2008 Regional Transportation Plan (2008RTP). In May this year, the SBCAG Expanded Model was also provided to Caltrans District 5 for use in analyzing and evaluating state highway improvements and monitoring projects including the Corridor System Improvement Program (CSMP), the Congestion Management Improvement Account (CMIA) Program, and the South Coast Highway 101 HOV project.

Local Travel Demand Models: For the last few months, several local jurisdictions have been either developing or updating their travel demand models. The City of Lompoc initiated development of a citywide travel model in March 2008 as part of the Lompoc General Plan Update. The City of Santa Barbara hired a team of consultants to assist the City in the development of a citywide model as part of the Santa Barbara General Plan Update (Plan Santa Barbara) and the accompanying Environmental Impact Report (EIR). In the Santa Maria area, PVT Vision, a European transportation-consulting firm, in cooperation with the Associated Transportation Engineers (ATE) is converting the Santa Maria/Orcutt Travel Model from TModel2 to VISUM for purposes of testing out "buildout" conditions of the Santa Maria General Plan and the Orcutt Community Plan. The updated model will be used by the County of Santa Barbara and the City of Santa Maria for traffic impact and environmental studies for the area. The County's Santa Ynez Valley Model is also undergoing a similar model update process by PTV Vision. In addition, the City of Goleta travel model was updated by Dowling Associates two years ago. In the next year or so, a majority of the cities and unincorporated County subareas within this county will achieve improved capability of conducting more detailed sub-area travel forecasting and analysis. **Table 1** summarizes the travel models that are currently being applied within Santa Barbara County.

Model Consistency Issues

Local models provide local jurisdictions technical capabilities that are needed to examine transportation impacts associated with land use decisions including environmental analysis, but these local models also raise consistency issues with the SBCAG regional model. For example:

- What are the primary functions of these local models and how are they related to the regional model?
- Why is consistency between regional and local models important?
- Is the review process (which allows local models to be reviewed by SBCAG, as required by the federal and state legislation) being utilized?
- What are the factors needed for achieving model consistency between regional and local models? What are the input and output exchanges between local and regional travel models?
- How can the regional model be improved by local models and vice versa?

Applications of Travel Demand Models

Travel demand forecasting is a major part of the transportation planning process. It involves forecasting socioeconomic and land use change and estimating the transportation impacts that various policies and programs will have on travel in an urban area. Travel demand models provide detailed information, such as traffic volumes, bus patronage, and turning movements to be used by engineers and planners in their roadway and intersection designs. Travel forecasts predict the number of vehicle trips on a future freeway or the number of passengers on a new express bus service. Travel models are used as a tool in addressing many technical and policy related issues in transportation planning such as the development of assessment fee programs. They may predict the amount of reduction in auto use that would occur in response to a new policy changing fees on central-area parking. As an example, one of the objectives of the Santa Barbara City Model currently under development is to examine the impact of parking pricing policy changes in downtown Santa Barbara.

Regional Models and Local Models

Under federal law, metropolitan planning organizations (MPOs) such as SBCAG are charged with developing transportation plans and programs to accommodate mobility needs for persons and goods within our region. Part of our responsibilities is to meet the need for development and maintenance of a viable regional travel model for purposes of providing long-term countywide and sub-regional travel forecasts. Regional models are used to predict transit ridership and benefits as a result of implementing various transportation demand management alternatives. Because of the regional nature of these models, most MPO models are socioeconomic databased, employing factors such as population, housing, income and employment from adopted regional growth forecast (RGF). Local models used by local agencies are subarea models. They are used primarily for local traffic impact studies to meet intersection level of service standards. These models have more refined traffic analysis zones (TAZs) and networks in order to identify local circulation and projected related impacts. Local models are generally land use databased, using various land use categories from local general plans and square footages of commercial developments. One of their primary uses is to provide possible suggestions for general plan policy development and assessment of environmental impacts resulting from general plan implementation. The model outcomes are then used to inform decision-makers regarding future land use strategies, detailed environmental studies and transportation infrastructure design. For the last several years, travel models have become more important in providing insights for elected officials in addressing policy-driven questions such as alternative modes of transportation, land use-transportation connections, smart growth, and parking pricing, etc. As an example, the new Santa Barbara City Model currently under development aims to examine various land use policy alternatives to address land use and transportation interactions.

Regional models and local models have a close relationship. A regional model such as the SBCAG model provides coverage not only the entire Santa Barbara County, but also its two neighbors, SLO and Ventura Counties. Geographically, the SBCAG model provides a "macro-level" perspective with larger traffic analysis zones. Its countywide network incorporates roadway classifications from freeway to major collectors. Because of its regional coverage, the SBCAG model is able to provide detailed inter-county, inter-regional and inter-community travel information. The origin-destination matrices by region and future traffic forecasts on state and inter-regional routes are particularly important for decision makers from the county and local elected officials. Local models however have a finer grained level of geography within a city boundary, focusing on providing local circulation and traffic impact information within a city boundary.

Legislative Requirements for Consistency between Regional and Local Models

The federal government, state transportation agencies, and MPOs have historically shared responsibilities for developing regional travel demand models. At the national level, the Clean Air Act, the National Environmental Policy Act (NEPA), and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) require MPOs to have a robust travel forecasting process in place. The Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) jointly conduct a certification of each transportation management area (TMA) every four years to ensure the adequacy of the transportation planning process. This certification process includes a review of the travel forecasting methods, which includes measures of travel demand modeling capability, funding, and peer review of travel forecasting methods and documentation. SBCAG had this review this past Spring.

State law requires local models to be developed for consistency with regional models. The following is from the California Government Code Section 65089(c):

"California requires MPOs and urban counties to develop and maintain travel models in consultation with the regional agency, cities, and the county, to develop a uniform data base on traffic impacts for use in a countywide transportation computer model and shall approve transportation computer models of specific areas within the county that will be used by local jurisdictions to determine the quantitative impacts of development on the circulation system that are based on the countywide model and standardized modeling assumptions and conventions. The computer models shall be consistent with the modeling methodology adopted by the regional planning agency. The databases used in the models shall be consistent with the databases used by the regional planning agency. Where the regional agency has jurisdiction over two or more counties, the data bases used by the agency shall be consistent with the databases used by the regional agency."

Congestion Management Program Requirements

In addition to national and state regulations for model consistency, MPOs are required to develop and maintain regional travel models for use in the Congestion Management Program (CMP) for their responsible counties. As the Congestion Management Agency for Santa Barbara County, SBCAG has responsibilities to develop and maintain a regional travel model to coordinate transportation planning, funding and other activities in the CMP. When sub-regional models are developed, state legislation requires that the Congestion Management Agency to review "transportation computer models of specific areas" to ensure that potential issues on regional highways and arterials are being adequately addressed. Travel model review policies have been developed by SBCAG for the CMP includes a general review of assumptions, geography, input/output data, and study results. (See attachment - Appendix F. CMP, Biennial Update, November 2003). Within the CMP context, SBCAG and local jurisdictions in this county are already collaborating in the following areas:

- Addressing CMP legislative objectives
- CMP performance assessment and monitoring
- Regionally significant Intersection LOS analysis
- Land use and building permit submittal by locals

Peer Review Process

In the past, peer reviews for local models to assess their consistency with the SBCAG model were conducted on a voluntary basis - either as part of the model development process or at the request of SBCAG. However, when local models have not been submitted to SBCAG for review, recent experiences have resulted in SBCAG reviewing local travel model parameters when project-related environmental documents are issued, which, in many instances, is too late

since the model has already been developed or updated. This could be problematic if there are significant differences between the regional and local models.

Most recently, local model development opportunities such as the Lompoc City Model and the Santa Barbara City Model are a major step for locals to attain new modeling capabilities. This also presents an opportunity for a joint effort between SBCAG and local agencies to achieve model consistency within this county. In view of the federal and state legislation for model consistency requirements, staff believes that a formal process of inter-agency peer review process would lead to improved consistency between regional and local travel models.

Consistency Issues between Regional and Local Models

In view of the model consistency requirements and close relationships between regional and local models, the following section examines factors for which local models should strive to be consistent with the SBCAG model. They are:

- Geography and network
- External Traffic
- Regional Growth Forecast and Model Database
- Trip Rates
- Software Platforms and Capabilities

Each factor is discussed below. Table 2 provides description of input and output interactions between the SBCAG regional Model and local models.

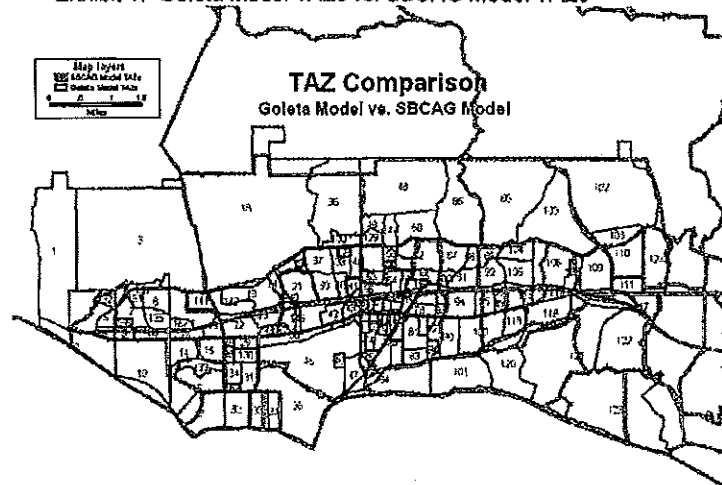
Geography and network:

Issue: The uniform geographical base for any travel demand model data is the traffic analysis zones (TAZs). TAZs are a set of homogeneous geographic zones which are delineated based on socioeconomic and land uses for purposes of transportation modeling. Regional models generally have larger but fewer TAZs for purposes of modeling the entire geographical region. Since 1991, the U.S. Census Bureau in cooperation with all MPOs, updated the geography for the entire nation into Census TAZs for consistency. This Census TAZ program was updated in 2001 and will be updated in the near future in preparation of the 2010 Census. Regional model TAZs also include sub-regional TAZs, but they are usually at a coarser level. Each TAZ in a sub-regional may include an area of several street blocks. Exhibit 1 shows a comparison between the Goleta Model and the SBCAG Model TAZs. The SBCAG model network was developed using the U.S. Topologically Integrated Geographic Encoding and Referencing database (TIGER/Line) and refined with roadway centerline aerial imageries. Local models are usually city or subarea models which have fine-grained TAZs within each city boundary domain. For example, local model TAZs in a downtown Central Business District (CBD) can be down to city street blocks. Furthermore, local models have finer networks which may extend to all local streets within a neighborhood in order to allow traffic and circulation patterns on sub-areas be analyzed.

Recommendations: In general, local model TAZs should be subsets of the regional TAZs for consistency with Census data and the federal requirements. In Santa Barbara County, local model TAZs and networks are primarily based on the SBCAG model, for example, the Goleta and Santa Maria/Orcutt models. Staff is particularly appreciative of

the fact that the recent model development for the Cities of Santa Barbara and Lompoc actually requested the SBCAG model information for consistency. The SBCAG model TAZs are expected to be updated again in the near future (associated with the 2010 census), it is recommended that TAZs developed for local models would need to be reviewed by SBCAG for consistency with the SBCAG model on a timely basis. In addition, local model networks should also be reviewed for consistency with the regional network up to the collector level.

Exhibit 1: Goleta Model TAZs vs. SBCAG Model TAZs



External Traffic

Issue: External trips are trips outside a model domain. Local model networks are part of the regional model network. Traffic at external stations of the city boundary, for example, at freeway and arterial entry and exit points of the local domain, must be consistent with the SBCAG regional model in order that travel forecasts are consistent with the regional model. External traffic feeding into local models from the SBCAG model would ensure the necessary consistency with local model output and traffic circulation within a subarea.

Recommendation: Traffic forecasts at external stations for local models are recommended to employ regional model forecasts as part of their model input and validation.

Regional Growth Forecast and Model Database:

Issue: The socioeconomic data (population, housing, income, and employment) employed by regional models generally come from adopted regional growth forecasts. Local models generally employ land use data from their respective general plans. Local model land use databases are often unique and sometimes specifically tailored because their designations are often influenced by local policy decisions. These land use databases may not necessarily correlate with socioeconomic trends nor are they

consistent between adjacent jurisdictions. In addition, ongoing land use updates from general plans and periodic revisions of regional growth forecasts for regional models often present additional challenges in database consistency between regional and local models. Current database of the SBCAG Expanded Model was based on a revised version of the 2002RGF. In September 2007, the new 2007RGF was adopted with long range growth forecasts projected to the year 2040. In the next few months, staff will be updating the SBCAG model database based on the 2007RGF.

Recommendations: It is recognized that a universal conversion table applicable for the entire county might be difficult to develop because of the varying land use categories and the different economic environments among various jurisdictions. One option is to develop a broad database conversion process whereby the similar land use databases employed by local models could yield as close as possible the "control totals" of the regional model. For example, residential land use categories would be converted to "occupied dwelling units", and non-residential land uses would be converted to "employment totals" with ranges of values reflecting variations in occupancy rates and land use categories. This option would allow a "two-way street" comparison enhancing the aggregation of socioeconomic data for comparison. It is recommended that local models should incorporate a broad database conversion spreadsheet as part of the local model development process for review by SBCAG staff to ensure database consistency to the extent possible.

Trip Rates

Issue: Trip rates employed by local models primarily come two sources: 1/ The Institute of Transportation Engineers (ITE) Trip Generation Manual by land use categories, and 2/ local or other area traffic impact studies similar to the local situation. The trip rates from the latter often vary from city to city. For example, tourist destinations such as Solvang, Carpinteria, or Santa Barbara could have unique trip rates. Conversely, trip rates in the SBCAG model came from the Caltrans Household Survey for Santa Barbara County. These rates, by trip purpose, are then cross-classified by household size and income groups. These two approaches in trip generation between regional and local models could yield different model results simply because of the fundamental differences in socioeconomic and land use databases.

Recommendations: The differences in trip rates employed between regional models and local model have always been and will continue to be an issue for model consistency. However, as part of the peer review process, local agencies are obligated to involve SBCAG as part of the model development process and to review documents and assumptions as part of the peer-review process.

Software Platforms and Capabilities

Issue: A number of travel model software platforms are available in the marketplace. Each software platform provides varying degrees of modeling capability and utility. Selection of a particular software platform and its suitability for use in regional and/or local models also vary, depending upon the expertise of model development consultant. Though there are no requirements in the selection of particular software for use by local agencies, different software platforms do add complexity in achieving model consistency between regional and local models. For example, data files transfer, re-formatting, and costs associated with resolving the data-base differences could become an issue. In addition, as traffic micro-simulation emerges from testing to application, the associated

data needs and complexity in modeling will intensify. As this occurs, uniform software and standardized protocols will become more important.

Recommendations: Generally, consistency in using the same or common-base software platforms would generally minimize staff time and model development costs. Efforts should always be pursued to minimize using a wide variety of software platforms, particularly for model with the same county. For example, application of universal file transfer protocols such as GIS shape file format for graphics, excel spreadsheet or dbase formats for datasets would enhance efficiency in file sharing and minimize complications in file transfers. Software that provides uniformity and consistency would be preferred. SBCAG is particularly appreciative of the fact that the City of Lompoc, the City of Santa Barbara, and Caltrans D5 have elected to use TransCAD as their model platform, which fundamentally provided a common platform and efficiency to modeling capabilities and application.

RECOMMENDATION TO FACILITATE COORDINATION BETWEEN LOCAL AND REGIONAL TRAVEL MODELS

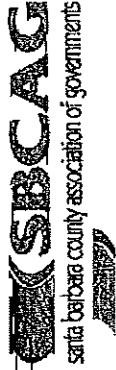
As part of the federal and state legislative requirements for model consistency, the review process allows each agency to review the other agencies travel model. It gives the regional agency the opportunity to review the validity of local models and their performance, particularly on regionally significant roadways. Conversely, local agencies would be able to streamline their modeling efforts to address their general plan land use issues while at the same time minimize development and maintenance costs. The current local model development opportunities of the Lompoc and Santa Barbara city models are a major step for locals to attain enhanced modeling capabilities to meet their needs. The peer review process would also provide a great opportunity to ensure long term model consistency between the SBCAG model and local models. It would also help the long term development and improvement of the SBCAG travel model.

Staff is encouraged that local agencies remain open about how their models are being developed so that inconsistencies between the regional and local models can be minimized and decisions about transportation funding can be confidently made.

It is important to recognize the common factors associated with model consistency between regional and local models. As local agencies are obligated to involve SBCAG for consistency review, staff believes that the time is now for a formal peer review process, involving SBCAG, local agencies, Caltrans, and the Consulting community, be created, perhaps a "Countywide/SBCAG Model Users Group (SBCMUG)" to further promote cooperation, facilitate collaboration, and streamline the model consistency efforts. As local models are likely to be more sensitive in addressing general plan policy related issues (capturing benefits of newly instituted mixed-use or smart growth strategies), successful local land use policy-driven strategies could in turn provide improvements on SBCAG model as well. This Users Group would likely just need to meet two or three times a year to review model updates, share new applications and technical developments.

Attachments: Appendix F, CMP, Biennial Update, November 2003

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Table 1 - Travel Demand Models in Santa Barbara County

Model Characteristics	SBCAG	City of Santa Barbara	City of Lompoc	Santa Maria Area	City of Goleta	Santa Maria Valley
Travel Model	SBCAG Travel Demand Model (Expanded Version)	Part of the Plan Santa Barbara	Lompoc Traffic Model (Part of City's GP Update)	Santa Maria Area Traffic Model, 2004	Goleta Traffic Model, 2004	SV Valley Traffic Model, 1992
Software Platform	TransCAD 5.0 Traffic for CMP Intersection LOS analysis	TransCAD 5.0	TransCAD 5.0	PTV/VISUM	PTV/VISUM Traffic for Intersection LOS analysis	Model2/VISUM
Model Type	Socioeconomic Data-based	Land Use Data-based, but designed to be socioeconomic data-based convertible	Land Use Data-based	Land Use Data-based	Land Use Data-based	Land Use Data-based
Capabilities	Daily and 3-time periods (AM, Midday, and PM) peak hour	Daily and AM/PM peak hour	Daily and AM/PM peak hour	Daily and AM/PM peak hour	All / PM peak hour	Daily and AM/PM peak hour
Mode Choice	Logit model provides motorized and non-motorized modes. Bike / Pedestrian forecasts are available, but not currently used due to the lack of count data for calibration & validation	Build on the SBCAG model, the city model may have mode choice capability similar to the SBCAG model.	Build on the SBCAG model with the same consultant as the SB city model, the Lompoc model may have mode choice capability similar to the SBCAG model.	Travel modeling capability is available from VISUM but the mode choice step is not being used.	Similar to the SM/Orcutt Model, transit modeling capability is available from VISUM but the mode choice step is not being used.	No Mode Choice
Base & Forecast Years	2000 Base Year 2030 Forecasts	2008 Base Year Forecast year not determined.	2008 Base Year Forecast year not determined.	Currently calibrated to 2008 Base Year Forecast year not determined.	2008 Base Year and 2030 GP Buildout	1992 Base Year 2015 Forecast
Current Status	Ongoing use for countywide and corridor studies, including Caltrans CAMS, CSMP, and 101 HOV studies)	Initiated development in April 2008 as part of the PlanSB	Initiated development as part of the City's GP Update	Operational	Operational	Not used. Currently being converted to VISUM by PTV for coding and calibration.
Future Plans	Upgrade to 2005 Base Year Continue to be used for CMA, CSMP and other corridor studies.	In development	In development	In the process of calibrated to 2008 base year	Not yet determined	Not available

Member Agencies
 Buellton • Carpinteria • Goleta • Guadalupe • Lompoc • Santa Maria • Solvang • Santa Barbara County

Table 2: Model Consistency Check List (Input and Output Exchanges between Regional and Local Models)

Jurisdiction	SEACAG Regional Model (Input to Local Models)	Local Models (Feedback to SEACAG Regional Model)
<p>Geography and network</p> <ul style="list-style-type: none"> - Regional Census TAZs and updates - Census Data - Countywide and subarea network 		<ul style="list-style-type: none"> - Disaggregation of regional TAZs into finer TAZs within local jurisdictional boundaries - Direct application of Census data down to localized block level - Gridded TAZs within CBD and sub-areas geography and localized networks consistent with regional TAZs to allow regional model validation
<p>External Traffic</p>	<ul style="list-style-type: none"> - External traffic and OD trip tables for local model input - Regional and intercity commute data and forecast of intercity transit ridership data 	<ul style="list-style-type: none"> - Micro level OD matrices allow subarea traffic circulation be visualized - Transit ridership supplement local model inadequacy.
<p>Model Database</p>	<ul style="list-style-type: none"> - Socioeconomic data by market area / local jurisdiction provides control totals by jurisdiction <ul style="list-style-type: none"> o Population, Housing, Employment o Household Size and Income o Census and CTPP Journey-to-Work Data 	<ul style="list-style-type: none"> - Land use data from general plans review local land use policies - Equivalence conversion table validating with regional control totals and economic trends, i.e., employment and housing
<p>Traffic Counts</p>	<ul style="list-style-type: none"> - Cordon and screenline count volumes at or across city boundary - Countywide ADT and peak hour counts by jurisdiction 	<ul style="list-style-type: none"> - Direct count input to local models - Local counts available for input o regional model
<p>Trip Rates</p>	<ul style="list-style-type: none"> - Countywide trip rates 	<ul style="list-style-type: none"> - Local trip rates allows comparison of trip rates from various jurisdictions and consistency
<p>Model Output</p>	<ul style="list-style-type: none"> - Base year and forecast volumes by local jurisdiction - O/D Matrices provide inter-county and inter-regional travel - Regionally significant roadway volumes for local model calibration - Regional network assignment for local model input - Transit ridership forecast by local transit operator - Bike and Pedestrian output for use by local models 	<ul style="list-style-type: none"> - Local/subarea network assignment validates regional assignment, and subarea assignments validate regional model output - Regional O/D matrices consistency with local model - Transit ridership supplement local model deficiency due to the lack of mode choice model - Effectiveness of mixed use and smart growth strategies for possible regional model improvement - Local area volumes and intersection turning movements output at local level for regional model validation

APPENDIX F

EVALUATION CRITERIA FOR REVIEWING TRAFFIC MODELS

Part I. Review of model assumptions, geography, and input data

Interested agencies should be given an opportunity early in the model development process to review the assumptions, geography, and input data used to develop transportation models. This will avoid the need to undertake costly and time consuming changes after the structure of the model has been developed.

1. Does the model address CMP legislative objectives?
2. Are external traffic estimates provided for:

Through trips (and growth) and Inter-jurisdictional trips; and,
are land use assumptions relating to Inter-jurisdictional trips provided?
3. Are geographic boundaries (i.e. traffic zones) consistent with other regional studies?
4. Are land use analysis assumptions consistent with other regional studies?
5. Are standard traffic measurement techniques used in the methodology?

Part II. Review of model output and study results

After modeling scenarios or a draft report is prepared the study can be reviewed to assess how the above issues were addressed and other questions can be asked.

6. Are road improvements identified, (if needed) to mitigate traffic impacts? Is a schedule for necessary improvements provided?
7. Is an overview of modeling activities provided which describes the network and outlines trip generation, distribution, assignment, and calibration procedures?

Prior to applying a transportation model to assess the impacts of development, jurisdictions should obtain review and approval of model assumptions, data, and geography as early as feasible. Documentation of the models should be submitted which addresses each of the questions posed above. Another review of the model will be necessary following publication of an actual report on the transportation study. This review will examine the factors addressed in Part I to verify their consistency and a review of factors in Part II to assess how these issues were addressed in the study.

Formal approval of transportation models for use in analyzing impacts on the CMP system must be made by the CMA (SBCAG). SBCAG should be given a minimum of 15 working days to review and evaluate the information on the model using the above guidelines. SBCAG will provide a written response to the jurisdiction outlining any changes that are necessary for approval.



Appendix C

Air Quality Data

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Buildout.urb924

Project Name: Lompoc GPU Buildout

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	51.38	7.21	78.21	0.21	11.00	10.59	9,228.63

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	57.17	73.95	636.77	0.37	74.18	14.29	38,673.59

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	108.55	81.16	714.98	0.58	85.18	24.88	47,902.22

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.45	5.89	2.79	0.00	0.01	0.01	7,468.41
Hearth	17.45	1.25	69.21	0.21	10.97	10.56	1,750.16
Landscape	1.08	0.07	6.21	0.00	0.02	0.02	10.06
Consumer Products	25.34						
Architectural Coatings	7.06						
TOTALS (tons/year, unmitigated)	51.38	7.21	78.21	0.21	11.00	10.59	9,228.63

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	23.21	31.00	265.86	0.16	31.50	6.07	16,381.55
Condo/townhouse general	16.66	21.64	185.57	0.11	21.99	4.23	11,434.37
Office park	6.68	8.48	73.62	0.04	8.24	1.59	4,320.12
General light industry	10.62	12.83	111.72	0.06	12.45	2.40	6,537.55
TOTALS (tons/year, unmitigated)	57.17	73.95	636.77	0.37	74.18	14.29	38,673.59

Operational Settings:

Does not include correction for passby trips

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Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	480.67	9.57	dwelling units	1,442.00	13,799.94	100,190.32
Condo/townhouse general	87.25	6.90	dwelling units	1,396.00	9,632.40	69,933.15
Office park		11.42	1000 sq ft	431.25	4,924.88	26,180.63
General light industry		6.97	1000 sq ft	1,071.49	7,468.29	39,581.91
					35,825.51	235,886.01

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Buildout.urb924

Project Name: Lompoc GPU Buildout

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	192.00	33.07	84.27	0.00	0.25	0.25	41,034.59

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	306.25	382.98	3,445.21	2.05	406.43	78.32	215,651.48

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	498.25	416.05	3,529.48	2.05	406.68	78.57	256,686.07

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	2.48	32.28	15.26	0.00	0.06	0.06	40,922.81
Hearth - No Summer Emissions							
Landscape	12.00	0.79	69.01	0.00	0.19	0.19	111.78
Consumer Products	138.84						
Architectural Coatings	38.68						
TOTALS (lbs/day, unmitigated)	192.00	33.07	84.27	0.00	0.25	0.25	41,034.59

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	123.82	160.53	1,439.60	0.87	172.60	33.24	91,351.03
Condo/townhouse general	89.34	112.05	1,004.84	0.60	120.47	23.20	63,763.30
Office park	35.73	43.92	397.48	0.23	45.13	8.71	24,087.13
General light industry	57.36	66.48	603.29	0.35	68.23	13.17	36,450.02
TOTALS (lbs/day, unmitigated)	306.25	382.98	3,445.21	2.05	406.43	78.32	215,651.48

Operational Settings:

Does not include correction for passby trips

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Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	480.67	9.57	dwelling units	1,442.00	13,799.94	100,190.32
Condo/townhouse general	87.25	6.90	dwelling units	1,396.00	9,632.40	69,933.15
Office park		11.42	1000 sq ft	431.25	4,924.88	26,180.63
General light industry		6.97	1000 sq ft	1,071.49	7,468.29	39,581.91
					35,825.51	235,886.01

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Buildout.urb924

Project Name: Lompoc GPU Buildout

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	606.11	73.35	1,707.86	5.07	268.43	258.39	97,258.48

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	327.28	449.52	3,577.06	2.06	406.43	78.32	204,427.29

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	933.39	522.87	5,284.92	7.13	674.86	336.71	301,685.77

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	2.48	32.28	15.26	0.00	0.06	0.06	40,922.81
Hearth	426.11	41.07	1,692.60	5.07	268.37	258.33	56,335.67
Landscaping - No Winter Emissions							
Consumer Products	138.84						
Architectural Coatings	38.68						
TOTALS (lbs/day, unmitigated)	606.11	73.35	1,707.86	5.07	268.43	258.39	97,258.48

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	133.96	188.50	1,491.11	0.87	172.60	33.24	86,583.67
Condo/townhouse general	95.19	131.57	1,040.80	0.61	120.47	23.20	60,435.66
Office park	38.27	51.50	415.21	0.23	45.13	8.71	22,841.37
General light industry	59.86	77.95	629.94	0.35	68.23	13.17	34,566.59
TOTALS (lbs/day, unmitigated)	327.28	449.52	3,577.06	2.06	406.43	78.32	204,427.29

Operational Settings:

Does not include correction for passby trips

1/7/2009 2:47:23 PM

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	480.67	9.57	dwelling units	1,442.00	13,799.94	100,190.32
Condo/townhouse general	87.25	6.90	dwelling units	1,396.00	9,632.40	69,933.15
Office park		11.42	1000 sq ft	431.25	4,924.88	26,180.63
General light industry		6.97	1000 sq ft	1,071.49	7,468.29	39,581.91
					35,825.51	235,886.01

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Bailey.urb924

Project Name: Lompoc GPU Bailey

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	49.62	7.30	78.00	0.20	10.53	10.14	9,339.38

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	36.92	47.98	412.01	0.24	48.56	9.35	25,272.61

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	86.54	55.28	490.01	0.44	59.09	19.49	34,611.99

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.46	6.01	2.67	0.00	0.01	0.01	7,647.85
Hearth	16.71	1.19	66.28	0.20	10.50	10.11	1,676.94
Landscape	1.61	0.10	9.05	0.00	0.02	0.02	14.59
Consumer Products	24.27						
Architectural Coatings	6.57						
TOTALS (tons/year, unmitigated)	49.62	7.30	78.00	0.20	10.53	10.14	9,339.38

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	27.36	35.71	306.31	0.18	36.29	6.99	18,873.91
Condo/townhouse general	6.02	7.77	66.66	0.04	7.90	1.52	4,107.66
Office park	3.54	4.50	39.04	0.02	4.37	0.84	2,291.04
TOTALS (tons/year, unmitigated)	36.92	47.98	412.01	0.24	48.56	9.35	25,272.61

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

1/7/2009 1:09:05 PM

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	175.00	7.28	dwelling units	2,184.00	15,899.52	115,433.70
Condo/townhouse general	25.00	6.48	dwelling units	534.00	3,460.32	25,122.61
Office park		11.42	1000 sq ft	228.70	2,611.75	13,884.08
					21,971.59	154,440.39

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Office park				48.0	24.0	28.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Bailey.urb924

Project Name: Lompoc GPU Bailey

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	189.37	34.06	115.22	0.00	0.33	0.33	42,068.16

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	197.85	248.49	2,230.39	1.34	266.07	51.24	140,929.60

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	387.22	282.55	2,345.61	1.34	266.40	51.57	182,997.76

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	2.54	32.92	14.64	0.00	0.06	0.06	41,906.00
Hearth - No Summer Emissions							
Landscape	17.87	1.14	100.58	0.00	0.27	0.27	162.16
Consumer Products	132.97						
Architectural Coatings	35.99						
TOTALS (lbs/day, unmitigated)	189.37	34.06	115.22	0.00	0.33	0.33	42,068.16

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	146.56	184.95	1,658.62	1.00	198.86	38.29	105,249.57
Condo/townhouse general	32.34	40.25	360.98	0.22	43.28	8.33	22,906.17
Office park	18.95	23.29	210.79	0.12	23.93	4.62	12,773.86
TOTALS (lbs/day, unmitigated)	197.85	248.49	2,230.39	1.34	266.07	51.24	140,929.60

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

1/7/2009 1:08:00 PM

Analysis Year: 2010 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	175.00	7.28	dwelling units	2,184.00	15,899.52	115,433.70
Condo/townhouse general	25.00	6.48	dwelling units	534.00	3,460.32	25,122.61
Office park		11.42	1000 sq ft	228.70	2,611.75	13,884.08
					21,971.59	154,440.39

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Office park				48.0	24.0	28.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Bailey.urb924

Project Name: Lompoc GPU Bailey

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	579.67	73.48	1,636.19	4.86	257.18	247.56	97,418.32

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	211.24	291.76	2,312.08	1.34	266.07	51.24	133,580.84

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	790.91	365.24	3,948.27	6.20	523.25	298.80	230,999.16

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	2.54	32.92	14.64	0.00	0.06	0.06	41,906.00
Hearth	408.17	40.56	1,621.55	4.86	257.12	247.50	55,512.32
Landscaping - No Winter Emissions							
Consumer Products	132.97						
Architectural Coatings	35.99						
TOTALS (lbs/day, unmitigated)	579.67	73.48	1,636.19	4.86	257.18	247.56	97,418.32

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	156.60	217.18	1,717.98	1.00	198.86	38.29	99,756.87
Condo/townhouse general	34.34	47.27	373.90	0.22	43.28	8.33	21,710.76
Office park	20.30	27.31	220.20	0.12	23.93	4.62	12,113.21
TOTALS (lbs/day, unmitigated)	211.24	291.76	2,312.08	1.34	266.07	51.24	133,580.84

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

1/7/2009 1:08:46 PM

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	175.00	7.28	dwelling units	2,184.00	15,899.52	115,433.70
Condo/townhouse general	25.00	6.48	dwelling units	534.00	3,460.32	25,122.61
Office park		11.42	1000 sq ft	228.70	2,611.75	13,884.08
					21,971.59	154,440.39

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Office park				48.0	24.0	28.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\River.urb924

Project Name: Lompoc GPU River

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	2.34	0.36	3.84	0.01	0.49	0.47	446.66

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.13	1.41	12.11	0.01	1.44	0.28	746.36

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	3.47	1.77	15.95	0.02	1.93	0.75	1,193.02

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.02	0.29	0.12	0.00	0.00	0.00	367.83
Hearth	0.77	0.06	3.07	0.01	0.49	0.47	77.76
Landscape	0.10	0.01	0.65	0.00	0.00	0.00	1.07
Consumer Products	1.12						
Architectural Coatings	0.33						
TOTALS (tons/year, unmitigated)	2.34	0.36	3.84	0.01	0.49	0.47	446.66

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Mobile home park	1.13	1.41	12.11	0.01	1.44	0.28	746.36
TOTALS (tons/year, unmitigated)	1.13	1.41	12.11	0.01	1.44	0.28	746.36

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Mobile home park	21.00	4.99	dwelling units	126.00	628.74	4,564.78
					628.74	4,564.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\River.urb924

Project Name: Lompoc GPU River

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	9.21	1.66	7.84	0.00	0.02	0.02	2,027.34

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6.09	7.31	65.59	0.04	7.86	1.51	4,162.05

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	15.30	8.97	73.43	0.04	7.88	1.53	6,189.39

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.12	1.58	0.67	0.00	0.00	0.00	2,015.50
Hearth - No Summer Emissions							
Landscape	1.14	0.08	7.17	0.00	0.02	0.02	11.84
Consumer Products	6.16						
Architectural Coatings	1.79						
TOTALS (lbs/day, unmitigated)	9.21	1.66	7.84	0.00	0.02	0.02	2,027.34

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Mobile home park	6.09	7.31	65.59	0.04	7.86	1.51	4,162.05
TOTALS (lbs/day, unmitigated)	6.09	7.31	65.59	0.04	7.86	1.51	4,162.05

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Mobile home park	21.00	4.99	dwelling units	126.00	628.74	4,564.78
					628.74	4,564.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\River.urb924

Project Name: Lompoc GPU River

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	26.99	3.50	75.86	0.23	11.92	11.48	4,636.97

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6.36	8.59	67.94	0.04	7.86	1.51	3,944.84

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	33.35	12.09	143.80	0.27	19.78	12.99	8,581.81

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.12	1.58	0.67	0.00	0.00	0.00	2,015.50
Hearth	18.92	1.92	75.19	0.23	11.92	11.48	2,621.47
Landscaping - No Winter Emissions							
Consumer Products	6.16						
Architectural Coatings	1.79						
TOTALS (lbs/day, unmitigated)	26.99	3.50	75.86	0.23	11.92	11.48	4,636.97

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Mobile home park	6.36	8.59	67.94	0.04	7.86	1.51	3,944.84
TOTALS (lbs/day, unmitigated)	6.36	8.59	67.94	0.04	7.86	1.51	3,944.84

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Mobile home park	21.00	4.99	dwelling units	126.00	628.74	4,564.78
					628.74	4,564.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Miguelito.urb924

Project Name: Lompoc GPU Miguelito

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.45	0.07	0.73	0.00	0.10	0.09	88.57

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.40	0.54	4.61	0.00	0.55	0.11	284.01

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.85	0.61	5.34	0.00	0.65	0.20	372.58

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.00	0.06	0.02	0.00	0.00	0.00	72.98
Hearth	0.15	0.01	0.61	0.00	0.10	0.09	15.43
Landscape	0.02	0.00	0.10	0.00	0.00	0.00	0.16
Consumer Products	0.22						
Architectural Coatings	0.06						
TOTALS (tons/year, unmitigated)	0.45	0.07	0.73	0.00	0.10	0.09	88.57

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	0.40	0.54	4.61	0.00	0.55	0.11	284.01
TOTALS (tons/year, unmitigated)	0.40	0.54	4.61	0.00	0.55	0.11	284.01

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	8.33	9.57	dwelling units	25.00	239.25	1,737.00
					239.25	1,737.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Miguelito.urb924

Project Name: Lompoc GPU Miguelito

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1.80	0.32	1.25	0.00	0.00	0.00	401.69

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	2.15	2.78	24.96	0.02	2.99	0.58	1,583.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3.95	3.10	26.21	0.02	2.99	0.58	1,985.45

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.02	0.31	0.13	0.00	0.00	0.00	399.90
Hearth - No Summer Emissions							
Landscape	0.20	0.01	1.12	0.00	0.00	0.00	1.79
Consumer Products	1.22						
Architectural Coatings	0.36						
TOTALS (lbs/day, unmitigated)	1.80	0.32	1.25	0.00	0.00	0.00	401.69

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	2.15	2.78	24.96	0.02	2.99	0.58	1,583.76
TOTALS (lbs/day, unmitigated)	2.15	2.78	24.96	0.02	2.99	0.58	1,583.76

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	8.33	9.57	dwelling units	25.00	239.25	1,737.00
					239.25	1,737.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Miguelito.urb924

Project Name: Lompoc GPU Miguelito

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	5.35	0.69	15.05	0.04	2.37	2.28	920.03

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	2.32	3.27	25.85	0.02	2.99	0.58	1,501.10

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	7.67	3.96	40.90	0.06	5.36	2.86	2,421.13

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.02	0.31	0.13	0.00	0.00	0.00	399.90
Hearth	3.75	0.38	14.92	0.04	2.37	2.28	520.13
Landscaping - No Winter Emissions							
Consumer Products	1.22						
Architectural Coatings	0.36						
TOTALS (lbs/day, unmitigated)	5.35	0.69	15.05	0.04	2.37	2.28	920.03

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	2.32	3.27	25.85	0.02	2.99	0.58	1,501.10
TOTALS (lbs/day, unmitigated)	2.32	3.27	25.85	0.02	2.99	0.58	1,501.10

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	8.33	9.57	dwelling units	25.00	239.25	1,737.00
					239.25	1,737.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Wye.urb924

Project Name: Lompoc GPU Wye

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.85	0.13	1.34	0.00	0.18	0.17	162.98

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.69	0.92	7.91	0.00	0.94	0.18	487.63

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.54	1.05	9.25	0.00	1.12	0.35	650.61

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.01	0.11	0.04	0.00	0.00	0.00	134.29
Hearth	0.28	0.02	1.12	0.00	0.18	0.17	28.39
Landscape	0.03	0.00	0.18	0.00	0.00	0.00	0.30
Consumer Products	0.41						
Architectural Coatings	0.12						
TOTALS (tons/year, unmitigated)	0.85	0.13	1.34	0.00	0.18	0.17	162.98

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	0.69	0.92	7.91	0.00	0.94	0.18	487.63
TOTALS (tons/year, unmitigated)	0.69	0.92	7.91	0.00	0.94	0.18	487.63

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	10.00	8.93	dwelling units	46.00	410.78	2,982.35
					410.78	2,982.35

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Wye.urb924

Project Name: Lompoc GPU Wye

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3.31	0.60	2.30	0.00	0.01	0.01	739.12

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3.71	4.78	42.85	0.03	5.14	0.99	2,719.23

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	7.02	5.38	45.15	0.03	5.15	1.00	3,458.35

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.04	0.58	0.25	0.00	0.00	0.00	735.82
Hearth - No Summer Emissions							
Landscape	0.37	0.02	2.05	0.00	0.01	0.01	3.30
Consumer Products	2.25						
Architectural Coatings	0.65						
TOTALS (lbs/day, unmitigated)	3.31	0.60	2.30	0.00	0.01	0.01	739.12

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	3.71	4.78	42.85	0.03	5.14	0.99	2,719.23
TOTALS (lbs/day, unmitigated)	3.71	4.78	42.85	0.03	5.14	0.99	2,719.23

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	10.00	8.93	dwelling units	46.00	410.78	2,982.35
					410.78	2,982.35

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: L:\ESP\S Barbara Co\Lompoc\07-61640 LOMPOC GP UPDATE & EIR\Other\URBEMIS\Wye.urb924

Project Name: Lompoc GPU Wye

Project Location: Santa Barbara County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	9.85	1.28	27.70	0.08	4.35	4.19	1,692.87

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	4.00	5.61	44.39	0.03	5.14	0.99	2,577.32

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	13.85	6.89	72.09	0.11	9.49	5.18	4,270.19

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.04	0.58	0.25	0.00	0.00	0.00	735.82
Hearth	6.91	0.70	27.45	0.08	4.35	4.19	957.05
Landscaping - No Winter Emissions							
Consumer Products	2.25						
Architectural Coatings	0.65						
TOTALS (lbs/day, unmitigated)	9.85	1.28	27.70	0.08	4.35	4.19	1,692.87

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	4.00	5.61	44.39	0.03	5.14	0.99	2,577.32
TOTALS (lbs/day, unmitigated)	4.00	5.61	44.39	0.03	5.14	0.99	2,577.32

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	10.00	8.93	dwelling units	46.00	410.78	2,982.35
					410.78	2,982.35

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.7	2.4	94.0	3.6
Light Truck 3751-5750 lbs	20.4	1.0	98.5	0.5
Med Truck 5751-8500 lbs	7.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	27.3	72.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	0.0	33.3	66.7
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.7	64.9	35.1	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.2	8.3	83.4	8.3

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Land Use	Electricity Demand Factor	Buildout		Annexation Areas							
				Bailey	River	Miguelito	Wye				
Residential	7,000 kWh/du/year*	2,838	19,866,000	2,718	19,026,000	126	882,000	25	175,000	46	322,000
Commercial	16,750 kWh/1,000sf/year*	431,245	7,223,354	228,700	3,830,725	0	0	0	0	0	0
Industrial	10,500 kWh/1,000sf/year**	1,071,489	11,250,635	0	0	0	0	0	0	0	0
		38,339,988		22,856,725		882,000		175,000		322,000	

*CAPCOA CEQA and Climate Change white paper (January 2008)

**South Coast Air Quality Management District's CEQA Air Quality Handbook (April 1993)

Greenhouse Gas Emission Worksheet

Operational GHG Emissions

Indirect Emission from Electricity Use

Total Project Annual KWh: 38,339,988 kWh/year
Project Annual MWh 38,340 MWh/year

Emission Factors

CO2* 878.71 lbs/MWh/year
 CH4** 0.0067 lbs/MWh/year
 N2O** 0.0037 lbs/MWh/year

Total Annual Operational Emissions (metric tons) =
(Electricity Use (kWh) x EF)/2,204.62 lbs/metric ton

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Operational Emissions:

	Total Emissions	Total CDE Units
CO2 emissions, electricity	16,844.9 tons	15,281.4 metric tons CDE
CO2 emissions***	9,228.6 tons	8,372.1 metric tons CDE
CH4 emissions	0.1 metric tons	2.7 metric tons CDE
N2O emissions	0.1 metric tons	22.0 metric tons CDE
	Project Total	23,678.2 metric tons CDE

References

*Table C.1: EPA eGRID CO2 Electricity Emission Factors by Subregion (Year 2000)

**Table C.3: Methane and Nitrous Oxide Electricity Emission Factors by State (Average Years 2001-2003)

*** URBEMIS Annual Emissions output for Area Source emissions; includes natural gas combustion for heating.

Sources: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Gas Emissions, Version Third Assessment Report, 2001, U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks, 1

Greenhouse Gas Emission Worksheet
Mobile GHG Emissions

From URBEMIS 2007 Vehicle Fuel Mix Output

Daily Vehicle Miles Traveled (VMT) 235,867
Annual VMT 86,091,455

Vehicle Type	Percent Type	CH4 Emissions Factor (g/mile)*	CH4 Emissions (g/mile)	N2O Emission Factor (g/mile)	N2O Emission (g/mile)
Light Auto	46.2%	0.4	0.1848	0.4	0.1848
Light Truck < 3,750 lbs	16.7%	0.5	0.0835	0.6	0.1002
Light Truck 3,751-5,750 lbs	20.4%	0.5	0.102	0.6	0.1224
Med Truck 5,751-8,500 lbs	7.5%	0.5	0.0375	0.6	0.045
Lite-Heavy Truck 8,501-10,000 lbs	1.5%	0.12	0.0018	0.2	0.003
Lite-Heavy Truck 10,001-14,000 lbs	1.0%	0.12	0.0012	0.2	0.002
Med-Heavy Truck 14,001-33,000 lbs	1.1%	0.12	0.00132	0.2	0.0022
Heavy-Heavy Truck 33,001-60,000 lbs	0.3%	0.12	0.00036	0.2	0.0006
Other Bus	0.1%	0.5	0.0005	0.6	0.0006
Urban Bus	0.1%	0.5	0.0005	0.6	0.0006
Motorcycle	3.7%	0.09	0.00333	0.01	0.00037
School Bus	0.2%	0.5	0.001	0.6	0.0012
Motor Home	1.2%	0.12	0.00144	0.2	0.0024
Total			0.41925		0.46537

*From Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile)

Assume Model year 2000-present, gasoline fueled

Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, M:

Total Emissions (metric tons) =

Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Mobile Emissions:

	Total Emissions	Total CDE Units
CO2 emissions*	38,673.6 tons CO2	35,084.1 metric tons CDE
CH4 emissions	36.1 metric tons CH4	758.0 metric tons CDE
N2O emissions	40.1 metric tons N2O	12,420.0 metric tons CDE
	Project Total:	48,262.0 metric tons CDE

*From URBEMIS 2007 results for mobile sources

Greenhouse Gas Emission Worksheet

Operational GHG Emissions

Indirect Emission from Electricity Use

Total Project Annual KWh: 22,856,725 kWh/year
Project Annual MWh 22,857 MWh/year

Emission Factors

CO2* 878.71 lbs/MWh/year
 CH4** 0.0067 lbs/MWh/year
 N2O** 0.0037 lbs/MWh/year

Total Annual Operational Emissions (metric tons) =
(Electricity Use (kWh) x EF)/2,204.62 lbs/metric ton

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Operational Emissions:

	Total Emissions	Total CDE Units
CO2 emissions, electricity	10,042.2 tons	9,110.1 metric tons CDE
CO2 emissions***	9,339.4 tons	8,472.5 metric tons CDE
CH4 emissions	0.1 metric tons	1.6 metric tons CDE
N2O emissions	0.0 metric tons	13.1 metric tons CDE
	Project Total	17,597.4 metric tons CDE

References

*Table C.1: EPA eGRID CO2 Electricity Emission Factors by Subregion (Year 2000)

**Table C.3: Methane and Nitrous Oxide Electricity Emission Factors by State (Average Years 2001-2003)

*** URBEMIS Annual Emissions output for Area Source emissions; includes natural gas combustion for heating.

Sources: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Gas Emissions, Version Third Assessment Report, 2001, U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks, 1

Greenhouse Gas Emission Worksheet
Mobile GHG Emissions

From URBEMIS 2007 Vehicle Fuel Mix Output

Daily Vehicle Miles Traveled (VMT) 154,441
Annual VMT 56,370,965

Vehicle Type	Percent Type	CH4 Emissions Factor (g/mile)*	CH4 Emissions (g/mile)	N2O Emission Factor (g/mile)	N2O Emission (g/mile)
Light Auto	46.2%	0.4	0.1848	0.4	0.1848
Light Truck < 3,750 lbs	16.7%	0.5	0.0835	0.6	0.1002
Light Truck 3,751-5,750 lbs	20.4%	0.5	0.102	0.6	0.1224
Med Truck 5,751-8,500 lbs	7.5%	0.5	0.0375	0.6	0.045
Lite-Heavy Truck 8,501-10,000 lbs	1.5%	0.12	0.0018	0.2	0.003
Lite-Heavy Truck 10,001-14,000 lbs	1.0%	0.12	0.0012	0.2	0.002
Med-Heavy Truck 14,001-33,000 lbs	1.1%	0.12	0.00132	0.2	0.0022
Heavy-Heavy Truck 33,001-60,000 lbs	0.3%	0.12	0.00036	0.2	0.0006
Other Bus	0.1%	0.5	0.0005	0.6	0.0006
Urban Bus	0.1%	0.5	0.0005	0.6	0.0006
Motorcycle	3.7%	0.09	0.00333	0.01	0.00037
School Bus	0.2%	0.5	0.001	0.6	0.0012
Motor Home	1.2%	0.12	0.00144	0.2	0.0024
Total			0.41925		0.46537

*From Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile)

Assume Model year 2000-present, gasoline fueled

Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, M:

Total Emissions (metric tons) =

Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Mobile Emissions:

	Total Emissions	Total CDE Units
CO2 emissions*	25,272.6 tons CO2	22,926.9 metric tons CDE
CH4 emissions	23.6 metric tons CH4	496.3 metric tons CDE
N2O emissions	26.2 metric tons N2O	8,132.3 metric tons CDE
Project Total:		31,555.6 metric tons CDE

*From URBEMIS 2007 results for mobile sources

Greenhouse Gas Emission Worksheet

Operational GHG Emissions

Indirect Emission from Electricity Use

Total Project Annual KWh: 882,000 kWh/year
Project Annual MWh 882 MWh/year

Emission Factors

CO2* 878.71 lbs/MWh/year
 CH4** 0.0067 lbs/MWh/year
 N2O** 0.0037 lbs/MWh/year

Total Annual Operational Emissions (metric tons) =
(Electricity Use (kWh) x EF)/2,204.62 lbs/metric ton

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Operational Emissions:

	Total Emissions	Total CDE Units
CO2 emissions, electricity	387.5 tons	351.5 metric tons CDE
CO2 emissions***	446.7 tons	405.2 metric tons CDE
CH4 emissions	0.0 metric tons	0.1 metric tons CDE
N2O emissions	0.0 metric tons	0.5 metric tons CDE
	Project Total	757.3 metric tons CDE

References

*Table C.1: EPA eGRID CO2 Electricity Emission Factors by Subregion (Year 2000)

**Table C.3: Methane and Nitrous Oxide Electricity Emission Factors by State (Average Years 2001-2003)

*** URBEMIS Annual Emissions output for Area Source emissions; includes natural gas combustion for heating.

Sources: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Gas Emissions, Version Third Assessment Report, 2001, U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks, 1

Greenhouse Gas Emission Worksheet
Mobile GHG Emissions

From URBEMIS 2007 Vehicle Fuel Mix Output

Daily Vehicle Miles Traveled (VMT) 4,565
Annual VMT 1,666,225

Vehicle Type	Percent Type	CH4 Emissions Factor (g/mile)*	CH4 Emissions (g/mile)	N2O Emission Factor (g/mile)	N2O Emission (g/mile)
Light Auto	46.2%	0.4	0.1848	0.4	0.1848
Light Truck < 3,750 lbs	16.7%	0.5	0.0835	0.6	0.1002
Light Truck 3,751-5,750 lbs	20.4%	0.5	0.102	0.6	0.1224
Med Truck 5,751-8,500 lbs	7.5%	0.5	0.0375	0.6	0.045
Lite-Heavy Truck 8,501-10,000 lbs	1.5%	0.12	0.0018	0.2	0.003
Lite-Heavy Truck 10,001-14,000 lbs	1.0%	0.12	0.0012	0.2	0.002
Med-Heavy Truck 14,001-33,000 lbs	1.1%	0.12	0.00132	0.2	0.0022
Heavy-Heavy Truck 33,001-60,000 lbs	0.3%	0.12	0.00036	0.2	0.0006
Other Bus	0.1%	0.5	0.0005	0.6	0.0006
Urban Bus	0.1%	0.5	0.0005	0.6	0.0006
Motorcycle	3.7%	0.09	0.00333	0.01	0.00037
School Bus	0.2%	0.5	0.001	0.6	0.0012
Motor Home	1.2%	0.12	0.00144	0.2	0.0024
Total			0.41925		0.46537

*From Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile)

Assume Model year 2000-present, gasoline fueled

Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, M:

Total Emissions (metric tons) =

Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Mobile Emissions:

	Total Emissions	Total CDE Units
CO2 emissions*	764.4 tons CO2	693.4 metric tons CDE
CH4 emissions	0.7 metric tons CH4	14.7 metric tons CDE
N2O emissions	0.8 metric tons N2O	240.4 metric tons CDE
	Project Total:	948.5 metric tons CDE

*From URBEMIS 2007 results for mobile sources

Greenhouse Gas Emission Worksheet

Operational GHG Emissions

Indirect Emission from Electricity Use

Total Project Annual KWh: 175,000 kWh/year
Project Annual MWh 175 MWh/year

Emission Factors

CO2* 878.71 lbs/MWh/year
 CH4** 0.0067 lbs/MWh/year
 N2O** 0.0037 lbs/MWh/year

Total Annual Operational Emissions (metric tons) =
(Electricity Use (kWh) x EF)/2,204.62 lbs/metric ton

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Operational Emissions:

	Total Emissions	Total CDE Units
CO2 emissions, electricity	76.9 tons	69.8 metric tons CDE
CO2 emissions***	88.6 tons	80.3 metric tons CDE
CH4 emissions	0.0 metric tons	0.0 metric tons CDE
N2O emissions	0.0 metric tons	0.1 metric tons CDE
	Project Total	150.2 metric tons CDE

References

*Table C.1: EPA eGRID CO2 Electricity Emission Factors by Subregion (Year 2000)

**Table C.3: Methane and Nitrous Oxide Electricity Emission Factors by State (Average Years 2001-2003)

*** URBEMIS Annual Emissions output for Area Source emissions; includes natural gas combustion for heating.

Sources: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Gas Emissions, Version Third Assessment Report, 2001, U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks, 1

Greenhouse Gas Emission Worksheet
Mobile GHG Emissions

From URBEMIS 2007 Vehicle Fuel Mix Output

Daily Vehicle Miles Traveled (VMT) 1,737
Annual VMT 634,005

Vehicle Type	Percent Type	CH4 Emissions Factor (g/mile)*	CH4 Emissions (g/mile)	N2O Emission Factor (g/mile)	N2O Emission (g/mile)
Light Auto	46.2%	0.4	0.1848	0.4	0.1848
Light Truck < 3,750 lbs	16.7%	0.5	0.0835	0.6	0.1002
Light Truck 3,751-5,750 lbs	20.4%	0.5	0.102	0.6	0.1224
Med Truck 5,751-8,500 lbs	7.5%	0.5	0.0375	0.6	0.045
Lite-Heavy Truck 8,501-10,000 lbs	1.5%	0.12	0.0018	0.2	0.003
Lite-Heavy Truck 10,001-14,000 lbs	1.0%	0.12	0.0012	0.2	0.002
Med-Heavy Truck 14,001-33,000 lbs	1.1%	0.12	0.00132	0.2	0.0022
Heavy-Heavy Truck 33,001-60,000 lbs	0.3%	0.12	0.00036	0.2	0.0006
Other Bus	0.1%	0.5	0.0005	0.6	0.0006
Urban Bus	0.1%	0.5	0.0005	0.6	0.0006
Motorcycle	3.7%	0.09	0.00333	0.01	0.00037
School Bus	0.2%	0.5	0.001	0.6	0.0012
Motor Home	1.2%	0.12	0.00144	0.2	0.0024
Total			0.41925		0.46537

*From Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile)

Assume Model year 2000-present, gasoline fueled

Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, M:

Total Emissions (metric tons) =

Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Mobile Emissions:

	Total Emissions	Total CDE Units
CO2 emissions*	284.0 tons CO2	257.6 metric tons CDE
CH4 emissions	0.3 metric tons CH4	5.6 metric tons CDE
N2O emissions	0.3 metric tons N2O	91.5 metric tons CDE
Project Total:		354.7 metric tons CDE

*From URBEMIS 2007 results for mobile sources

Greenhouse Gas Emission Worksheet

Operational GHG Emissions

Indirect Emission from Electricity Use

Total Project Annual KWh: 322,000 kWh/year
Project Annual MWh 322 MWh/year

Emission Factors

CO2* 878.71 lbs/MWh/year
 CH4** 0.0067 lbs/MWh/year
 N2O** 0.0037 lbs/MWh/year

Total Annual Operational Emissions (metric tons) =
(Electricity Use (kWh) x EF)/2,204.62 lbs/metric ton

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Operational Emissions:

	Total Emissions	Total CDE Units
CO2 emissions, electricity	141.5 tons	128.3 metric tons CDE
CO2 emissions***	163.0 tons	147.9 metric tons CDE
CH4 emissions	0.0 metric tons	0.0 metric tons CDE
N2O emissions	0.0 metric tons	0.2 metric tons CDE
	Project Total	276.4 metric tons CDE

References

*Table C.1: EPA eGRID CO2 Electricity Emission Factors by Subregion (Year 2000)

**Table C.3: Methane and Nitrous Oxide Electricity Emission Factors by State (Average Years 2001-2003)

*** URBEMIS Annual Emissions output for Area Source emissions; includes natural gas combustion for heating.

Sources: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Gas Emissions, Version Third Assessment Report, 2001, U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks, 1

Greenhouse Gas Emission Worksheet
Mobile GHG Emissions

From URBEMIS 2007 Vehicle Fuel Mix Output

Daily Vehicle Miles Traveled (VMT) 2,983
Annual VMT 1,088,795

Vehicle Type	Percent Type	CH4 Emissions Factor (g/mile)*	CH4 Emissions (g/mile)	N2O Emission Factor (g/mile)	N2O Emission (g/mile)
Light Auto	46.2%	0.4	0.1848	0.4	0.1848
Light Truck < 3,750 lbs	16.7%	0.5	0.0835	0.6	0.1002
Light Truck 3,751-5,750 lbs	20.4%	0.5	0.102	0.6	0.1224
Med Truck 5,751-8,500 lbs	7.5%	0.5	0.0375	0.6	0.045
Lite-Heavy Truck 8,501-10,000 lbs	1.5%	0.12	0.0018	0.2	0.003
Lite-Heavy Truck 10,001-14,000 lbs	1.0%	0.12	0.0012	0.2	0.002
Med-Heavy Truck 14,001-33,000 lbs	1.1%	0.12	0.00132	0.2	0.0022
Heavy-Heavy Truck 33,001-60,000 lbs	0.3%	0.12	0.00036	0.2	0.0006
Other Bus	0.1%	0.5	0.0005	0.6	0.0006
Urban Bus	0.1%	0.5	0.0005	0.6	0.0006
Motorcycle	3.7%	0.09	0.00333	0.01	0.00037
School Bus	0.2%	0.5	0.001	0.6	0.0012
Motor Home	1.2%	0.12	0.00144	0.2	0.0024
Total			0.41925		0.46537

*From Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile)

Assume Model year 2000-present, gasoline fueled

Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, M:

Total Emissions (metric tons) =

Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CDE) Units based on Global Warming Potential (GWP)

CH4 21 GWP
 N2O 310 GWP
 1 ton (short, US) = 0.90718474 metric ton

Annual Mobile Emissions:

	Total Emissions	Total CDE Units
CO2 emissions*	487.6 tons CO2	442.4 metric tons CDE
CH4 emissions	0.5 metric tons CH4	9.6 metric tons CDE
N2O emissions	0.5 metric tons N2O	157.1 metric tons CDE
	Project Total:	609.0 metric tons CDE

*From URBEMIS 2007 results for mobile sources



Appendix D
Taxonomic Index

Taxonomic Index To Common Names For Plants And Wildlife

Plant Species

Common Name	Scientific Name
baby blue eyes	<i>Sisyrinchium bellum</i>
black mustard	<i>Hirschfeldia incana</i>
black-flowered figwort	<i>Scrophularia atrata</i>
blue dicks	<i>Dichelostema capitatum</i>
box elder	<i>Acer negundo</i> var. <i>californicum</i>
brome grass	<i>Bromus</i> sp.
California bay	<i>Umbellularia californica</i>
California blackberry	<i>Rubus ursinus</i>
California coffeeberry	<i>Rhamnus californica</i>
California sagebrush	<i>Artemisia californica</i>
California walnut	<i>Juglans californica</i>
coast live oak	<i>Quercus agrifolia</i>
cottonwood	<i>Populus</i> sp.
coyote brush	<i>Baccharis pilularis</i>
Creeping wild rye	<i>Leymus triticoides</i>
deerweed	<i>Lotus scoparius</i>
dove weed	<i>Croton setigerus</i>
dune buckwheat	<i>Eriogonum fasciculatum</i>
eucalyptus	<i>Eucalyptus</i> sp.
Hoover's bent grass	<i>Agrostis hooveri</i>
La Purisima manzanita	<i>Arctostaphylos purisima</i>
Lompoc sticky monkeyflower	<i>Mimulus aurantiacus</i> var. <i>lompocensis</i>
Lompoc yerba santa	<i>Eriodictyon</i>
lupines	<i>Lupinus</i> sp.
monkeyflower	<i>Mimulus</i> sp.
mulefat	<i>Baccharis salicifolia</i>
oak	<i>Quercus</i> sp.
owl's clover	<i>Nemophila menziensis</i>
poison oak	<i>Toxicodendron diversilobum</i>

Plant Species

Common Name	Scientific Name
red willow	<i>Salix laevigata</i>
sandbar willow	<i>Salix exigua</i>
Santa Barbara ceanothus	<i>Ceanothus</i>
sycamore	<i>Platanus sp.</i>
toyon	<i>Heteromeles arbutifolia</i>
wild oats	<i>Avena fatua</i>
willow	<i>Salix sp.</i>

Wildlife Species

Common Name	Scientific Name
American badger	<i>Taxidea taxus</i>
American kestrel	<i>Falco sparverius</i>
barn owl	<i>Tyto alba</i>
bats	<i>Myotis, Eumops, Tadarida, Lasiurus, Lasionycteris, Corynorhinus, Antrozous, Pipistrellus, or Eptesicus sp.</i>
Bewick's wren	<i>Thryomanes bewickii</i>
bobcat	<i>Lynx rufus</i>
Botta's pocket gopher	<i>Thomomys bottae</i>
brush rabbit	<i>Sylvilagus bachmani</i>
California horned lark	<i>Erimophila eripestris</i>
California quail	<i>Callipepla californica</i>
California red-legged frog	<i>Rana aurora draytonii</i>
California slender salamander	<i>Batrachoseps attenuatus</i>
California thrasher	<i>Toxostoma redivivum</i>
California towhee	<i>Pipilo crissalis</i>
coast horned lizard	<i>Phrynosoma coronatum</i>
coast range newt	<i>Taricha torosa torosa</i>
common kingsnake	<i>Lampropeltis getula</i>
Cooper's hawk	<i>Accipiter cooperi</i>

Wildlife Species

Common Name	Scientific Name
Costa's hummingbird	<i>Calypte costae</i>
cottontail rabbit	<i>Sylvilagus audubonii</i>
coyote	<i>Canis latrans</i>
deer mouse	<i>Peromyscus sp.</i>
downy woodpecker	<i>Picoides pubescens</i>
Ensatina salamander	<i>Ensatina sp.</i>
gopher	<i>Thomomys bottae</i>
gopher snake	<i>Pituophis catenifer</i>
greater roadrunner	<i>Geococcyx californianus</i>
grey fox	<i>Urocyon cinereoargenteus</i>
ground squirrel	<i>Spermophilus beecheyi</i>
house mouse	<i>Mus musculus</i>
killdeer	<i>Charadrius vociferous</i>
least Bell's vireo	<i>Vireo bellii</i>
legless lizard	<i>Anniella pulchra</i>
lesser goldfinch	<i>Carduelis psaltria</i>
long-tailed weasel	<i>Mustela frenata</i>
mourning dove	<i>Zenaida macroura</i>
mule deer	<i>Odocoileus hemionus</i>
northern harrier	<i>Circus cyaneus</i>
northern mockingbird	<i>Mimus polyglottos</i>
ornate shrew	<i>Sorex ornatus</i>
Pacific tree frog	<i>Hyla regilla</i>
pocket mouse	<i>Perognathus</i> or <i>Chaetodipus sp.</i>
Raccoon	<i>Procyon lotor</i>
red-shouldered hawk	<i>Buteo lineatus</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
scrub jay	<i>Aphelocoma californica</i>
side-blotched lizard	<i>Uta stansburiana</i>
song sparrow	<i>Melospiza melodia</i>
southern alligator lizard	<i>Elgaria multicarinata</i>

Wildlife Species

Common Name	Scientific Name
southern Pacific rattlesnake	<i>Crotalus oreganus helleri</i>
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>
steelhead	<i>Onchorynchus mykiss irdeus</i>
striped skunk	<i>Mephitis mephitis</i>
swallows	<i>Tachycineta</i> sp.
swifts	<i>Aeronautes, Cypseloides, or Chaetura</i> sp.
turkey vulture	<i>Cathartes aura</i>
warbling vireo	<i>Vireo gilvus</i>
western fence lizard	<i>Sceloporus occidentalis</i>
western harvest mouse	<i>Reithrodontomys megalotis</i>
western pond turtle	<i>Actinemys marmorata</i>
western rattlesnake	<i>Crotalus oreganus</i>
western toad	<i>Bufo boreas</i>
western whiptail	<i>Aspidoscelis tigris stejnegeri</i>
woodpeckers	<i>Picidae</i> sp.
woodrat	<i>Neotoma</i> sp.
wrentit	<i>Chamaea fasciata</i>
yellow-breasted chat	<i>Icteria virens</i>



Appendix E

Fisheries Study

FISHERIES

The City of Lompoc currently requires new development to offset its water demand by retrofitting plumbing fixtures and appliances in existing homes and businesses with models that use less water. This program has succeeded in preventing an overall increase in municipal groundwater production for the past 13 years. Retrofit and conservation opportunities are finite, however, and the current program would not likely prevent increased water demand for another 20 years.

The proposed update to the City of Lompoc General Plan contemplates a population increase of 16,566 people by 2030. The estimated water demand for this new increment of population is 2,320 acre-feet per year (AFY). To the extent the City is unable to offset the increase in demand through water conservation and retrofit programs, the new demand will be met by increased pumping from municipal wells.

The nexus between the Proposed Project and fisheries is the potential influence of groundwater pumping on flow in the mainstem Santa Ynez River. Increased groundwater pumping decreases flow in the Santa Ynez River. The potential for groundwater pumping-surface water flow interactions is restricted to the area of the Santa Ynez River downstream of the Narrows (see below). Therefore, the fisheries section of this EIR focuses on the Santa Ynez River from the Narrows to the lagoon.

Setting

Species Accounts

The following species account information, unless otherwise noted, is taken directly from SWRCB (2003). Twenty-six species of fish inhabit the Santa Ynez River watershed (**Table F-1**), including 11 native species. Steelhead/rainbow trout, prickly sculpin, partially armored threespine stickleback, and Pacific lamprey are native to the Santa Ynez River and seven additional native species are found only in the lagoon (tidewater goby, Pacific herring, topsmelt, shiner perch, starry flounder, staghorn sculpin, and striped mullet). Fifteen fish species have been introduced to the watershed including the arroyo chub, large- and small-mouth bass, sunfishes, and catfish, among others (Table F-1). Two federally listed endangered fish species are found in the Santa Ynez River watershed and one California species of special concern:

- Southern California Coast Distinct Population Segment of steelhead (*Oncorhynchus mykiss*) – Federally-listed endangered species
- Tidewater goby (*Eucyclogobius newberryi*) – Federally-listed endangered species
- Arroyo chub (*Gila orcutti*) – California species of special concern

Table F-1. Fish Species in the Santa Ynez River Watershed (From SWRCB 2003).

Common Name	Scientific Name	Status	Location
Rainbow/steelhead trout	<i>Oncorhynchus mykiss</i>	N ¹	RATCL
Threespine stickleback	<i>Gasterosteus aculeatus</i>	N	RATCL
Prickly sculpin	<i>Cottus asper</i>	N	RATCL
Pacific lamprey	<i>Lampetra tridentata</i>	N	R
Arroyo chub	<i>Gila orcutti</i>	I ²	RATCL
Fathead minnow	<i>Pimephales promelas</i>	I	RTL
Mosquitofish	<i>Gambusia affinis</i>	I	RATCL
Smallmouth bass	<i>Micropterus dolomieu</i>	I	RACL
Largemouth bass	<i>Micropterus salmoides</i>	I	RATC
Bluegill	<i>Lepomis macrochirus</i>	I	RAC
Green sunfish	<i>Lepomis cyanellus</i>	I	RATCL
Redear sunfish	<i>Lepomis microlophus</i>	I	RC
Black crappie	<i>Pomoxis nigromaculatus</i>	I	RC
White crappie	<i>Pomoxis annularis</i>	I	C
Channel catfish	<i>Ictalurus punctatus</i>	I	RACL
Black bullhead	<i>Ameiurus melas</i>	I	RATCL
Threadfin shad	<i>Dorosoma petenense</i>	I	C
Goldfish	<i>Carassius auratus</i>	I	RAC
Carp	<i>Cyprinus carpio</i>	I	RAC
Tidewater goby	<i>Eucyclogobius newberryi</i>	N ^{1*}	L
Pacific herring	<i>Clupea harengus</i>	N	L
Topsmelt	<i>Atherinops affinis</i>	N	L
Shiner perch	<i>Cymatogaster aggregata</i>	N	L
Staghorn sculpin	<i>Leptocottus armatus</i>	N	L
Starry flounder	<i>Platichthys stallatus</i>	N	L
Striped mullet	<i>Mugil cephalus</i>	N	L
Brown trout	<i>Salmo trutta</i>	I	- ³
Brook trout	<i>Salvelinus fontinalis</i>	I	- ³
Walleye	<i>Stizostedion vitreum</i>	I	- ³

¹ Endangered species under the ESA; *the tidewater goby has been proposed to be de-listed although no action has yet been taken.

² California species of special concern.

³ Introduction of these species was unsuccessful according to DFG Region 5 data.

R = Santa Ynez River below Bradbury Dam; T = Tributary Streams; C = Cachuma Lake;
A = Santa Ynez River above Cachuma Lake; L = Santa Ynez River lagoon; N = Native species;
I = Introduced species

Steelhead/Rainbow Trout

Coastal rainbow trout are native to the Santa Ynez River and exhibit two distinctive life history strategies. Resident rainbow trout live their entire lives in freshwater. Anadromous steelhead are born in freshwater, emigrate to the ocean to rear to maturity, and then return to freshwater to spawn. It is common to find populations exhibiting both life history strategies within the same river system. Individuals exhibiting one life history strategy can produce offspring that exhibit the other strategy.

According to NMFS (2007), the Southern California Coast Steelhead DPS was listed as endangered on August 18, 1997 (62 FR 43937); listing was reconfirmed on January 5, 2006 (71 FR 834). The final critical habitat designation for the Southern California Coast Steelhead DPS was issued on September 2, 2005 (70 FR 52488). The Santa Ynez River downstream of Bradbury Dam and its tributaries are designated as critical habitat for the endangered steelhead.

NMFS (2007) estimated that the steelhead populations within the Southern California Coast Steelhead DPS have declined dramatically from annual runs totaling 32,000–46,000 adults to less than 500 returning adult fish. This run-size estimate is based on and includes only four of the major steelhead-bearing watersheds (i.e., Santa Ynez River, Ventura River, Santa Clara River, and Malibu Creek) located in the northern portion of the Southern California Coast Steelhead DPS. Populations from over half of the 46 watersheds historically supporting steelhead runs are believed to have been extirpated. The current distribution of steelhead among the region's basins appears to be substantially less than what occurred historically, particularly in the southern range extension (Boughton and Fish 2003; Boughton et al. 2005). All of the four largest watersheds (i.e., Santa Maria, Santa Ynez, Ventura and Santa Clara rivers) have experienced declines in run-sizes of 90% or more (NMFS 2007).

According to SWRCB (2003), in the Santa Ynez River system, adult steelhead migrate from the ocean to spawn mainly during January through April. After spawning, adult steelhead may return to the ocean (about 30% of adults). Steelhead may spend one to several years in freshwater before emigrating to the ocean. Typically, however, southern California steelhead migrate to the ocean when they are one or two years old (5–10 inches long). The juvenile outmigration period is typically February through May, but the timing of migration is dependent upon streamflows (Entrix 1995). Juveniles undergo physiological changes that adapt them to a life in saltwater, and become "smolts." It appears that southern California steelhead may have adapted to the unpredictable climate by being able to remain landlocked for many years or generations before returning to the ocean when flow conditions allow (Titus et al. 1994). Unlike most salmonids, steelhead may return to spawn in later years.

Steelhead and rainbow trout juveniles are indistinguishable, both in appearance and in habitat use. Young-of-the-year often utilize riffle and run habitat during the growing season and move to deeper, slower water during the high flow months. Larger fish (yearlings or older) use heads of pools for

feeding. Pools provide over-summer refugia for trout in small streams during low flow conditions. A second strategy is to rear in a lagoon.

Spawning and rearing habitat in the lower Santa Ynez River is restricted to the upper portion of the river where suitable habitat structure exists. Steelhead/rainbow trout are found in the mainstem below Bradbury Dam, primarily in the first three miles downstream of the dam, but they have been observed rearing as far down as the Alisal Road bridge (approximately 10 miles downstream) (SYRTAC 1997, 2000a). The Highway 154 Reach contains the best quality spawning and rearing habitat available in the mainstem (SYRTAC 2000a). However, steelhead/rainbow trout appear to rely primarily on the tributaries to the Santa Ynez River (i.e., Hilton Creek and Salsipuedes Creek) for spawning and rearing.

Water temperature may be a limiting factor for steelhead/rainbow trout in the mainstem of the Santa Ynez River. Water temperature increases longitudinally in distance from Bradbury Dam (SYRTAC 1997). The Highway 154 Reach is about the limit of where releases from Bradbury Dam can provide water temperatures in the preferred range for steelhead/rainbow trout (SWRCB 2003). CDFG has used a daily average temperature of 20°C (68°F) in central and southern California to evaluate the suitability of stream temperatures for rainbow trout (SWRCB 2003). This level represents a water temperature below which reasonable growth of rainbow trout may be expected. Data in the literature suggests that temperatures above 21.5°C (71°F) result in no net growth, while maximum daily water temperatures greater than 25°C (77°F) result in potentially lethal conditions (SWRCB 2003).

Even with large releases of water, such as the WR 89-18 releases, water temperature tends to remain high as distance increases from the Bradbury Dam (SYRTAC 1997). For example, before the 1996 WR 89-18 release, water temperatures were 18.6 to 19.6°C at 7.8 miles from Bradbury Dam (Alisal Reach). After the release, water temperatures were 17.0 to 25.1°C (SYRTAC 1997). At 9.5 miles from Bradbury Dam, water temperatures were 19.4 to 22.5°C before the release and 17.0 to 27.1°C after the release at the bottom of a pool (SYRTAC 1997). Cool water refuges, caused by groundwater upwelling, have been found in several pools in the Refugio and Alisal reaches, creating cool pockets of water in these reaches. These thermal refuges play an important role during periods of warm temperatures for steelhead/rainbow trout rearing.

Steelhead use the mainstem Santa Ynez River primarily as a migration corridor to the habitat immediately downstream of the dam, and to tributaries located on the south side of the watershed that provide perennial habitat. Upstream migration requires sufficient streamflow to breach the sandbar at the river mouth and to allow passage in the river. In dry years, passage can be impeded by low flows at critical locations (*e.g.*, riffles). Steelhead typically migrate upstream when streamflow rises during a storm event.

Tidewater Goby

The Santa Ynez River lagoon is not designated as critical habitat for the tidewater goby. Tidewater goby populations north of Orange County were proposed for de-listing in 1999, but no action has yet occurred.

The tidewater goby is a small estuarine fish, rarely exceeding 2 inches in length, which inhabits lagoons and the tidally influenced region of rivers from San Diego County to Del Norte County, California. They are typically found in the upper ends of lagoons in brackish water, usually in salinities of less than 10 ppt, but have been found in water ranging from 0 to 40 ppt (Swift et al. 1989). Tidewater gobies are bottom dwellers and are typically found at depths of less than 3 feet. Instream, they inhabit low-velocity habitats out of the main current. Tidewater gobies may spawn at anytime of the year, but spawning typically peaks in late April through early May. Spawning takes place in burrows dug 4-8 inches deep in coarse sand. Spawning takes place at fairly low to moderate salinities (5-10 parts-per-thousand [ppt]). After hatching, the larval tidewater goby become planktonic (suspended in the water column) and are associated with aquatic plants in near-shore habitat. Juvenile tidewater goby are benthic dwellers, similar to adults. Tidewater gobies were common in the Santa Ynez River lagoon in 1987 and 1993, and both young-of-the-year and adults have been collected (CDFG 1988; SYRTAC 1994).

In 1993, tidewater gobies were collected throughout the lagoon, in salinities ranging from 6.5 to 16.0 ppt (SYRTAC 1997). Tidewater goby abundance was considerably higher in the upper half of the lagoon where the numbers of gobies per seine haul exceeded 100. The salinities in this portion of the lagoon ranged from approximately 8.0 to 13.5 ppt. Tidewater goby abundance in the lower half of the lagoon was considerably lower, ranging from one to 24 per seine haul. Corresponding salinities in the lower half of the lagoon were approximately 14.0 to 16.0 ppt. During the August survey, most of the gobies observed were adult (i.e., approximately 1.5 inches in length). Observations in July 1994 indicated successful reproduction by tidewater gobies, as evidenced by the presence of large numbers of young-of-the-year.

Arroyo Chub

The arroyo chub was introduced into the Santa Ynez River drainage during the early 1930's. Arroyo chub are native to the Los Angeles, San Gabriel, San Luis Rey, Santa Margarita, and Santa Ana River systems, as well as San Juan Creek. The arroyo chub is a relatively small, chunky minnow, typically less than 5 inches in length. Arroyo chub prefer slow-moving sections of rivers with a sand or mud substrate, or standing waters in reservoirs. Although the arroyo chub seems to prefer very low water velocities, they are apparently adapted to surviving periodic high winter flows. They are adapted to survive in widely fluctuating water temperatures and oxygen levels. Arroyo chub were observed in a pool in the Santa Ynez River that had a predawn dissolved oxygen minimum level of approximately 1.6 ppm (SYRTAC 1994). In 1993, SYRTAC (1997) found arroyo chub along the river below the dam in

abundant numbers in shallow pools. However, they were not observed in pools inhabited by large predators (bass and sunfish), and they were relatively scarce in riffle and run habitats.

Threespine Stickleback

Freshwater populations of threespine stickleback live in shallow, low-velocity habitats, often in association with aquatic plants. Spawning can occur from March through October. Threespine stickleback build nests in beds of aquatic plants with sand substrates. The diet of threespine stickleback consists of small organisms living on plants and the stream bottom. Stickleback generally live one year or less, but some individuals may survive for two to three years. Threespine stickleback inhabit the Santa Ynez River above and below Cachuma Lake and are found in the Salsipuedes/El Jaro Creek system.

Prickly Sculpin

Prickly sculpin can live in an extremely wide range of habitats. Prickly sculpin are known to live in freshwater and saltwater, in streams that are small, clear and cold, in rivers that are large, warm and turbid, and in lakes of all sizes, rich in nutrients or infertile. They can tolerate water temperatures up to at least 82°F. Prickly sculpin inhabit Cachuma Lake, the Santa Ynez River below the lake, and the lower reaches of Hilton and Salsipuedes Creeks.

Pacific Lamprey

Pacific lamprey are anadromous, spending four to seven years in freshwater and one to two years in the ocean. Spawning lamprey, like steelhead, are dependent on winter storms providing sufficient streamflow to open the mouth of the lagoon to the ocean, and to provide adequate streamflow to allow for upstream migration. Pacific lamprey spawning migration begins in February and lasts through early May. They build nests in gravel and rock substrates in areas of low velocity. The freshwater residency of the young is spent typically as bottom dwellers. Pacific lamprey inhabit the Santa Ynez River below Cachuma Lake and may inhabit the tributaries, although none have been observed in the tributaries.

Pacific Herring

Pacific herring are a small schooling marine fish that enter estuaries and bays to spawn. Pacific herring spawn from late October through March. After spawning has been completed, adult Pacific herring return to their ocean feeding grounds. After hatching, young herring usually remain through the spring and summer in the estuary or bay in which they were spawned before migrating to the ocean in the fall. Any herring produced in the Santa Ynez River lagoon would likely remain until the following winter when high streamflow reopens the sandbar.

Topsmelt, Shiner Perch, Staghorn Sculpin, and Starry Flounder

Topsmelt, shiner perch, staghorn sculpin, and Starry flounder are common marine fish that also occur in estuaries and lower reaches of coastal streams. These species, particularly topsmelt and perch, exhibit a tolerance to a wide range of salinities. These species occur periodically in the Santa Ynez River lagoon.

Introduced Species

Fifteen introduced species have populations in the watershed (Table F-1). All of the introduced species occur in Cachuma Lake and along the Santa Ynez River above and below the lake, except for the white crappie and threadfin shad, which only occur in the lake. Most of these introduced species are game species or baitfish that were originally planted in Cachuma Lake but have since spread. Many of the game fish can prey on steelhead and other native species. Most notable among these predators are large- and small-mouth bass, green sunfish, and black bullhead.

Several introduced fishes are found in the mainstem Santa Ynez River including arroyo chub, fathead minnow, mosquitofish, largemouth and smallmouth bass, bluegill, green and redear sunfish, black crappie, channel catfish, black bullhead, goldfish, and carp. The majority of the non-native fish are concentrated in pool habitat that exists throughout the summer in the first 10 miles downstream of Bradbury Dam.

Lagoon Species

A number of species have been found in the lagoon. Typically, a salinity gradient in the lagoon exists, with salinity higher near the ocean, and a freshwater lens near the inflow of the Santa Ynez River. Both ocean and brackish water species have been observed in the lagoon, including the tidewater goby, Pacific herring, topsmelt, shiner perch, staghorn sculpin, starry flounder, and striped mullet. The following freshwater species have also been found in the lagoon, although concentrated near the upper end: threespine stickleback, prickly sculpin, arroyo chub, fathead minnow, mosquitofish, smallmouth bass, green sunfish, channel catfish and black bullhead.

In August of 1993, SYRTAC conducted a beach seining survey in the lagoon (1997). SYRTAC caught ten species of fish, including small-mouth bass, arroyo chub, mosquitofish, stickleback, tidewater goby, starry flounder, Pacific herring, topsmelt, shiner perch, and staghorn sculpin. SYRTAC conducted a second set of lagoon fishery surveys in 1999 (SYRTAC 2000b). During the 1999 surveys, SYRTAC captured 14 species of fish, including 7 species not found during the 1993 survey. Species observed in the 1999 survey include: steelhead, fathead minnow, channel catfish, green sunfish, bullhead, prickly sculpin, arroyo chub, stickleback, starry flounder, Pacific herring, topsmelt, shiner perch, staghorn sculpin, and striped mullet. SYRTAC captured a single steelhead during the 1999 survey at the mid-lagoon sampling location.

Freshwater fish (smallmouth bass, arroyo chub and mosquitofish) were found in a narrow (approximately 0.5 meter thick) freshwater lens located in the upstream end of the lagoon. Overall, the lagoon appeared to be extremely productive (SWRCB 2003).

The lagoon typically forms as flows decline after the winter runoff period when the mouth of the river is filled with sand deposited by both the river and by the strong longitudinal drift of sand from north to south along the shoreline. High winter river flows are capable of opening an outlet. Low summer flows are typically insufficient to keep the outlet open, although inflow from the Lompoc treatment facility and wave action can breach this barrier.

The lagoon is about 13,000 feet long, with an average width of about 300 feet. Near the beach, it is substantially wider than at the upstream end. The average water depth is about 4 feet, and the water surface elevation with the mouth closed is about 5 feet MSL. The lagoon supports the growth of emergent aquatic vegetation along the margins, but the majority of the lagoon is open water. Substrate in the lagoon typically consists of sand and silt. The lagoon represents a unique habitat characterized by saltwater/freshwater mixing. Water quality within the lagoon, particularly salinity, has a major influence on the distribution of fish and macroinvertebrates inhabiting this area of the system. Vertical gradients in water temperature, dissolved oxygen, and salinity were observed within deeper areas of the lagoon during periods when the lagoon mouth was closed. Vertical stratification in water quality parameters varied substantially between locations and survey periods. Dissolved oxygen concentrations decreases quickly with depth. Average daily and maximum daily water temperatures within the lagoon during the summer were usually lower than water temperatures measured elsewhere on the mainstem of the river. Salinity is at ocean levels at the mouth of the lagoon, decreasing to freshwater levels at the upstream end. Salinity level varied at each site between months, reflecting seasonal variation in the balance between freshwater inflow and tidal influence.

Impact Analysis

Impact F-1. Depletion of flow in the Santa Ynez River due to increased groundwater pumping at City of Lompoc municipal wells could adversely impact fish in the mainstem Santa Ynez River downstream of the Narrows, and in the lagoon. This impact is less-than-significant.

Fish in the Mainstem Santa Ynez River

As previously discussed, steelhead/rainbow trout are found in the mainstem below Bradbury Dam, primarily in the first three miles downstream of the dam, but they have been observed rearing as far downstream as the Alisal Road bridge (approximately 10 miles downstream) (SYRTAC 1997, 2000a). Also, the potential for decreased flow in the mainstem Santa Ynez River due to groundwater pumping-surface water flow interactions is restricted to the area downstream of the Narrows (approximately 35 miles downstream of Bradbury Dam). Therefore, this section of this EIR considers

the potential for impacts on habitat for resident fish (e.g., arroyo chub, largemouth bass, prickly sculpin, catfish) in the mainstem Santa Ynez River from the Narrows to the lagoon.

The low-flow period is an important factor in fish population size (SWRCB 2007). The majority of the non-native fish are concentrated in pool habitat that exists throughout the summer in the first 10 miles downstream of Bradbury Dam (SWRCB 2003). Because stream flow in this section of the Santa Ynez River is low or absent during the low flow periods of the year, all fish are forced into intermittent pool habitats. Pools provide habitat for resident fish such as largemouth bass, as they tend to prefer habitat with little flow variation and warm water temperatures. However, mainstem rearing habitat in the Santa Ynez River downstream of Highway 154 becomes discontinuous in most years and, as such, habitat downstream of Highway 154 is often not directly related to mainstem flow (SWRCB 2003). Because the majority of resident fish are concentrated in pool habitat in the first 10 miles downstream of Bradbury Dam, and because habitat from about the Narrows downstream to the Lompoc Regional Wastewater Reclamation Plant (LRWRP) discharge is often not directly related to mainstem flow, the Proposed Project is not expected to significantly impact habitat conditions for resident fish species along this section of the mainstem Santa Ynez River.

The mainstem Santa Ynez River below Lompoc extends 8.3 miles. Deep pools, formed by numerous beaver ponds, dominate habitat two miles below the LRWRP. Runs were also extensive, accounting for 37 percent of the reach (Entrix 2001). Downstream of Bailey Avenue in Lompoc, progressively greater concentrations of riparian vegetation occur, including extensive growths of willows, both along the sides and within the river channel. The growth of willows and other vegetation in this area is supported by freshwater (treated effluent) releases to the channel from the LRWRP (SWRCB 2003). The volume of wastewater discharge will increase under the 2030 General Plan Update. Flow-dependent instream habitat and riparian vegetation bordering this section of the Santa Ynez River would be expected to be maintained in the future. Therefore, the Proposed Project is not expected to significantly impact habitat conditions for resident fish species along the mainstem Santa Ynez River from the LRWRP discharge location to the lagoon.

Fish in the Santa Ynez River Lagoon

The lagoon typically forms as flows decline after the winter runoff period when the mouth of the river is filled with sand deposited by both the river and by the strong longitudinal drift of sand from north to south along the shoreline. The sandbar is breached during winter by a combination of higher river flows and greater wave energy (although either of these elements may be able to breach the sandbar by themselves) (SYRTAC 1999). However, information is not available regarding the frequency of sandbar breaching or the magnitude of flows associated with breaching. It is believed that flow from Salsipeudes Creek may be sufficient to breach the sandbar during high runoff events (SYRTAC 1999). It is not anticipated that the Proposed Project would substantially affect the magnitude, frequency or duration of high winter flows and, therefore, would not affect the breaching of the lagoon sandbar. Low summer flows are typically insufficient to keep the outlet open, although SWRCB (2003) suggests that inflow from the LRWRP and wave action can breach this barrier. Nonetheless, potential changes

to summer inflows to the lagoon resulting from implementation of the Proposed Project are not expected to be of sufficient magnitude, frequency or duration to affect the potential breaching of the lagoon sandbar.

According to SWRCB (2003), the lagoon represents a unique habitat characterized by saltwater/freshwater mixing. Water quality within the lagoon, particularly salinity, has a major influence on the distribution of fish and macroinvertebrates. Salinity is at ocean levels at the mouth of the lagoon, decreasing to freshwater levels at the upstream end. Salinity level varied at each site between months, reflecting seasonal variation in the balance between freshwater inflow and tidal influence (SWRCB 2003).

Depletion of river inflow to the lagoon, if it were to occur, could potentially cause adverse impacts on fish habitat in the lagoon by altering water quality, particularly salinity. However, it is not anticipated that the Proposed Project would substantially affect the magnitude, frequency or duration of high winter flows and, therefore, would not significantly impact winter-related fish habitat conditions in the lagoon. Moreover, during the summer low-flow period, the Proposed Project would not be expected to substantially reduce the magnitude, frequency or duration of lagoon inflow because the volume of wastewater discharge from the LRWRP will increase under the 2030 General Plan. Therefore, potential changes to inflows to the lagoon resulting from implementation of the Proposed Project are not expected to be of sufficient magnitude, frequency or duration to significantly impact fish habitat conditions in the lagoon.

Mitigation Measures. None required, as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less-than-significant without mitigation.

Impact F-2. Depletion of flow in the Santa Ynez River due to increased groundwater pumping at City of Lompoc municipal wells could adversely impact steelhead passage opportunities in the lower Santa Ynez River. This impact is less-than-significant.

Steelhead Passage

The steelhead juvenile outmigration period in the Santa Ynez River is typically February through May, but the timing of migration is dependent upon streamflows (Entrix 1995). The juvenile steelhead outmigration period is generally concurrent with the adult steelhead upstream migration period (primarily January through April). However, juvenile steelhead require much lower flows than adults to successfully migrate due to their smaller body size and their downstream direction of travel (NMFS 2000). Also, based on trapping (1994) and snorkel surveys (1994, 1996) conducted during water rights releases from Cachuma Reservoir, the SYRTAC concluded that steelhead are not likely to move downstream to areas that would become dry after water right releases are ended (Engbloom 2000).

Juvenile steelhead outmigration was not a focus of evaluation in the 2003 Water Rights Draft EIR (SWRCB 2003), the 2007 Water Rights Revised Draft EIR (SWRCB 2007), or in the 2000 Biological Opinion (NMFS 2000). In each of these documents, adult steelhead upstream passage was considered to be the more germane issue associated with the potential changes in flows in the lower Santa Ynez River.

Because the timing of juvenile steelhead outmigration is dependent upon streamflows but is generally concurrent with the adult steelhead upstream migration period, because juvenile steelhead require much lower flows than adults to successfully migrate due to their smaller body size and their downstream direction of travel, because juvenile steelhead are not likely to move downstream to areas that would become dry after water right releases, and because previous impact evaluations considered adult steelhead upstream passage to be the more germane issue associated with the potential changes in flows in the lower Santa Ynez River, the impact analysis conducted for this draft EIR is focused upon adult steelhead upstream migration and passage, described below. Even in consideration of the foregoing factors, if significant impacts to adult steelhead upstream migration and passage are identified associated with the Proposed Project relative to the Existing Condition, they would also be considered to be significant to juvenile steelhead outmigration.

Impact Assessment Methodology

Adult steelhead primarily migrate upstream in the Santa Ynez River from January through April. To allow steelhead/rainbow trout to migrate within the mainstem and into the tributaries, passage flows must be available within the system and for steelhead, the sandbar at the mouth of the lagoon must be open. A passage analysis was conducted to determine the amount of flow needed to provide passage at critical riffles in the lower mainstem of the Santa Ynez River (SYRTAC 1999). The results of these analyses indicate that a flow of 25 cfs at the Alisal Road Bridge is sufficient to provide passage between Bradbury Dam and the lagoon 92 percent of the time (SYRTAC 2000a). However, one of the first critical riffles that upstream migrating steelhead encounter in the Santa Ynez River is referred to as "Lompoc 1", located in the River Park area between Floradale Bridge and Highway 246. For this transect, the largest amount of flow was estimated to be necessary for steelhead to pass (30 cfs). Therefore, for impact assessment purposes in this draft EIR, a passage day under the Existing Condition is defined as a day with an average daily flow greater than or equal to 30 cfs at the Narrows.

The Narrows is located approximately 1 mile upstream of the City's wells and is upstream of the influence of those wells. The anticipated increase in municipal pumping resulting from implementation of the City of Lompoc's General Plan Update in 2030 would deplete river flow along the reach near Lompoc during January–April by an estimated average of 2.7 cubic feet per second (cfs).¹ The impact of increased municipal pumping on fish passage opportunities can be quantified by tabulating the timing and duration of flows greater than or equal to 30 cfs at the Narrows and

¹ Water use during January–April is 83% of average annual water use. Flow depletion would follow the same seasonal pattern.

comparing them with the timing and duration of flows greater than or equal to 33 cfs, because an additional 3 cfs of flow would be needed to compensate for the flow depletion along the reach past Lompoc in 2030.

According to SWRCB (2007), travel times for salmonids are not well defined in the literature. NMFS cites several studies of salmonid travel times which range from 8 to 31 miles per day (Groot and Margolis 1991, cited in NMFS 2000) to 1.85 to 18.4 miles per day (average of 4.6 miles per day) for steelhead in the Carmel River (Dettman and Kelley 1986, cited in NMFS 2000). NMFS (2000) also considered an analysis of recession curves derived from the Los Laureles gage (located above Cachuma Lake), which demonstrated that the recession from 150 cfs to baseflow took 14 days. NMFS (2000) concluded that if Reclamation provided supplemental flows to assist steelhead migration, then approximately 14 days of migration availability downstream of Bradbury Dam would occur after storm peaks in the years supplemented. NMFS (2000) stated that based on the limited information available, 14 days of consecutive migration availability is likely to significantly increase successful migration by steelhead compared to recent operation conditions.

Given the uncertainty and variability in steelhead travel times, passage opportunities in the mainstem Santa Ynez River may be provided with fewer numbers of passage days. In fact, the actual steelhead passage flow analysis conducted for the Santa Ynez River (SYRTAC 1999) recognized this variability, and identified passage events for periods of 1, 3, 5, and 10 consecutive days between January 1 and April 30.

Adult steelhead can theoretically swim past critical riffles during a single day of flow greater than 30 cfs at the Narrows, but they are more likely to reach upstream spawning areas when adequate flows persist for several days. Although each day of flow greater than 30 cfs is considered a “passage day” under the Existing Condition, upstream passage of adult steelhead would be facilitated by consecutive days of longer duration. Therefore, for impact assessment purposes in this draft EIR, adult steelhead passage opportunities are evaluated using passage duration categories of 1, 3, 5, 10 and 14 days. These passage duration categories also were used to characterize passage opportunities using a passage flow threshold of 33 cfs, to account for the maximum flow depletion that would result during January–April along the reach past Lompoc if the general plan update were implemented.

Time Series of Daily Flows at the Narrows

Flow in the Santa Ynez River at or near the Narrows has been gaged continuously since 1906. However, historical flow records for the Narrows gage cannot be used directly to evaluate the impact of increased municipal pumping on adult steelhead passage opportunities, because they do not reflect all of the current operating rules for releases from Cachuma Reservoir, some of which have been implemented only since 2006. Therefore, a synthetic long-term time series of daily flows was constructed that includes the following elements of current reservoir operations:

1. State Water Resources Control Board (SWRCB) water rights order 89–18.

2. Installation of flashboards on Bradbury Dam providing an additional 3.0 feet of elevation and 9,200 AF of storage capacity in Lake Cachuma.
3. The fish flows recommended in the Biological Opinion for steelhead trout and the Santa Ynez River Fisheries Management Plan, supplied by releases from the additional reservoir storage achieved by the flashboards. The storage is divided into three “accounts” for specific purposes:

a. Interim rearing flows	5,500 AF
b. Fish passage supplementation	3,200 AF
c. Adaptive management	500 AF
4. The Cachuma Project Settlement Agreement
5. Modified winter storm operations

There presently are two active hydrologic models of the Santa Ynez River system, but neither is capable of providing the flow time series needed for this analysis. The Santa Ynez River Hydrology Model (SYRHM) has been in use for many years, but simulates in monthly time increments. A newer model using RiverWare software simulates with daily time steps, but it is not yet fully developed and calibrated. To obtain a suitable flow time series for the adult steelhead passage analysis, daily flow variations were superimposed on monthly output from the SYRHM.

The simulation of Alternative 3C in the recent revised draft EIR for Cachuma Project water rights (SWRCB 2007) incorporated the largest number of the above operating elements. The simulation reflected elements 1, 2, 3a and most aspects of element 4 on a monthly basis. Water supply releases from the Above-Narrows Account and Below-Narrows Account rarely, if ever, occur during January through April, so any discrepancies between Alternative 3C and the Settlement Agreement related to those releases would have a negligible effect on the simulation of flows during the passage season. The simulation of Alternative 3C did not include winter storm operations, which occur over a few days leading up to a spill event. Those operations involve pre-releases of flows much greater than 30 cfs, and therefore would not affect this analysis of adult steelhead passage flows. For this analysis, the two necessary adjustments to the simulated Alternative 3C flows were to superimpose daily flow variations within each month, and to add releases from the Fish Passage Account, which vary daily.

Daily variations in flow downstream of Cachuma Reservoir stem primarily from runoff events in unregulated tributaries between the reservoir and the Narrows. Salsipuedes Creek is one of the largest of those tributaries and has a stream gage with records dating back to 1942. Daily flows in Salsipuedes Creek were used to estimate daily flow variations in the mainstem Santa Ynez River. The SYRHM simulates flows from 1918 to 1993, so it was possible to estimate daily flows for the overlapping interval extending from 1942–1993. For each month of the 52-year period, daily flow in Salsipuedes Creek was expressed as a percentage of the average flow for that month. That time series

of percentages was then applied to the corresponding simulated monthly flows in the mainstem Santa Ynez River at Solvang and at the Narrows.

Releases from the Fish Passage Account are based on the following criteria (Real-Time Decision Group 2007):

- Releases will be made to supplement storm peaks during January–April.
- The storm peak at the Solvang (Alisal) gage must exceed 25 cfs to merit supplementing.
- Cumulative discharge in Salsipuedes Creek since December 1 must exceed 1,000 AF.
- The sandbar at the mouth of the Santa Ynez River must be open.
- The first storm in January will not be supplemented.
- At least 7 days must have passed since the previous supplementation event.
- Water must be available in the Fish Passage Account.
- Releases will be over a 14-day period and adjusted daily to achieve as nearly as possible a recession curve that decreases nonlinearly from 150 cfs on the first day to 25 cfs on the last day.

Flow supplementation releases were estimated by examining the hydrographs of simulated daily flows at Solvang for each of the 52 years and applying the above criteria. In practice, it was necessary to apply additional assumptions and criteria, as follows:

- Mainstem flows of as little as 40 cfs at the Narrows were considered sufficient to breach the sandbar, based on a single year in which adults were observed upstream before flows had exceeded that magnitude (SYRTAC 1999). There was never an instance in the 52-year simulation where this criterion was the deciding factor in whether a storm qualified for supplementation, so uncertainty regarding the status of the sandbar did not affect the results.
- In some years, the first storm event of the migration season occurred after January. In these years, the first storm was supplemented if all other criteria were met. This criterion duplicates the function of the Salsipuedes Creek cumulative discharge criterion. Both are intended to ensure that the watersheds downstream of Cachuma Reservoir are “wetted up” (i.e., that soil moisture deficits from the previous dry season have been replenished and that additional rainfall will produce significant runoff and sustained baseflow).
- In some instances, baseflow prior to a storm event was already greater than 25 cfs at Solvang due to preceding storm events. Under those circumstances, supplemental flows were deemed unnecessary.
- If cumulative discharge in Salsipuedes Creek since December 1 had not quite reached 1,000 AF at the start of a storm event, but the storm event pushed it over that threshold, it was assumed that the storm met the criteria for supplementation. This reflects an assumption that the Real-Time Decision Group could estimate, based on weather forecasts, whether an arriving

storm would be sufficiently large to generate the remaining runoff required in Salsipuedes Creek.

- If the natural peak flow exceeded 150 cfs, releases were managed to begin the day the natural recession fell below 150 cfs and to achieve the target flows for days 2 through 14.
- If the natural peak flow (maximum daily flow) for a qualifying storm event was less than 150 cfs, an artificial peak of 150 cfs was achieved on the following day, followed by the remaining 13 days of the target recession flows. This reflects an assumption that the Real-Time Decision Group would not know in advance whether a small storm event would achieve a peak greater than 150 cfs.
- The Real-Time Decision Group was assumed to be able to exactly predict the natural recession curve of the storm event and thereby release exactly the right amount of supplemental water needed to achieve the target recession flows. In practice, the releases would undoubtedly be too high on some days and too low on others. However, the rate of recession of natural flows can be roughly anticipated based on the peak storm flow and the amount of cumulative streamflow earlier in the season.
- Losses and delays affecting the routing of water from Bradbury Dam to Solvang were ignored.
- If only a small amount of water remained in the Fish Passage Account, small storm events were not supplemented.

Table F-2 lists all of the storm events during 1942-1993 that could potentially qualify for supplemental fish passage releases, along with a checklist indicating whether the necessary criteria were met. Releases were made to supplement 24 storm events that occurred in 21 of the 52 years. Hydrographs of simulated daily flows at Solvang—with and without supplemental fish passage releases—are shown for all 52 years of the simulation in **Figure F-1**.

The estimated fish passage releases also were added (without adjustment) to the simulated daily flows at the Narrows. Flow losses between Solvang and the Narrows would be negligible because fish passage releases occur well into the wet season (after antecedent flows have replenished groundwater deficits along the river), and on the receding limb of storm peaks (when groundwater from bank storage tends to seep into the river rather than vice versa). The resulting simulated daily flows at the Narrows became the time series used to evaluate adult steelhead passage opportunities past Lompoc. Simulated flows at the Narrows are similar to those at Solvang because the daily variations at both locations were constructed from gaged flows in Salsipuedes Creek. In general, flows during storm events are larger at the Narrows because the watershed area contributing runoff and baseflow is larger at that location. The simulated daily flows at the Narrows during each year from 1942-1993 were categorized according to the duration of the event in which they occurred, using duration categories of 1, 3, 5, 10 and 14 days.

Table F-2. Simulated Supplemental Fish Flow Releases from Cachuma Reservoir, 1942-1993

Year	Storm peak date	Salsipuedes Creek >1000 AF since Dec. 1 ¹	After first January storm? ²	Beach berm open? ³	>7 days since previous release?	Pre-storm Solvang flow < 25 cfs?	Water available in FPA? ⁴	Release from FPA (AF)	End of storm or season FPA storage (AF)	Notes
1942	14 Mar	Y	Y	Y	Y	Y	Y	1,101	3,200	
1942	4 Apr	Y	Y	Y	Y	N	Y	0	3,200	
1942	15 Apr	Y	Y	Y	Y	N	Y	0	3,200	
1942	22 Apr	Y	Y	Y	Y	N	Y	0	3,200	
1943								0	3,200	Entire season >100 cfs
1944	22 Feb	Y	Y	Y	Y	Y	Y	0	3,200	Flow >100 cfs for 6 weeks after first peak
1944	27 Apr	Y	Y	Y	Y	N	Y	0	3,200	
1945	17 Mar	Y	Y	Y	Y	N	Y	0	3,200	
1945	27 Mar	Y	Y	Y	Y	N	Y	0	3,200	
1946	1 Apr	Y	Y	Y	Y	Y	Y	142	3,058	
1947								0	3,058	Salsipuedes never >1,000 AF cumulative discharge
1948								0	3,058	Salsipuedes never >1,000 AF cumulative discharge
1949	10 Mar	Y	N	Y	Y	Y	Y	1,530	1,528	3/10/49 Salsipuedes peak of 270 cfs
1950	6 Feb	N	N	Y	Y	Y	Y	0	1,528	
1951								0	1,528	Salsipuedes never >1,000 AF cumulative discharge
1952	25 Jan	Y	Y	Y	Y	Y	Y	484	1,044	
1952	6 Mar	Y	Y	Y	Y	Y	Y	758	286	
1952	15 Mar	Y	Y	Y	N	N	Y	0	286	
1952	1 Apr	Y	Y	Y	Y	Y	Y	0	3,200	Natural flow >50 cfs for 30 days after peak.
1953	8 Jan	Y	Y	Y	Y	Y	Y	1,213	1,987	
1954	13 Feb	N	Y	Y	Y	Y	Y	0	1,987	
1954	19 Mar	Y	Y	Y	Y	Y	Y	907	1,080	
1954	30 Mar	Y	Y	Y	N	N	Y	0	1,080	
1955								0	1,080	No flow peaks during season
1956	26 Jan	Y	Y	Y	Y	Y	Y	1,053	27	No FPA water left to supplement small Feb-Mar peaks
1957								0	27	No peaks. No water in FPA account.
1958								0	27	No FPA water prior to April 1 spill. Then flow >100 cfs for remainder of season.
1959	16 Feb	Y	Y	Y	Y	Y	Y	1,175	2,025	
1960	1 Feb	N	Y	Y	Y	Y	Y	0	2,025	Feb 1 peak 76 cfs at Solvang, 144 cfs in Salsipuedes.
1961										Salsipuedes never >1,000 AF cumulative discharge
1962	8 Feb	Y	Y	Y	Y	Y	Y	335	1,690	Natural recession from this 2-week series of peaks might not merit supplementing.
1963	9 Feb	Y	Y	Y	Y	Y	Y	1,092	598	
1963	16 Mar	Y	Y	Y	Y	Y	See note	0	598	Insufficient water in FPA to boost this small peak (54 cfs) into a 2-week passage event. So skip this storm.
1963	28 Mar	Y	Y	Y	Y	Y	Y	598	0	Ran out of FPA water during 4th day of releases
1964								0	0	Salsipuedes never >1,000 AF. No FPA water.
1965								0	0	No FPA water all season.
1966								0	0	No FPA water all season.
1967								0	3,200	Flow never <200 cfs after start of spill March 1
1968								0	3,200	Salsipuedes never >1,000 AF cumulative discharge
1969								0	3,200	Flow never <100 cfs after start of spill Jan 19
1970	4 Mar	Y	Y	Y	Y	Y	Y	1,347	1,853	
1971								0	1,853	No peaks after Salsipuedes >1000 AF cum. discharge
1972								0	1,853	Salsipuedes never >1,000 AF cumulative discharge

Table F-2. Simulated Supplemental Fish Flow Releases from Cachuma Reservoir, 1942-1993 (cont.)

Year	Storm peak date	Salsipuedes Creek >1000 AF since Dec. 1 ¹	After first January storm? ²	Beach berm open? ³	>7 days since previous release?	Pre-storm Solvang flow < 25 cfs?	Water available in FPA? ⁴	Release from FPA (AF)	End of storm or season FPA storage (AF)	Notes
1973	11 Feb	Y	Y	Y	Y	Y	Y	546	1,308	
1973	24 Feb	Y	Y	Y	N	N	Y	0	1,308	Flow >100 cfs Feb 26 - Apr 26
1974	2 Mar	Y	Y	Y	Y	Y	Y	1,081	226	
1974	2 Apr	Y	Y	Y	Y	Y	See note	0	226	Insufficient FPA water to boost this small (60 cfs) peak.
1975	2 Feb							226	0	Ran out of FPA water during 1st day of releases
1975	9 Feb	Y	Y	Y	Y	Y	N	0	0	
1975	7 Mar	Y	Y	Y	Y	Y	Y	0	3,200	Flow >50 cfs for remainder of season.
1976	11 Feb	N	Y	Y	Y	Y	Y	0	3,200	Salsipuedes peak on 2/10 was 124 cfs.
1977								0	3,200	No peaks. Salsipuedes never >1000 AF.
1978	16 Jan	Y	Y	Y	Y	Y	Y	1,421	1,779	
1978	7 Feb	Y	Y	Y	See note	Y	Y	0	1,779	No need to supplement a storm that provided 7 days of flow >1000 cfs only 1 week after the previous storm.
1978	28 Feb							0	3,200	Flow never <100 cfs after spill starting Feb 28.
1979	15 Jan	N	N	Y	Y	Y	Y	0	3,200	
1979	31 Jan	Y	Y	Y	Y	Y	Y	1,126	2,074	
1979	14 Feb	Y	Y	Y	N	N	Y	0	2,074	
1979	21 Feb	Y	Y	Y	Y	N	Y	0	3,200	Flow never <100 cfs during spill Mar 1-May 1.
1980	11 Jan	N	N	Y	Y	Y	Y	0	3,200	
1980	16 Feb	Y	Y	Y	Y	Y	Y	0	3,200	Flow never <100 cfs during spill Feb 1 - May 1
1981	9 Feb	N	Y	See note	Y	Y	Y	0	3,200	Solvang peak 47 cfs; Salsipuedes peak 37 cfs.
1981	1 Mar	Y	Y	Y	Y	Y	Y	694	2,506	
1981	16 Mar	Y	Y	Y	N	N	Y	0	2,506	
1981	19 Mar	Y	Y	Y	N	Y	Y	0	2,506	
1981	22 Mar	Y	Y	Y	Y	N	Y	0	2,506	
1982	16 Mar	N	Y	Y	Y	Y	Y	0	2,506	
1982	1 Apr	Y	Y	Y	Y	Y	Y	1,088	1,418	
1983								0	3,200	Flow never <150 cfs after spill starting Jan 22.
1984								0	3,200	No peaks after Jan 1
1985								0	3,200	No peaks all season. Salsipuedes <1000 AF.
1986	14 Feb	Y	Y	Y	Y	Y	Y	744	2,456	
1986	10 Mar	Y	Y	Y	Y	Y	Y	0	3,200	No need to supplement large storm that provided 10 days of flow >100 cfs.
1987	6 Mar	N	Y	Y	Y	Y	Y	0	3,200	
1988	2 Mar	N	Y	Y	Y	Y	Y	0	3,200	
1989								0	3,200	No peaks. Salsipuedes never >1000 AF cum. discharge
1990								0	3,200	No peaks. Salsipuedes never >1000 AF cum. discharge
1991	19 Mar	Y	Y	Y	Y	Y	Y	616	2,584	
1992	13 Feb	Y	Y	Y	Y	Y	Y	533	2,051	
1992	5 Mar	Y	Y	Y	N	Y	Y	0	2,051	
1992	23 Mar	Y	Y	Y	Y	Y	Y	1,616	968	
1993	7 Jan	N	N	Y	Y	Y	Y	0	968	
1993	10 Jan	N	Y	Y	Y	Y	Y	0	968	
1993	13 Jan							0	3,200	Flow never <100 cfs after spill starting Jan 13.

Notes:

¹ This criterion considered fulfilled if the condition is met during the current storm.

² This criterion considered fulfilled if the current storm is the first storm of the passage season but it occurs after January.

³ The beach berm was considered open if maximum daily flow at Solvang or in Salsipuedes Creek had exceeded 40 cfs prior to or during the storm event.

⁴ FPA = Fish Passage Account in Cachuma Reservoir (maximum of 3,200 AF; refilled when reservoir spills).

Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases

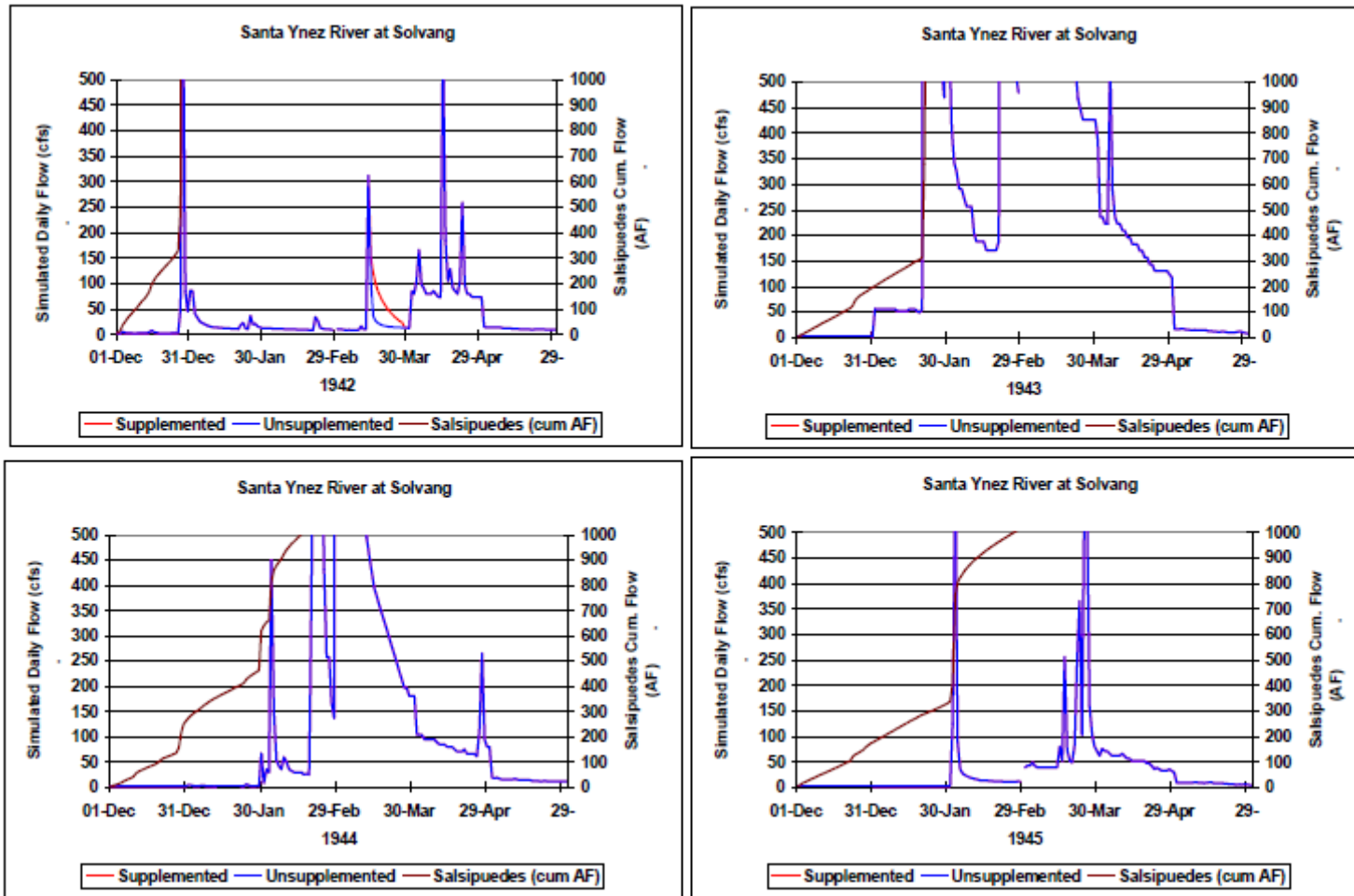


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

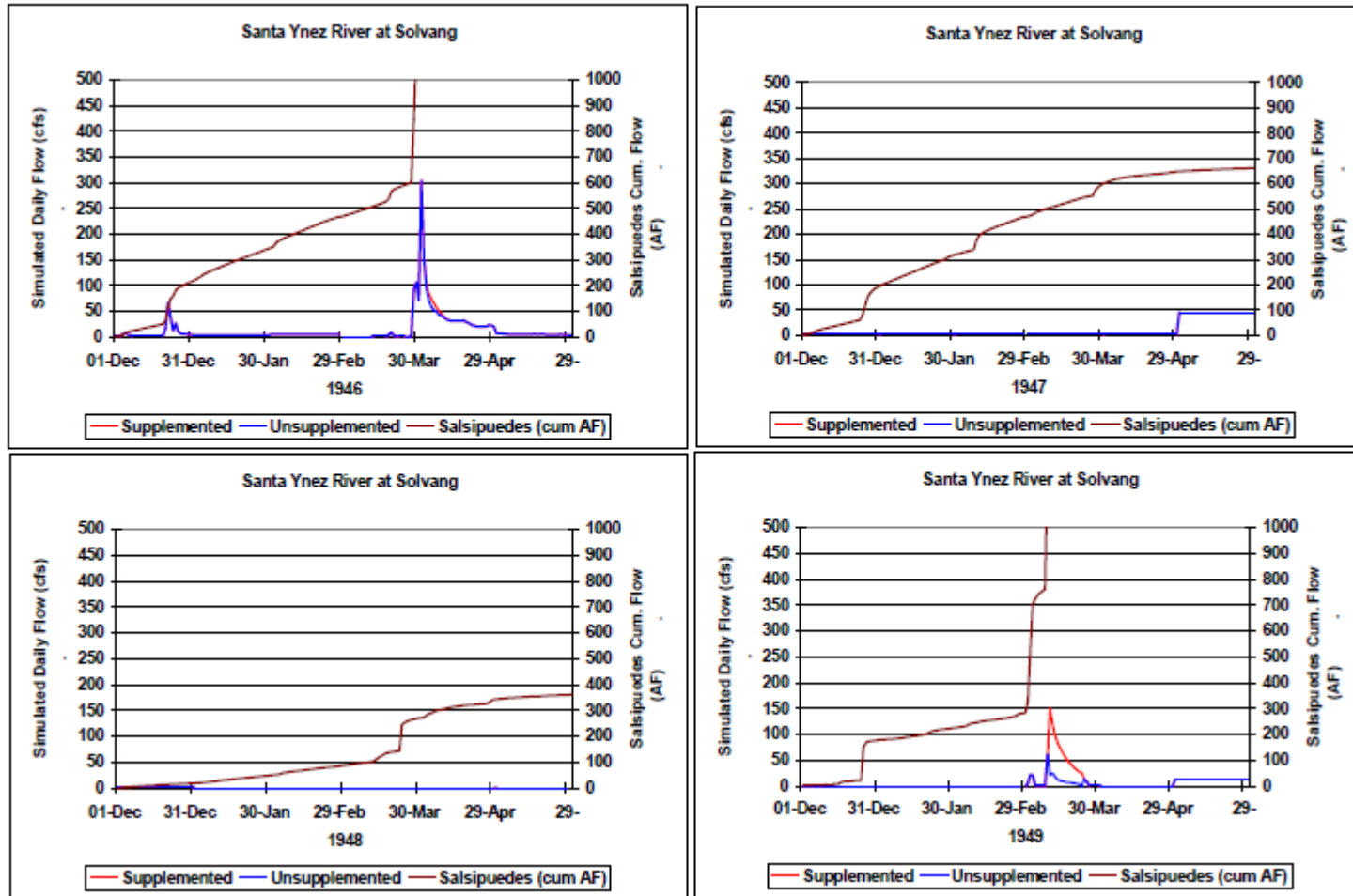


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

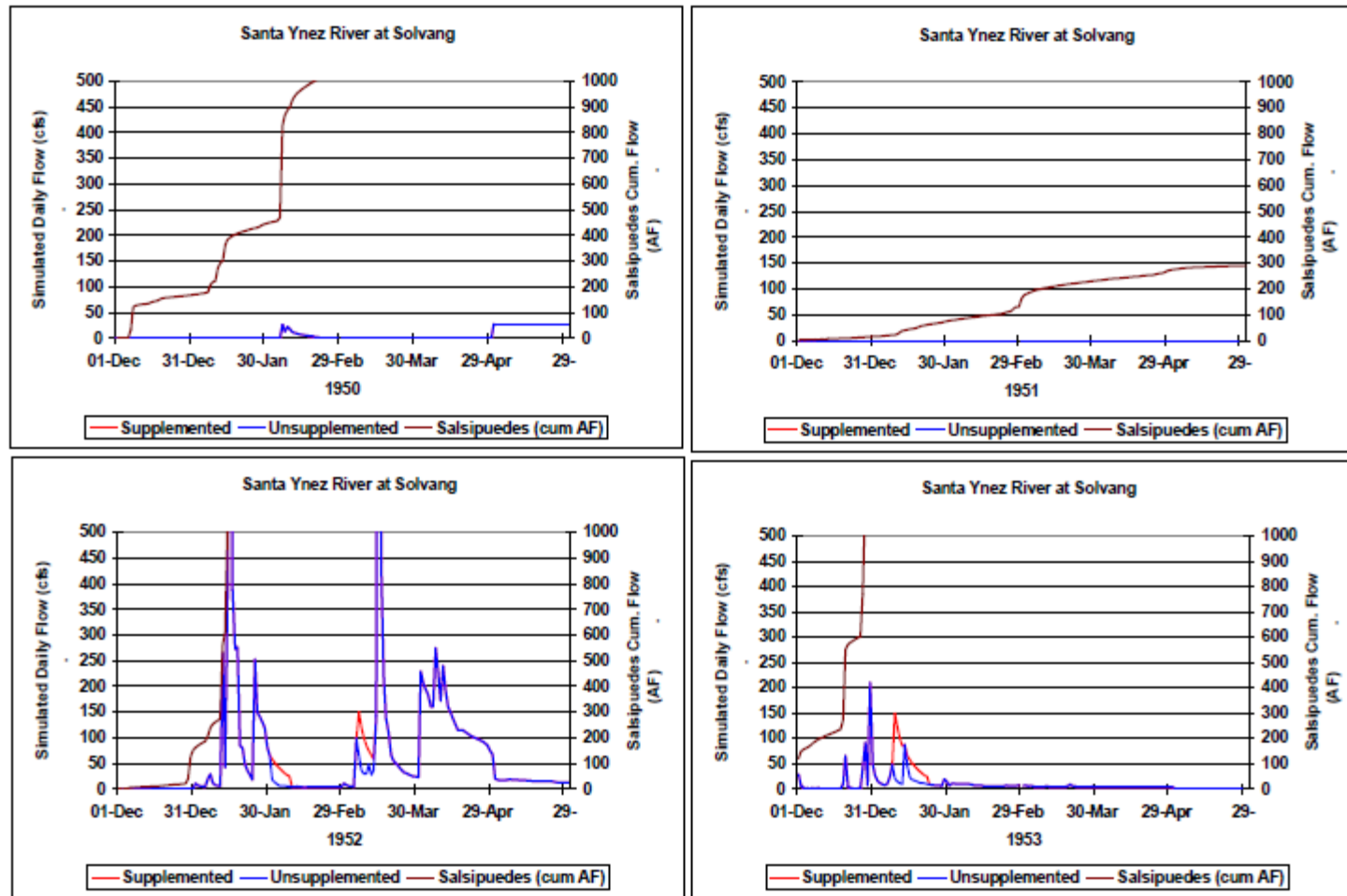


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

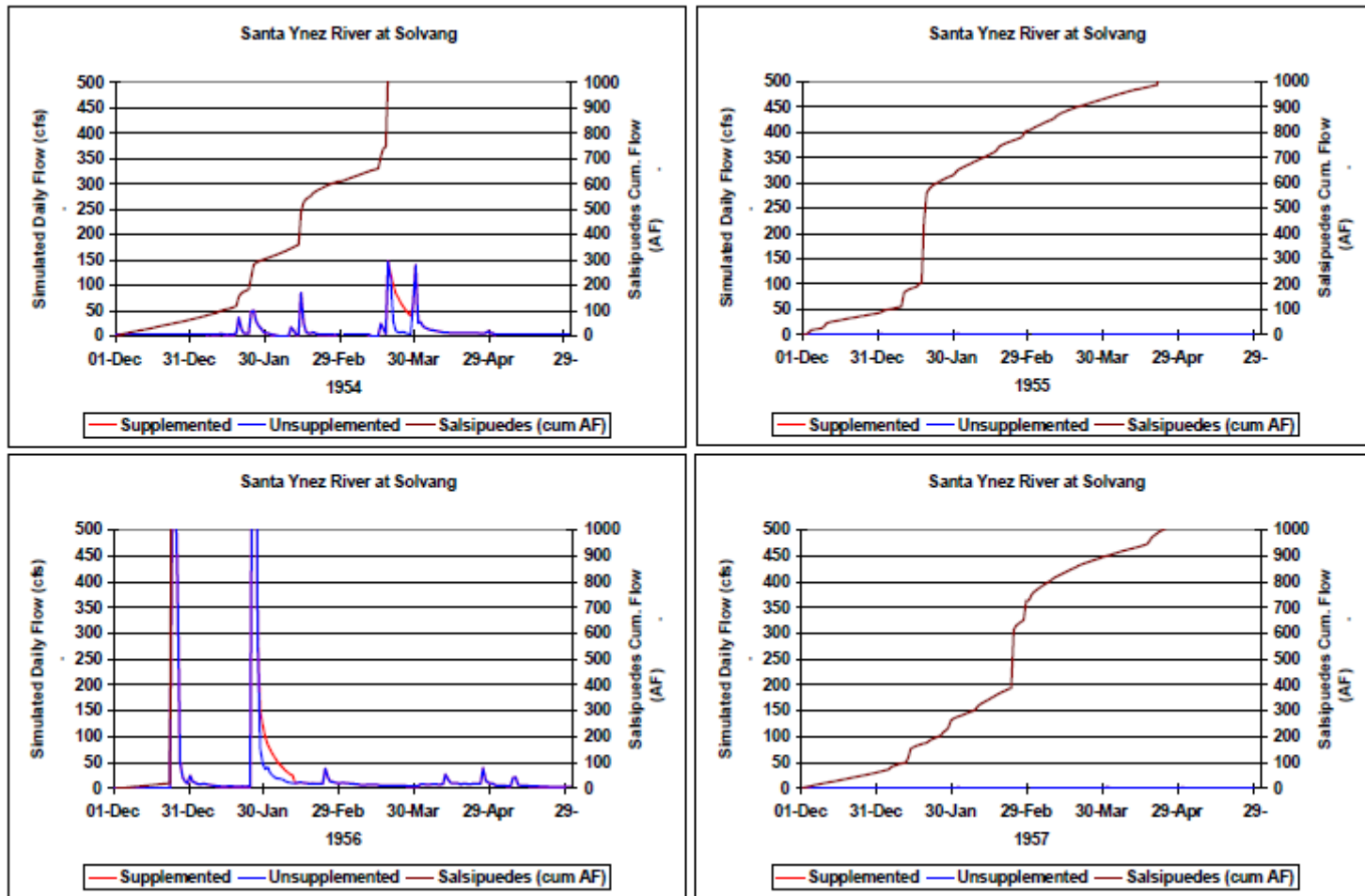


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

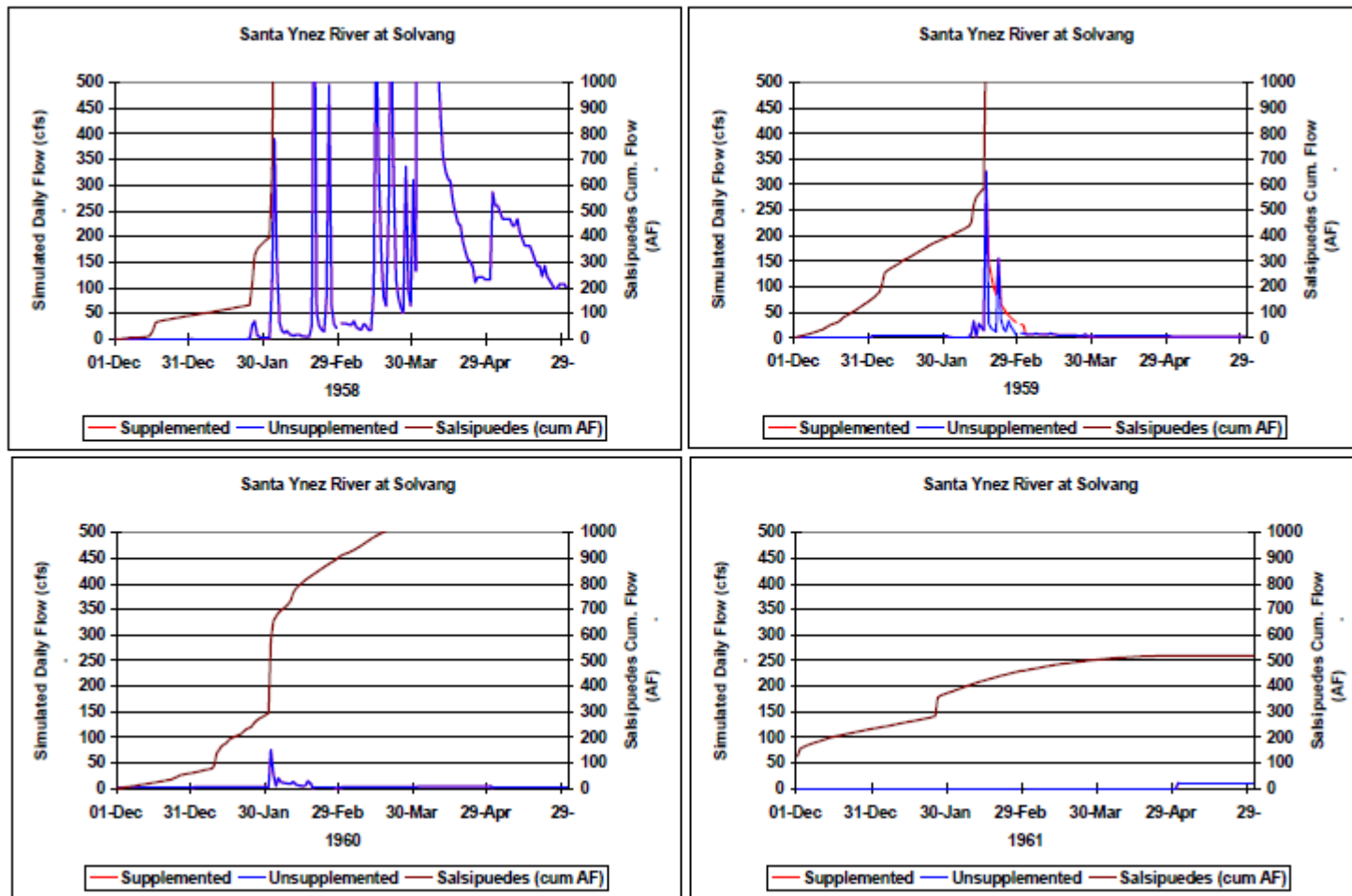


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

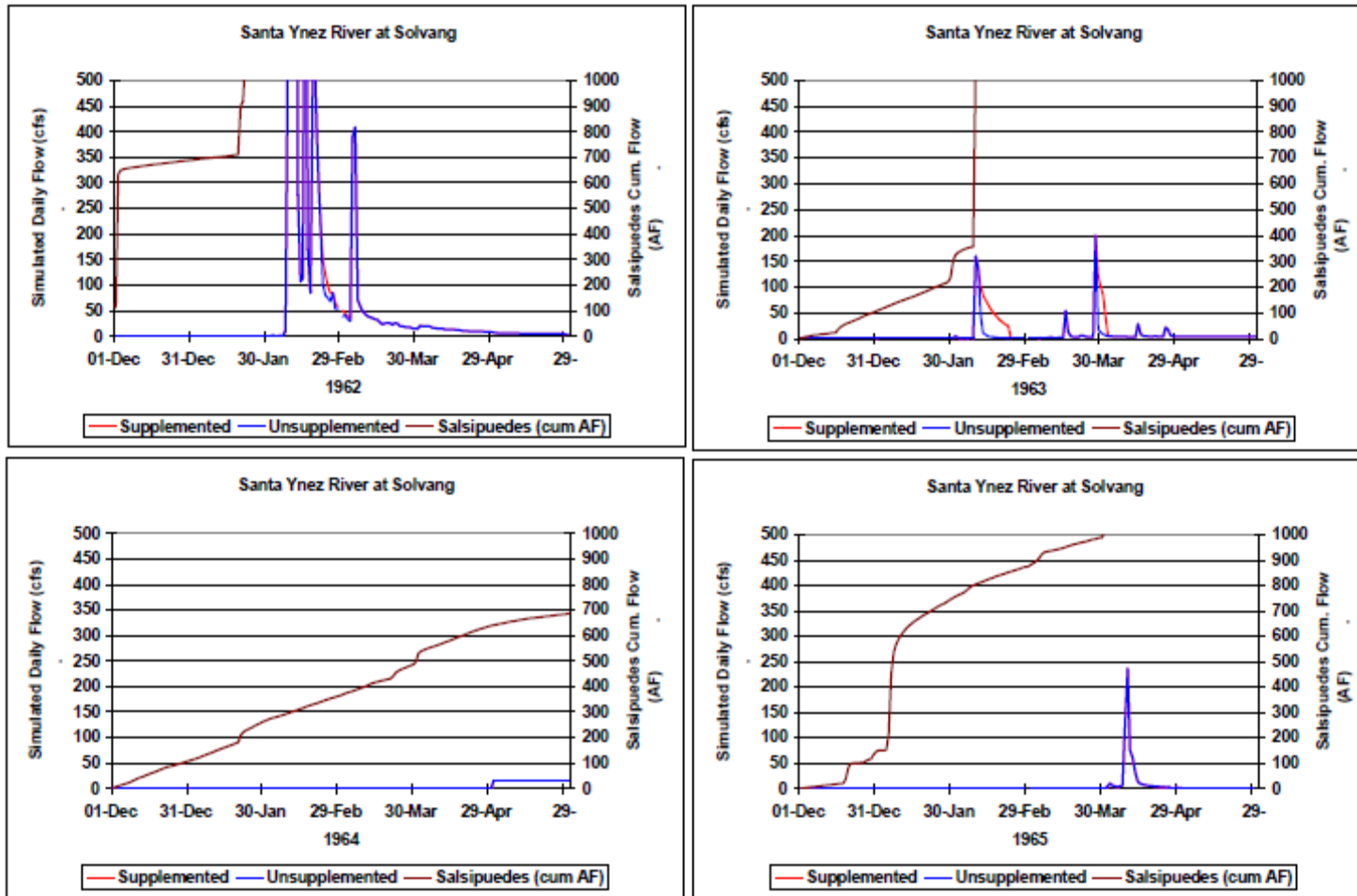


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

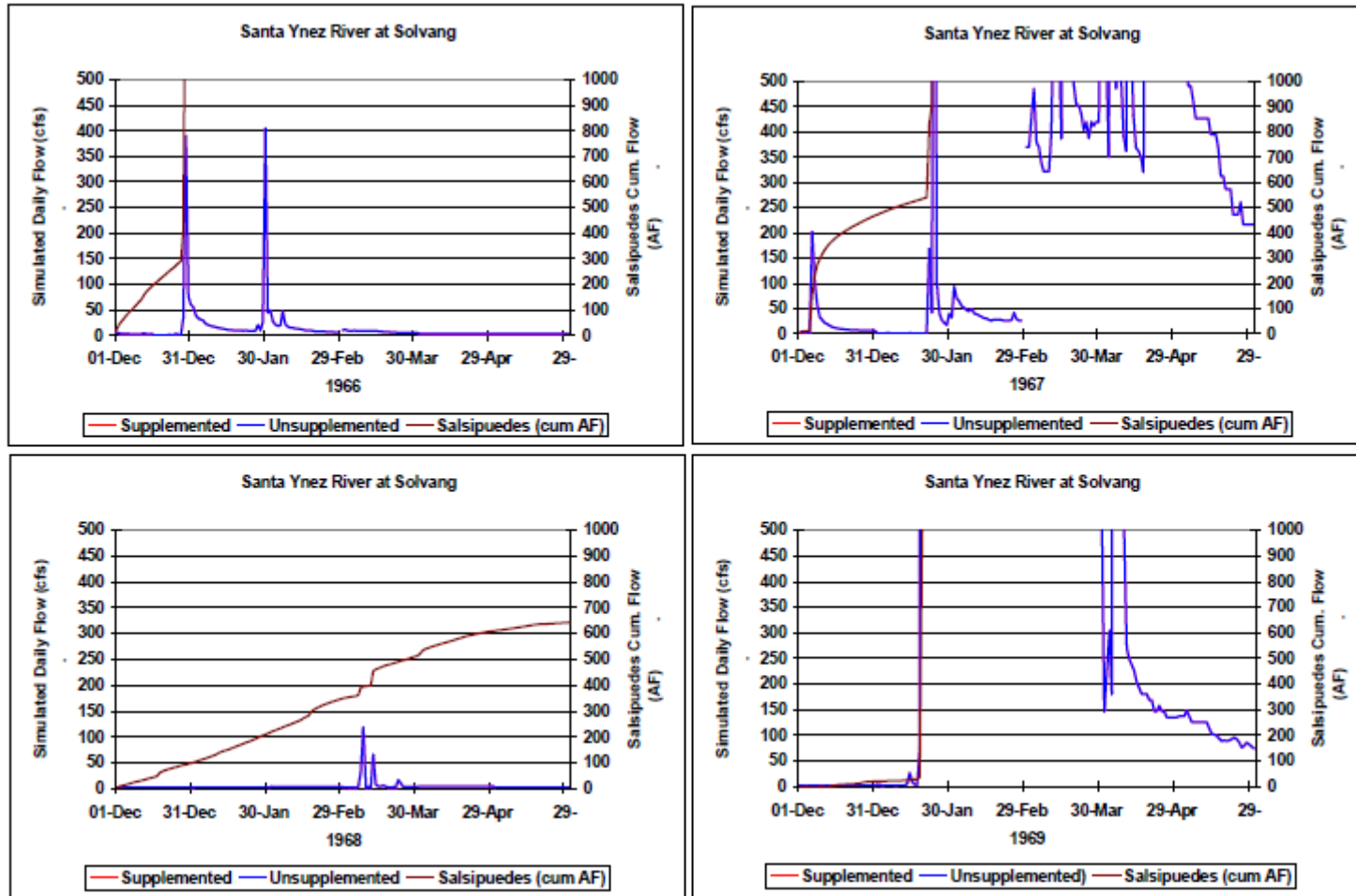


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

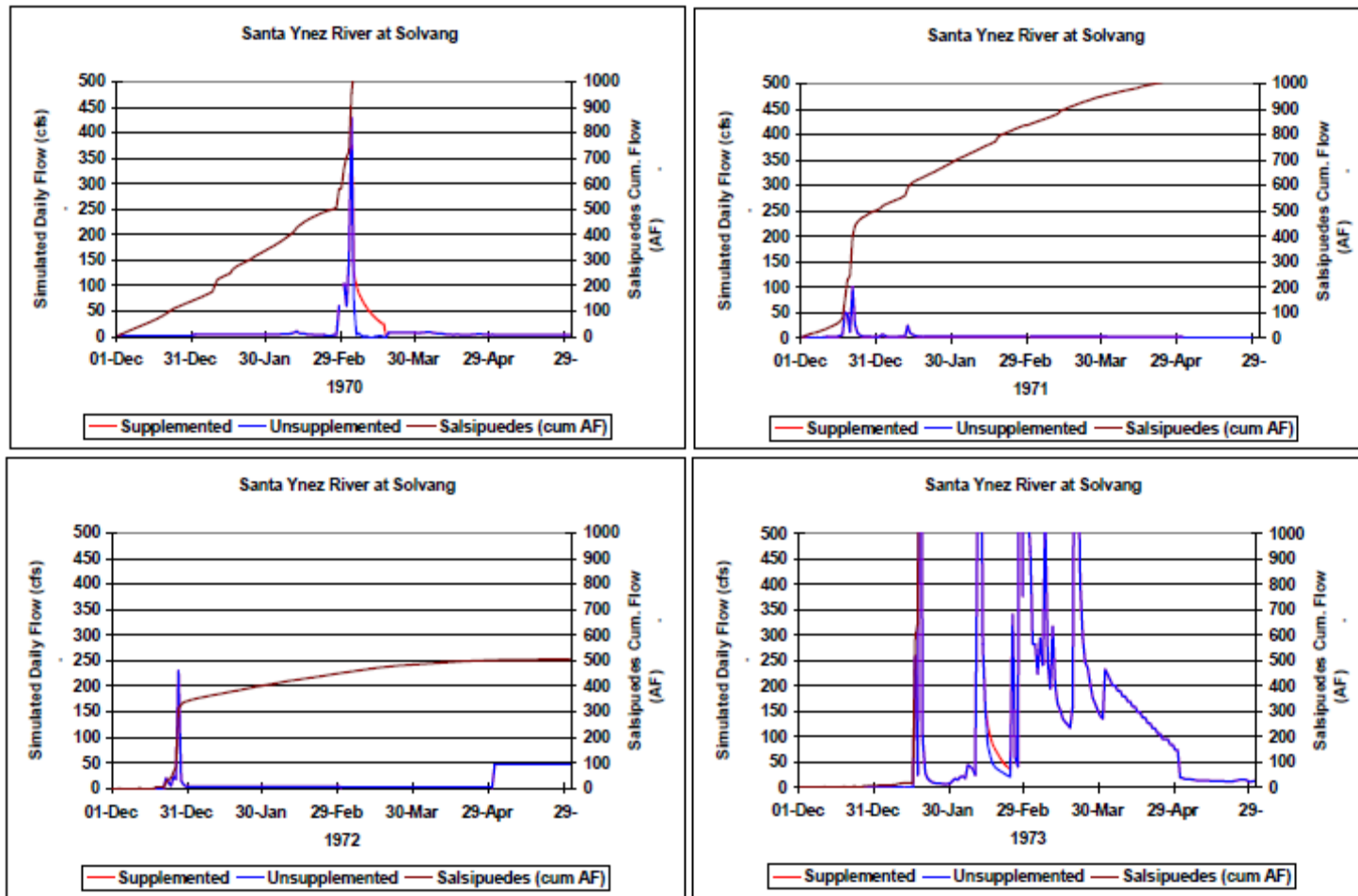


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

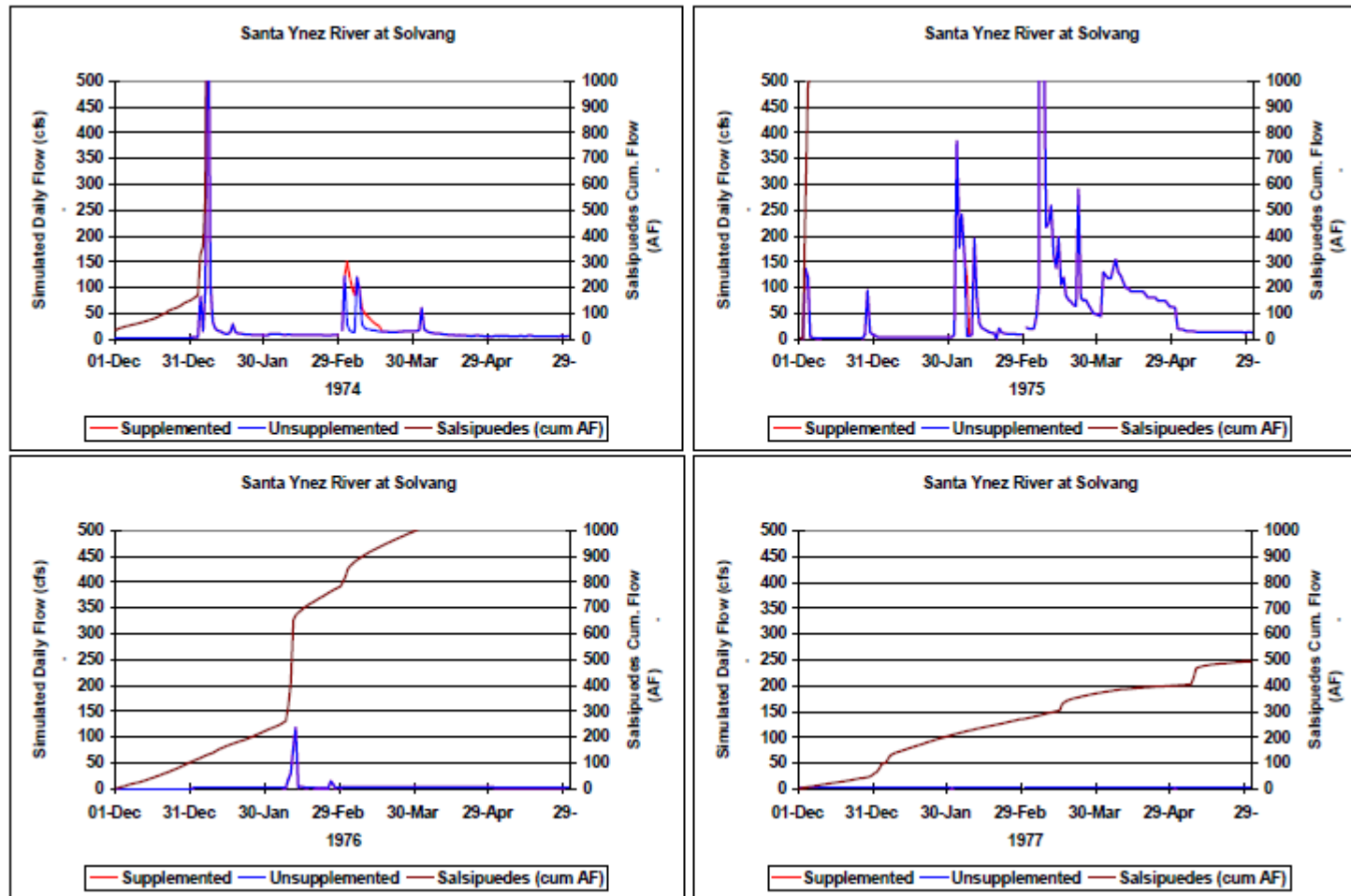


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

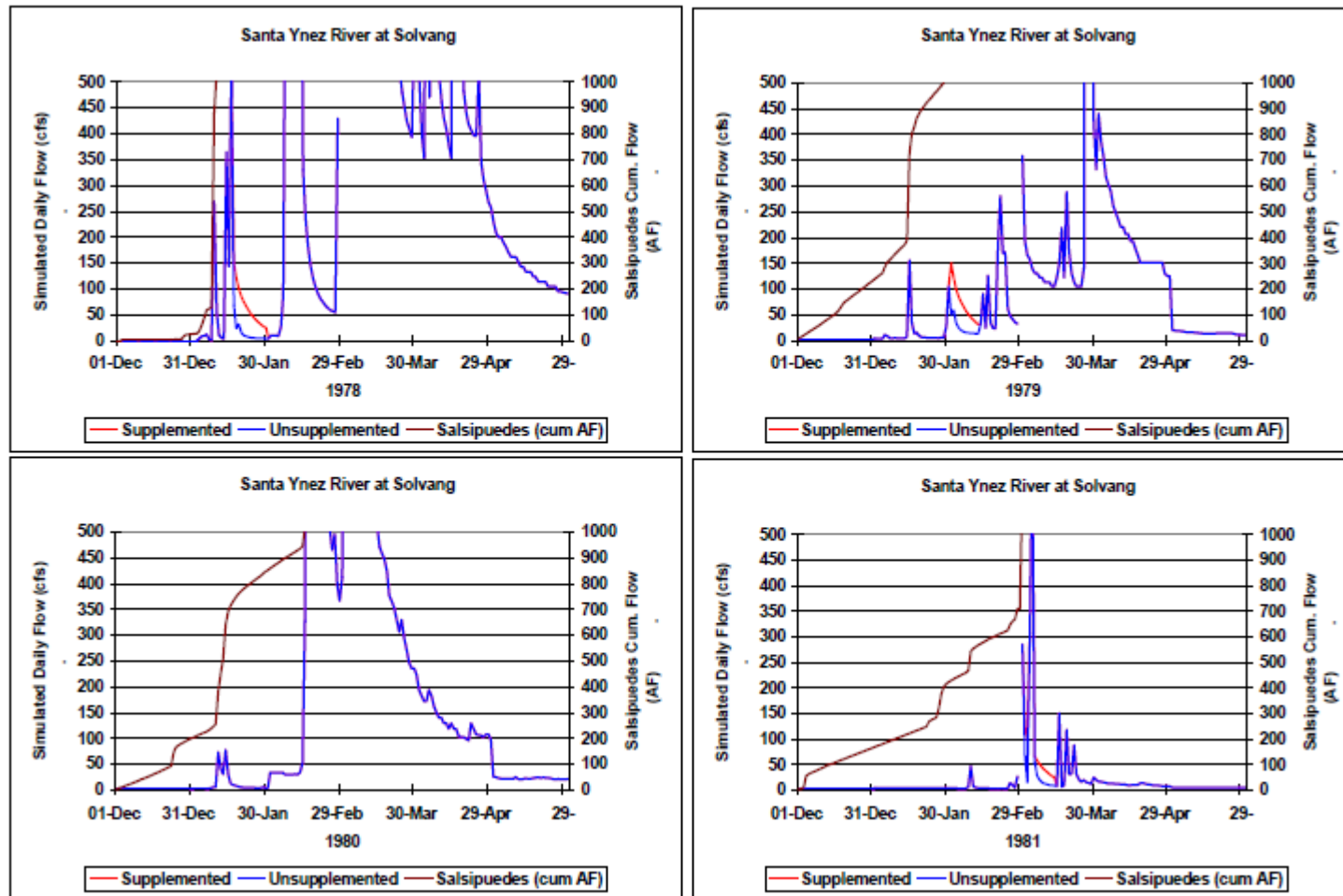


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

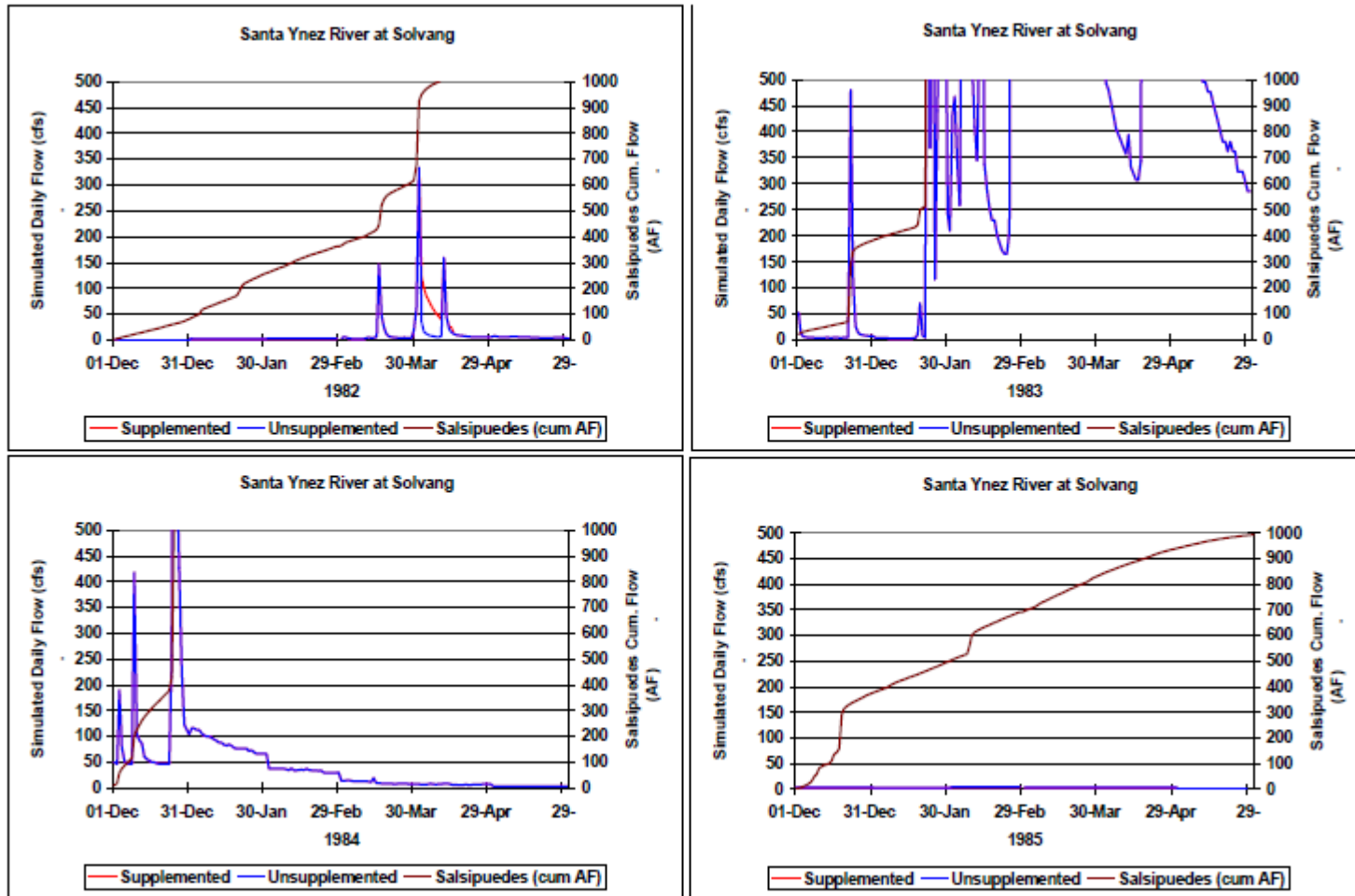


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)

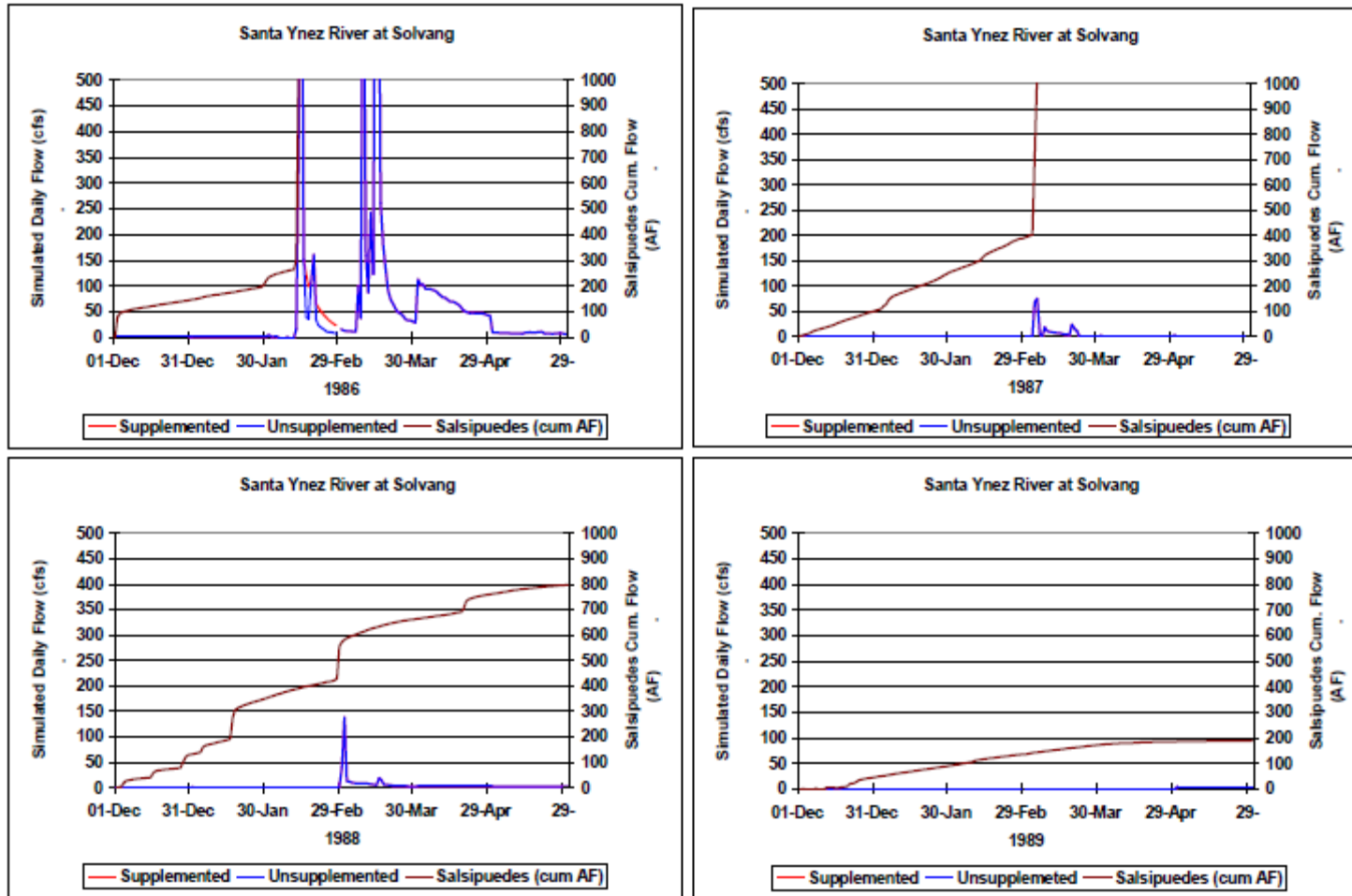
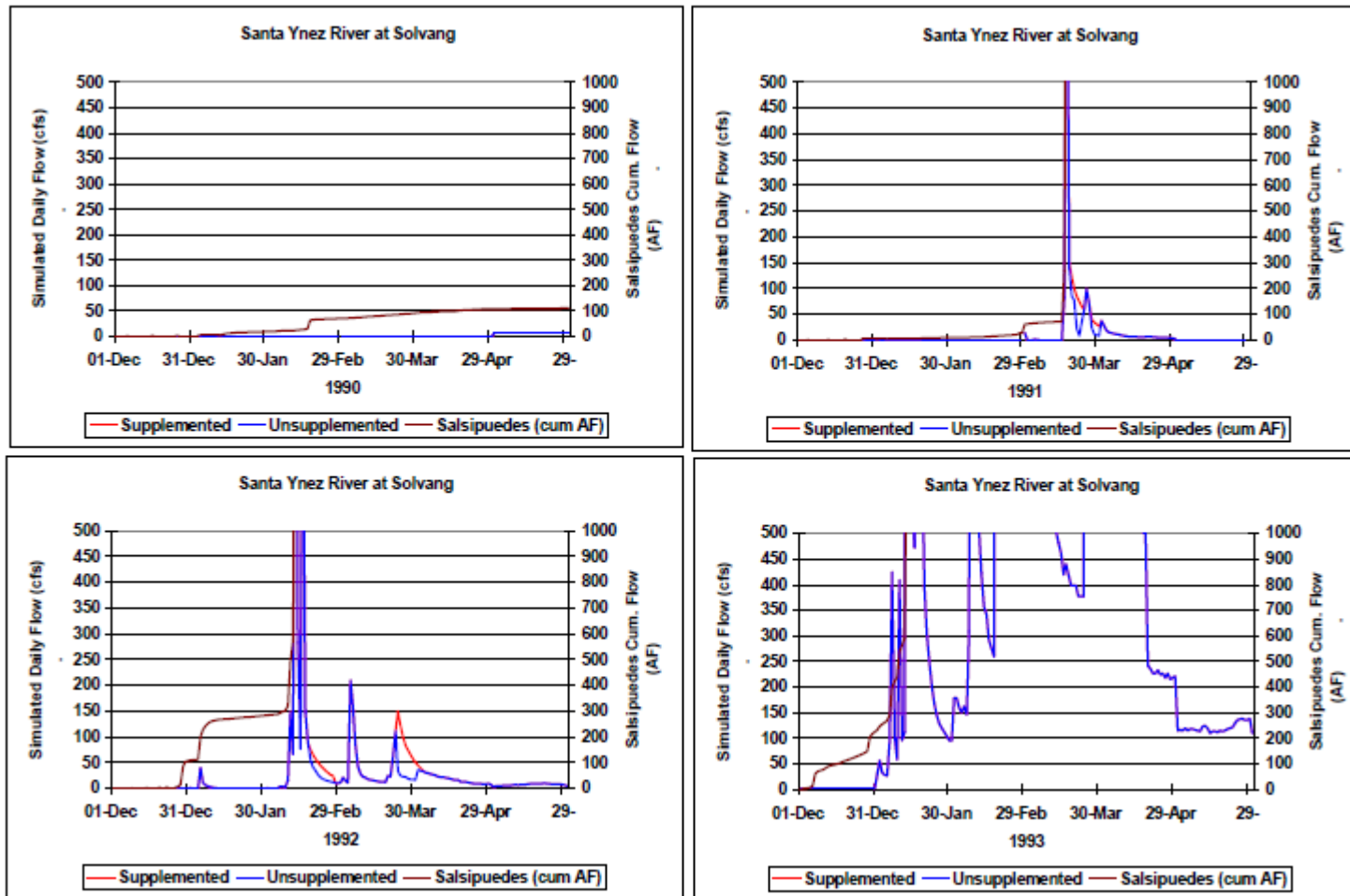


Figure F-1. Hydrographs of Simulated Daily Flows during January-April in the Santa Ynez River, with Fish Passage Supplementation Releases (cont.)



Impact Assessment Results

Adult Steelhead Passage Days

The number of adult steelhead passage days in each duration category for each year of the simulation period is depicted in **Table F-3**. Examination of the number of adult steelhead passage days presented in Table F-3 provides an indication of general trends associated with the Existing Condition, as well as with flow depletion associated with the implementation of the General Plan Update in 2030 (Proposed Project), described below.

Table F-3. Number of Adult Steelhead Passage Days below the Narrows under the Existing Condition and the 2030 City of Lompoc General Plan Update (Proposed Project)

Year	Existing Condition					Lompoc General Plan Buildout					General Plan Minus Existing				
	Number of Days in Events Greater than or Equal to the Indicated Duration					Number of Days in Events Greater than or Equal to the Indicated Duration					Change in Number of Days in Events Greater than or Equal to the Indicated Duration				
	1 day	3 days	5 days	10 days	14 days	1 day	3 days	5 days	10 days	14 days	1 day	3 days	5 days	10 days	14 days
1942	114	113	113	113	101	105	105	102	95	95	-9	-8	-11	-18	-6
1943	120	120	120	120	120	120	120	120	120	120	0	0	0	0	0
1944	91	90	90	90	90	91	90	90	90	90	0	0	0	0	0
1945	89	89	89	89	89	84	84	84	84	84	-5	-5	-5	-5	-5
1946	33	33	33	33	33	27	25	25	25	25	-6	-8	-8	-8	-8
1947	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	16	16	13	13	0	15	15	12	12	0	-1	-1	-1	-1	0
1950	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	88	86	83	83	83	86	85	82	82	82	-2	-1	-1	-1	-1
1953	31	31	31	31	31	27	27	27	27	27	-4	-4	-4	-4	-4
1954	26	21	18	18	18	25	17	17	17	17	-1	-4	-1	-1	-1
1955	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1956	44	41	35	35	23	36	31	27	27	17	-8	-10	-8	-8	-6
1957	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1958	84	80	80	72	72	82	80	80	72	72	-2	0	0	0	0
1959	18	18	15	15	15	18	18	15	15	15	0	0	0	0	0
1960	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	78	73	73	73	73	73	70	70	70	70	-3	-3	-3	-3	-3
1963	23	18	18	13	0	22	17	17	12	0	-1	-1	-1	-1	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	6	5	5	0	0	6	5	5	0	0	0	0	0	0	0
1966	56	56	56	50	50	49	47	47	47	47	-7	-9	-9	-3	-3
1967	99	99	99	99	99	99	99	99	99	99	0	0	0	0	0
1968	5	0	0	0	0	4	0	0	0	0	-1	0	0	0	0
1969	104	104	104	104	104	104	104	104	104	104	0	0	0	0	0
1970	20	18	18	18	18	20	18	18	18	18	0	0	0	0	0
1971	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	97	97	97	90	90	97	97	97	90	90	0	0	0	0	0
1974	45	45	45	45	35	42	42	42	37	27	-3	-3	-3	-8	-8
1975	89	89	89	89	89	89	89	89	89	89	0	0	0	0	0
1976	4	4	0	0	0	3	3	0	0	0	-1	-1	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	106	105	102	102	102	104	103	101	101	101	-2	-2	-1	-1	-1
1979	96	95	91	91	91	96	95	91	91	91	0	0	0	0	0
1980	96	96	96	90	90	96	96	96	90	90	0	0	0	0	0
1981	54	51	51	51	51	45	43	39	39	39	-9	-8	-12	-12	-12
1982	22	22	22	17	17	20	20	16	16	16	-2	-2	-6	-1	-1
1983	100	99	99	99	99	100	99	99	99	99	0	0	0	0	0
1984	68	65	65	65	65	62	60	60	60	60	-6	-5	-5	-5	-5
1985	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1986	73	73	73	73	73	72	72	72	72	72	-1	-1	-1	-1	-1
1987	3	3	0	0	0	3	3	0	0	0	0	0	0	0	0
1988	14	13	13	13	0	13	12	12	12	0	-1	-1	-1	-1	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	20	19	19	19	19	19	18	18	18	18	-1	-1	-1	-1	-1
1992	76	75	75	75	75	75	74	74	74	74	-1	-1	-1	-1	-1
1993	120	120	120	120	120	120	120	120	120	120	0	0	0	0	0
Total:	2,236	2,182	2,150	2,108	2,035	2,159	2,103	2,067	2,024	1,968	-77	-79	-83	-84	-87
Average:	43.0	42.0	41.3	40.5	39.1	41.5	40.4	39.8	38.9	37.8	-1.5	-1.5	-1.6	-1.6	-1.3
Median:	24.5	21.5	20.5	18.5	18.5	23.5	19	18	18	17.5	-1.0	-2.5	-2.5	-0.5	-1.0

- Most of the adult steelhead passage days occur during extended storm or spill events. For example, 91 percent of the total number of passage days under the Existing Condition, as well as under the Proposed Project, occur during events lasting 14 or more days.
- Flow depletion associated with the implementation of the Proposed Project would be expected to result in a minor reduction (approximately 3 percent) in the total number of adult steelhead passage days, relative to the Existing Condition. For the 52-year period of simulation, an annual average of 41.5 passage days would be expected to occur under the Proposed Project, relative to an annual average of 43 passage days under the Existing Condition.
- As a measure of central tendency, the annual median number of passage days may be a better indicator of “normal” conditions, because the annual average number of passage days is skewed in the positive direction by events of extended duration that occur during spill years. The annual median number of passage days is considerably smaller than the annual average number. Flow depletion associated with the implementation of the Proposed Project would be expected to result in a minor reduction (1 day, or approximately 4 percent) in the annual median number of adult steelhead passage days, relative to the Existing Condition. For the 52-year period of simulation, an annual median of 23.5 passage days would be expected to occur under the Proposed Project, relative to an annual median of 24.5 passage days under the Existing Condition.
- The years with the most noticeable reductions in passage days, under the Proposed Project relative to the Existing Condition, tended to be slightly wetter than average in terms of overall number of passage days. The five years (of the 52-year simulation period) with the largest reductions in passage days in each duration category were in the 52nd to 90th percentile in terms of total number of fish passage days. Thus, the largest decreases in adult steelhead passage days occur in relatively wet years, when passage days remain relatively abundant under the Proposed Project.
- During drier years, represented by 50% of the years with the lowest total number of annual passage days (0–23 days), implementation of the Proposed Project would be expected to result in a minor reduction (approximately 5 percent) in the total number of adult steelhead passage days, relative to the Existing Condition. For the 26 drier years, an annual average of 5.9 passage days would be expected to occur under the Proposed Project, relative to an annual average of 6.2 passage days under the Existing Condition.

Adult Steelhead Passage Events

In addition to passage days, adult steelhead passage opportunities also can be expressed in terms of the number of adult steelhead passage “events”, with events characterized by different duration categories (e.g., 1-day, 3-day, 5-day, 10-day, 14-day). The evaluation includes enumeration of the

number of flow occurrences exceeding specified duration categories. This is straightforward for short, isolated events. For prolonged periods of high flows, however, it is necessary to divide the total period by the event duration to obtain the number of events it includes. Thus, for example, a 35-day period of sustained high flow would be counted as two 14-day events, three 10-day events, seven 5-day events, and so forth. Using this method, the number of passage events in each duration category in each year of the 52-year simulation period was tabulated for passage thresholds of 30 cfs (Existing Conditions) and 33 cfs (Proposed Project). The results are shown in **Table F-4**.

Table F-4. Number of Adult Steelhead Passage Events below the Narrows under the Existing Condition and the 2030 City of Lompoc General Plan Update (Proposed Project)

Year	Existing Condition					Lompoc General Plan Buildout					General Plan Minus Existing				
	Number of Passage Events Longer than or Equal to the Indicated Duration ¹					Number of Passage Events Longer than or Equal to the Indicated Duration ¹					Change in Number of Events Longer than or Equal to the Indicated Duration				
	1 day	3 days	5 days	10 days	14 days	1 day	3 days	5 days	10 days	14 days	1 day	3 days	5 days	10 days	14 days
1942	114	37	21	10	6	105	34	19	9	6	-9	-3	-2	-1	0
1943	120	40	24	12	8	120	40	24	12	8	0	0	0	0	0
1944	91	30	18	9	6	91	30	18	9	6	0	0	0	0	0
1945	89	29	17	8	6	84	28	16	8	5	-5	-1	-1	0	-1
1946	33	11	6	3	2	27	8	5	2	1	-6	-3	-1	-1	-1
1947	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	16	5	2	1	0	15	5	2	1	0	-1	0	0	0	0
1950	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	88	28	16	7	5	86	27	16	7	5	-2	-1	0	0	0
1953	31	10	6	3	2	27	9	5	2	1	-4	-1	-1	-1	-1
1954	26	7	3	1	1	24	5	3	1	1	-2	-2	0	0	0
1955	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1956	44	13	6	3	1	36	9	5	2	1	-8	-4	-1	-1	0
1957	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1958	84	26	15	7	5	82	26	15	7	5	-2	0	0	0	0
1959	18	6	3	1	1	18	6	3	1	1	0	0	0	0	0
1960	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	76	24	14	7	5	73	23	14	7	5	-3	-1	0	0	0
1963	23	5	3	1	0	22	5	3	1	0	-1	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	6	1	1	0	0	6	1	1	0	0	0	0	0	0	0
1966	56	18	11	5	3	49	15	8	4	2	-7	-3	-3	-1	-1
1967	99	33	19	9	7	99	33	19	9	7	0	0	0	0	0
1968	5	0	0	0	0	4	0	0	0	0	-1	0	0	0	0
1969	104	34	20	10	7	104	34	20	10	7	0	0	0	0	0
1970	20	6	3	1	1	20	6	3	1	1	0	0	0	0	0
1971	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	97	32	19	9	6	97	32	19	9	6	0	0	0	0	0
1974	45	14	8	3	2	42	12	8	3	1	-3	-2	0	0	-1
1975	89	29	17	8	6	89	29	17	8	6	0	0	0	0	0
1976	4	1	0	0	0	3	1	0	0	0	-1	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	106	34	20	9	7	104	33	20	9	7	-2	-1	0	0	0
1979	96	31	18	9	6	96	31	18	9	6	0	0	0	0	0
1980	96	32	19	9	6	96	32	19	9	6	0	0	0	0	0
1981	54	16	10	4	3	45	14	7	3	2	-9	-2	-3	-1	-1
1982	22	6	4	1	1	20	6	3	1	1	-2	0	-1	0	0
1983	100	33	19	9	7	100	33	19	9	7	0	0	0	0	0
1984	68	21	13	6	4	62	20	12	6	4	-6	-1	-1	0	0
1985	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1986	73	24	13	6	4	72	24	13	6	4	-1	0	0	0	0
1987	3	1	0	0	0	2	0	0	0	0	-1	-1	0	0	0
1988	14	4	2	1	0	13	4	2	1	0	-1	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	20	6	3	1	1	19	6	3	1	1	-1	0	0	0	0
1992	76	25	15	7	5	75	24	14	7	5	-1	-1	-1	0	0
1993	120	40	24	12	8	120	40	24	12	8	0	0	0	0	0
Total:	2,236	712	412	192	132	2,157	685	397	186	126	-79	-27	-15	-6	-6
Average:	43.0	13.7	7.9	3.7	2.5	41.5	13.2	7.6	3.6	2.4	-1.5	-0.5	-0.3	-0.1	-0.1
Median:	24.5	6.5	3.5	1	1	23	6	3	1	1	-1.5	-0.5	-0.5	0.0	0.0

Notes:

¹ A long period of flow is counted as successive events. For example, 29 days of continuous flow greater than the passage threshold contains two 14-day events, two 10-day events, five 5-day events, nine 3-day events and twenty-nine 1-day events.

Examination of the number of adult steelhead passage events presented in Table F-4 provides an indication of general trends associated with the Existing Condition, as well as with flow depletion associated with the implementation of the General Plan Update in 2030 (Proposed Project), described below.

- Flow depletion associated with the implementation of the Proposed Project would be expected to result in minor reductions (approximately 3-5 percent) in the total number of 3-day, 5-day, 10-day and 14-day adult steelhead passage events, relative to the Existing Condition. Over the 52-year period of simulation, an annual average of 13.2 (3-day), 7.6 (5-day), 3.6 (10-day), and 2.4 (14-day) passage events would be expected to occur under the Proposed Project, relative to an annual average of 13.7 (3-day), 7.9 (5-day), 3.7 (10-day), and 2.5 (14-day) passage events under the Existing Condition.
- Flow depletion associated with the implementation of the Proposed Project would be expected to result in no reduction in the annual median number of 10-day and 14-day adult steelhead passage events, relative to the Existing Condition. The Proposed Project would be expected to result in minor reductions in the annual median number of 3-day and 5-day passage events. For the 52-year period of simulation, an annual median number of 6 (3-day) and 3 (5-day) passage events would be expected to occur under the Proposed Project, relative to an annual median of 6.5 (3-day) and 3.5 (5-day) passage events under the Existing Condition.
- The five years with the most noticeable reductions in passage events, under the Proposed Project relative to the Existing Condition, tended to be slightly wetter than average. Thus, the largest decreases in adult steelhead passage events occur in relatively wet years, when passage events remain relatively abundant under the Proposed Project.
- During drier years, represented by 50% of the years with the lowest total number of annual passage days (see above), implementation of the Proposed Project would be expected to result in no reduction in the annual average number of 5-day, 10-day or 14-day adult steelhead passage events, and result in a minor reduction in the annual average number of 3-day passage events (from 1.6 to 1.5), relative to the Existing Condition.

In summary, implementation of the Proposed Project would not result in substantial reductions in steelhead passage opportunities in the lower Santa Ynez River, relative to the Existing Condition.

Mitigation Measures. None required, as significant impacts have not been identified.

Significance After Mitigation. Impacts would be less-than-significant without mitigation.

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Appendix F

Summary of Cultural Resources Studies



SUMMARY OF CULTURAL RESOURCES STUDIES

Several major cultural resource investigations have been completed within the city, Major cultural resource studies and program developments are summarized chronologically below.

Environmental Resource Management Element (1974)

In 1974 the City of Lompoc adopted the Environmental Resource Management Element (ERME) of their General Plan, which identified 27 archaeological sites in the Lompoc Valley and listed the following policies for their protection:

- Work with Santa Barbara County and the State to maintain La Purisima Mission
- Work with the Historical Society to preserve locations of historic interest and ensure that they are adequately maintained;
- Encourage the use of historic buildings for public and semi-public facilities
- If development is to occur in an area which has been identified as a potential archaeological site, require that an on-site investigation be conducted within the context of the Environmental Impact Report (EIR)
- Take advantage of both federal and private funding sources to preserve historic sites

Spanne Report (1988)

To assist the City with prior General Plan updates, archaeologist Laurence Spanne completed a study in 1988 to provide information on cultural resources in the vicinity of Lompoc and to suggest protective measures for the resources as future development took place. Spanne conducted a literature search to document previously recorded sites and structures, interviewed local historical authorities, and performed a cursory reconnaissance survey of the 34 square mile study area. His report provides a brief description of the history and prehistory of Lompoc; outlines the existing regulatory setting of federal, state, county, and local regulations; describes archaeological sites, buildings and structures, and ethnic places of significance; reviews previously conducted archaeological studies; and offers specific measures to protect archaeological and historical resources in the city.

Spanne outlined common direct and indirect threats to cultural resources and listed actions which can protect these resources. Direct threats to sites include plowing, bulldozing, residential construction, industrial construction, grading for roads, construction of parking lots and pipelines, cattle grazing, water projects, off-road vehicle use, recreational developments, natural forces, and unauthorized collections of artifacts. Indirect threats include public access to sites and actions which alter the environs of the sites such as redirection of stream channels, which can increase or stimulate erosion in the area. He produced a basic archaeological



sensitivity map identifying zones with low and high probability to have archaeological remains, and offered the following general protective measures to mitigate potential impacts to sites:

- A phased approach to identification and evaluation procedures for prehistoric and historic resources;
- Use of zoning to limit or control possible development of culturally sensitive areas;
- Use of permanent easements to protect prehistoric and historical resources;
- Avoidance and preservation of prehistoric and historic sites through careful project planning;
- Government or private acquisition of land containing prehistoric and historic sites, through purchase or exchange, for the purpose of preservation;
- National Register listing of properties;
- Data recovery when impacts to a resource are unavoidable;
- Use of an archaeological sensitivity map in the planning and development process to easily identify zones of low and high sensitivity for prehistoric or historical resources;
- Stabilization, protective covering, or soil capping of degrading, threatened, or actively vandalized sites to restrict access or protect from construction related activities;
- Use of special construction features such as piers or pilings to reduce the amount of excavation necessary when construction will affect archaeological sites;
- Construction monitoring if work in or near a site is unavoidable or sensitivity is still questionable after initial investigations;
- Landmark ordinances to identify and protect buildings of local historic significance;
- Design guidelines for rehabilitation or new construction in historic neighborhoods;
- Expanded use of the Mills Act, Investment Tax Credits, and other financial incentives for historic preservation;
- Adherence to the State Historic Building Code;
- Relocation of important historic structures if project impacts cannot be avoided.

Spanne finalized his study with general recommendations for actions involving cultural resources as well as specific recommendations for treatment of prehistoric and historic/architectural resources. Generally, he recommended that the City continue to require cultural resource investigations as part of the environmental review for all developments, and use the California Comprehensive Heritage Resources Management Plan guidelines and standards for administering cultural resource investigations. The Plan provides comprehensive guidance on:

- Research design criteria.
- Evaluation of cultural resources using the three-phased methodology.
- Archiving cultural resource materials.
- Professional qualifications for cultural resource investigators, recommending use of individuals qualified for membership in the Society of Professional Archaeologists (now the Register of Professional Archaeologists [ROPA]).



Spanne further recommended that Phase 2 or Phase 3 studies be completed prior to issuing building permits for any projects in parts of the City known to contain archaeological remains, and that the archaeological sensitivity map be used for determining the type of archaeological resource evaluation to be conducted for specific development projects in other parts of the City. He proposed that the City formally inventory and evaluate the significance of all pre-World War 2 structures, and support the efforts of public and non-profit organizations to acquire properties adjacent to the Mission Vieja de la Purisima site and La Purisima Mission State Park in order to facilitate protection of archaeological resources. Finally, he offered a variety of mechanisms for integrating historic preservation with other on-going City programs and policies, providing financial incentives and funding sources for preservation and historic revitalization, and enhancing public involvement and appreciation of historical resources.

Mission Vieja de la Purisima Archaeological Investigations (1991–1993)

In 1991 and 1992, Julia Costello directed archaeological field investigations at the site of Mission Vieja de La Purisima (Mission Vieja) on the City's south side. The archaeological work was conducted for the City as part of the California Department of Parks and Recreation's History and Archaeology Grants Program, under the California Wildlife, Coastal, and Park Land Conservation Act of 1988. In addition to the archaeological testing program, the grant financed purchase of the remaining undeveloped lots of Mission Vieja and provided funds to develop a site walking tour and a museum display.

Founded in 1787, the mission was destroyed by the earthquake of 1812 and subsequently relocated to a new site five miles to the northeast (now La Purisima State Historic Park). The goals of the archaeological program were to facilitate the City's management of this important cultural resource, which was listed on the National Register of Historic Places in 1978 and Costello (1993:34) labeled "one of the most important archaeological sites in California." Costello's 1993 report of investigations identified and mapped the location of the Mission quadrangle and related buildings and features, and also provided recommendations for future site management geared toward insuring that future public works projects by the City do not jeopardize the site and that development and construction on privately-owned land is done in a manner which is consistent with local, state, and federal regulations regarding archaeological resources.

Costello's map shows that the entire area between Olive Avenue on the north and University Drive on the south, and from I Street (San Miguelito Road) east to C Street has a high probability of harboring significant archaeological remains. She recommended that the City require Phase 2 cultural resource studies to determine whether significant deposits are present prior to approving any ground-disturbing projects within this zone. She also suggested that the City designate a single member of the planning staff to coordinate all municipal activities that relate to the Mission Vieja site; develop procedures to ensure that City departments and activities avoid impacting the site; serve as contact person regarding the Mission Vieja for all City



departments and commissions; and serve on the Mission Vieja Advisory Board. For long-term management of the Mission Vieja site, Costello recommended that the City:

- seek to acquire additional lands to incorporate more of the Mission Vieja site into City or other public ownership;
- involve a qualified historical archaeologist in local City maintenance activities or work by the Southern Pacific Railroad as well as excavation of utility lines or street construction;
- prevent unnecessary exposure of archaeological remains or Mission features that could lead to erosion, degeneration, natural deterioration, or vandalism.
- initiate a phased program of documentary and archival research;
- actively promote public awareness about the site and its importance;
- provide site interpretation for the public; and
- regularly update their information on archaeological remains of the Mission Vieja located outside of the designated archaeologically sensitive area and outside of the City limits.

Finally, she suggests that the City should ensure that any future archaeological research at the Mission Vieja occurs only under strict professional supervision and as part of a well developed research plan. For any proposal to conduct archaeological research, the City should require a detailed justification for excavation, identification of adequate funding sources, insurance of both a scholarly and public-oriented product, and adherence to the highest professional standards for excavation methods, artifact conservation, archiving, analysis, and reporting.

University Park Electric Utility Project (2002–2004)

In 2002 and 2003 Applied EarthWorks Inc. (Æ) monitored relocation of utility lines in the University Park Subdivision. Located within Costello's zone of likely Mission Vieja sensitivity, previous investigations had shown the presence of intact archaeological deposits under the University Park Subdivision. Æ confirmed that intact Mission period deposits are preserved beneath the surface, and investigated several areas with cultural deposits including a Spanish occupational midden, a Chumash village midden, and part of a stone aqueduct relating to the Mission water system. The resources are in varying states of preservation and range in depth from immediately below the road base to buried under several feet of fill.

Æ confirmed that monitoring was an effective way to detect such deposits, but recommended refinements in the procedures originally offered by Costello (1993). Æ recommended that archaeological subsurface testing should be done prior to trenching or other activities involving heavy machinery. Further, a smooth-blade bucket should be utilized to minimize impacts to previously undisturbed cultural resources. Finally, Æ confirmed that clearly intact Mission-era archaeological deposits exist outside the National Register listed mission quadrangle. Therefore, the City should continue to require archaeological monitoring within the areas of sensitivity designated by Julia Costello in her 1993 report.



Historic Resources Survey (2005)

In 2005 the Historic Resources Group (HRG) conducted a comprehensive historic resources survey and planning analysis for the City. Its purpose was to update the inventory of historic resources within the City limits, present preservation options for those resources, and make recommendations to the City on measures to protect the resources. The project was designed to answer questions about the integrity and eligibility of historic resources within the city and involved the following steps:

- General historical background and literature research, as well as property-specific research
- reconnaissance survey and photographic documentation of the study area
- Creation of a GIS database to document the results of the survey
- Numerical and spatial analysis of the survey results
- Final evaluations of the discovered and revisited resources.

The survey involved 591 parcels of land in Lompoc. As a result, 601 individual resources were identified, documented, and evaluated. All properties were evaluated according to Office of Historic Preservation standards. Four categories of resources were identified:

- Designated Landmarks
- Properties eligible for designation as a Landmark
- Properties eligible for designation as a contributor to a potential Historic District
- Properties not eligible for designation

Not all properties were evaluated for National Register eligibility. However, many properties were thought likely to be eligible for the Register. HRG suggested that these properties would benefit from additional study to determine eligibility.

At the time of the HRG survey 10 properties had been designated as City Landmarks. As a result of the survey, HRG identified 73 additional resources eligible for local landmark status. Properties were considered eligible if they had good integrity and were identified as a cultural resource in a previous study, or were constructed prior to 1900, or were excellent examples of their architectural style.

A special emphasis for the survey was to identify a potential historic district centering on the "Mile Square," the original Lompoc town site laid out in 1889. This original area is bounded by A Street on the east, O Street on the west, College Avenue on the north, and Willow Avenue on the south, with the town square at the intersection of Ocean Avenue and H Street. HRG did identify such a historic district in the heart of the original Mile Square area. The district consists of 565 parcels of land containing 578 resources. Of the 578 resources, 380 are considered contributors to the significance of the historic district. This ratio of 66% of properties contributing to the district is above the nationally accepted standard of 60%.



As part of the project HRG also assessed the City’s existing preservation program to identify the current components and evaluate their effectiveness. Using standards from the California Office of Historic Preservation, the National Park Service, and the National Trust for Historic Preservation, HRG compiled a set of recommendations to build on the City’s current efforts. These recommendations are organized by subject and summarized below.

PROPERTY DESIGNATION
<p>Potential Landmarks</p> <ul style="list-style-type: none"> • The city should use the summary appendix and database generated by the report to develop an application and evaluation process for potential city landmarks.
<p>Potential Historic District</p> <ul style="list-style-type: none"> • The historic district defined in the report should be affirmed by the city and its historic significance determined.
LANDMARKS ORDINANCE
The city should consider revision of its current Landmarks Ordinance. A reconfigured Landmarks Ordinance should include the following:
<p>Establish a Designation Process</p> <ul style="list-style-type: none"> • The city should define a formal process for landmark designation including application, nomination form, and research and documentation requirements, as well as designate a reviewing entity.
<p>Adopt Designation Criteria</p> <ul style="list-style-type: none"> • The city should adopt designation criteria for individual landmarks and historic district contributors, possibly using other municipalities’ criteria as a basis.
<p>Establish an Historic Preservation Commission</p> <ul style="list-style-type: none"> • The city should establish an adequate and qualified historic preservation review commission or reactivate the Advisory Landmarks Committee as outlined in the City’s Landmark Ordinance. The body should satisfy the requirements necessary to attain Certified Local Government status for Lompoc.
<p>Establish Design Review Guidelines</p> <ul style="list-style-type: none"> • The City should consider adopting additional design guidelines for designated landmarks and contributing structures to historic districts based upon the Secretary of the Interior’s standards. These guidelines can be tailored for specific districts. Provisions may include types of alteration that require design review, a clearly defined design review and appeal process, and a qualified historic design commission.
<p>Utilize the California State Historical Building Code</p> <ul style="list-style-type: none"> • The City should revise its ordinance to expand the use of the State Historical Building Code (SHBC) to include designated city landmarks and district contributors. Currently the SHBC is only used in the Old Town Lompoc Specific Plan Area.



HISTORIC DISTRICT ORDINANCE
The City should take steps to adopt an ordinance that relates specifically to the designation of historic districts.
OTHER REGULATIONS AND PROCEDURES
<p>Certified Local Government Status</p> <ul style="list-style-type: none"> The City should consider taking the steps necessary to qualify and apply for Certified Local Government Status.
<p>Adopt an Historic Resources Inventory</p> <ul style="list-style-type: none"> The city should use the data in this and previous reports and surveys to adopt an historic resources inventory, and develop procedures for maintaining the accuracy of the inventory by conducting surveys on a regular basis.
<p>Adopt an Historic Preservation Element</p> <ul style="list-style-type: none"> The city should consider adopting an Historic Preservation Element to its general plan to identify the community’s goals and objectives with respect to historic preservation.
PRESERVATION INCENTIVES
<p>The city should encourage and promote preexisting programs that reward or compensate individuals or groups for taking part in historic preservation. These include:</p> <ul style="list-style-type: none"> Federal tax credits Preservation easements Hart Family Fund for Small Towns Marks Historical Rehabilitation Act Proposition 40 Community development block grants
ADDITIONAL STEPS
These are additional steps HRG suggested to further promote historical preservation
<p>Administration</p> <ul style="list-style-type: none"> Establish the position of preservation officer and provide training for staff who implement Lompoc’s preservation program Review City-owned property for potential historic designation Incorporate preservation goals, objectives, and policies into annual workload priorities Provide annual training to all city staff who perform historic resources review Provide training to Historical Commission members and city staff on preservation matters Investigate ways in which historic rehabilitation projects and establishment of historic districts and facilitate community development goals
<p>Planning and Zoning</p> <ul style="list-style-type: none"> Amend the zoning code to make special exceptions for the adaptive reuse of historic properties Ensure that permits or applications are consistent with the provisions of CEQA Develop a mechanism to coordinate Section 106, CEQA, and other review procedures.



- Develop a streamlined approval process for historic properties that meet the Secretary of the Interior’s standards
- Review new construction within the potential historic district for potential impacts
- Develop guidelines for designation signage on historic resources

Community Involvement

- Encourage the development of a local historic preservation advocacy group
- Recruit commercial partners to support City preservation efforts
- Arrange for community service projects related to historic preservation
- Encourage local residents to research and nominate properties for review
- Develop a resource center for accessing information on preservation incentives
- Promote City history through walking tours
- Offer design awards for exemplary rehabilitation projects

Education

- Develop a program on local history for classroom use
- Provide training workshops for contractors in appropriate rehabilitation techniques
- Develop a bibliography of historic research related to the City’s history
- Promote the City as a tourist destination
- Promote Historic Preservation Month
- Promote historic preservation at annual cultural events

Incentives

- Develop a list of properties that may be eligible for grants or compensation for historic preservation
- Develop a brochure that explains incentives to owners of historic properties and other benefits to preservation
- Consider programs to encourage retention of original windows and other features through a revolving fund.





Appendix G

Noise Data and Worksheets

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09
 Roadway: Purisima Road west of H Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 19,500 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 4200 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Purisima Road west of H Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	70.8 dBA		19	57	122	263	567
Existing + Project	71.7 dBA		23	65	139	300	646
Future with Ambient Growth	70.8 dBA		19	57	122	263	567
Future with Ambient Growth and Project	71.7 dBA		23	65	139	300	646
Future with Ambient Growth and Cumulative Projects	70.8 dBA		19	57	122	263	567
Future with Ambient, Cumulative, and Project Growth	71.7 dBA		23	65	139	300	646
Change in Noise Levels							
Due to Project		0.8 dBA					
Due to Ambient Growth		0.0 dBA					
Due to Ambient and Cumulative		0.0 dBA					
Due to All Future Growth		0.8 dBA					

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	71.4 dBA		22	62	133	286	616
Existing + Project	72.2 dBA		26	70	151	326	702
Future with Ambient Growth	71.4 dBA		22	62	133	286	616
Future with Ambient Growth and Project	72.2 dBA		26	70	151	326	702
Future with Ambient Growth and Cumulative Projects	71.4 dBA		22	62	133	286	616
Future with Ambient, Cumulative, and Project Growth	72.2 dBA		26	70	151	326	702
Change in Noise Levels							
Due to Project		0.8 dBA					
Due to Ambient Growth		0.0 dBA					
Due to Ambient and Cumulative		0.0 dBA					
Due to All Future Growth		0.8 dBA					

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09
 Roadway: Purisima Road east of H Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 6,900 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 9300 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Purisima Road east of H Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	75	70	65	60	55	
Existing	66.3 dBA	#N/A	21	61	132	284	
Existing + Project	70.0 dBA	#N/A	50	108	233	501	
Future with Ambient Growth	66.3 dBA	#N/A	21	61	132	284	
Future with Ambient Growth and Project	70.0 dBA	#N/A	50	108	233	501	
Future with Ambient Growth and Cumulative Projects	66.3 dBA	#N/A	21	61	132	284	
Future with Ambient, Cumulative, and Project Growth	70.0 dBA	#N/A	50	108	233	501	
Change in Noise Levels							
Due to Project	3.7 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.7 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	75	70	65	60	55	
Existing	66.8 dBA	#N/A	24	66	143	308	
Existing + Project	70.6 dBA	18	54	117	253	544	
Future with Ambient Growth	66.8 dBA	#N/A	24	66	143	308	
Future with Ambient Growth and Project	70.6 dBA	18	54	117	253	544	
Future with Ambient Growth and Cumulative Projects	66.8 dBA	#N/A	24	66	143	308	
Future with Ambient, Cumulative, and Project Growth	70.6 dBA	18	54	117	253	544	
Change in Noise Levels							
Due to Project	3.7 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.7 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: H Street north of Purisima Road

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 8,800 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 4400 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: H Street north of Purisima Road

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	75	70	65	60	55	
Existing	67.4 dBA	#N/A	27	72	155	334	
Existing + Project	69.1 dBA	#N/A	41	94	203	437	
Future with Ambient Growth	67.4 dBA	#N/A	27	72	155	334	
Future with Ambient Growth and Project	69.1 dBA	#N/A	41	94	203	437	
Future with Ambient Growth and Cumulative Projects	67.4 dBA	#N/A	27	72	155	334	
Future with Ambient, Cumulative, and Project Growth	69.1 dBA	#N/A	41	94	203	437	
Change in Noise Levels							
Due to Project	1.8 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.8 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	75	70	65	60	55	
Existing	67.9 dBA	#N/A	31	78	168	362	
Existing + Project	69.7 dBA	#N/A	46	102	220	475	
Future with Ambient Growth	67.9 dBA	#N/A	31	78	168	362	
Future with Ambient Growth and Project	69.7 dBA	#N/A	46	102	220	475	
Future with Ambient Growth and Cumulative Projects	67.9 dBA	#N/A	31	78	168	362	
Future with Ambient, Cumulative, and Project Growth	69.7 dBA	#N/A	46	102	220	475	
Change in Noise Levels							
Due to Project	1.8 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.8 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: H Street north of Central Avenue

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 27,700 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 4400 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: H Street north of Central Avenue

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	69.3 dBA	#N/A	42	96	207	446	
Existing + Project	69.9 dBA	#N/A	49	106	228	492	
Future with Ambient Growth	69.3 dBA	#N/A	42	96	207	446	
Future with Ambient Growth and Project	69.9 dBA	#N/A	49	106	228	492	
Future with Ambient Growth and Cumulative Projects	69.3 dBA	#N/A	42	96	207	446	
Future with Ambient, Cumulative, and Project Growth	69.9 dBA	#N/A	49	106	228	492	
Change in Noise Levels							
Due to Project	0.6 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	0.6 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	69.8 dBA	#N/A	47	104	224	483	
Existing + Project	70.4 dBA	#N/A	53	115	247	532	
Future with Ambient Growth	69.8 dBA	#N/A	47	104	224	483	
Future with Ambient Growth and Project	70.4 dBA	#N/A	53	115	247	532	
Future with Ambient Growth and Cumulative Projects	69.8 dBA	#N/A	47	104	224	483	
Future with Ambient, Cumulative, and Project Growth	70.4 dBA	#N/A	53	115	247	532	
Change in Noise Levels							
Due to Project	0.6 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	0.6 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: H Street from North Avenue to College Avenue

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 17,600 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 1100 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: H Street from North Avenue to College Avenue

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	75	70	65	60	55	
Existing	67.3 dBA	#N/A	27	71	153	329	
Existing + Project	67.5 dBA	#N/A	28	74	159	343	
Future with Ambient Growth	67.3 dBA	#N/A	27	71	153	329	
Future with Ambient Growth and Project	67.5 dBA	#N/A	28	74	159	343	
Future with Ambient Growth and Cumulative Projects	67.3 dBA	#N/A	27	71	153	329	
Future with Ambient, Cumulative, and Project Growth	67.5 dBA	#N/A	28	74	159	343	
Change in Noise Levels							
Due to Project	0.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	0.3 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	75	70	65	60	55	
Existing	67.8 dBA	#N/A	30	77	166	357	
Existing + Project	68.1 dBA	#N/A	32	80	172	371	
Future with Ambient Growth	67.8 dBA	#N/A	30	77	166	357	
Future with Ambient Growth and Project	68.1 dBA	#N/A	32	80	172	371	
Future with Ambient Growth and Cumulative Projects	67.8 dBA	#N/A	30	77	166	357	
Future with Ambient, Cumulative, and Project Growth	68.1 dBA	#N/A	32	80	172	371	
Change in Noise Levels							
Due to Project	0.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	0.3 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: H Street from Ocean Avenue to Olive Avenue

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 13,900 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 15700 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: H Street from Ocean Avenue to Olive Avenue

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	66.3 dBA	#N/A		21	61	131	281
Existing + Project	69.5 dBA	#N/A		45	100	216	466
Future with Ambient Growth	66.3 dBA	#N/A		21	61	131	281
Future with Ambient Growth and Project	69.5 dBA	#N/A		45	100	216	466
Future with Ambient Growth and Cumulative Projects	66.3 dBA	#N/A		21	61	131	281
Future with Ambient, Cumulative, and Project Growth	69.5 dBA	#N/A		45	100	216	466
Change in Noise Levels							
Due to Project	3.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.3 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	66.8 dBA	#N/A		24	66	141	305
Existing + Project	70.1 dBA	#N/A		50	109	234	504
Future with Ambient Growth	66.8 dBA	#N/A		24	66	141	305
Future with Ambient Growth and Project	70.1 dBA	#N/A		50	109	234	504
Future with Ambient Growth and Cumulative Projects	66.8 dBA	#N/A		24	66	141	305
Future with Ambient, Cumulative, and Project Growth	70.1 dBA	#N/A		50	109	234	504
Change in Noise Levels							
Due to Project	3.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.3 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: Central Avenue from Bailey Avenue to V Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 6,000 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 500 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	55	55	55
Medium Truck	55	55	55
Heavy Truck	55	55	55

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	55	55	55
Medium Truck	55	55	55
Heavy Truck	55	55	55

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Central Avenue from Bailey Avenue to V Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	68.3 dBA	#N/A		34	83	179	385
Existing + Project	68.7 dBA	#N/A		37	88	189	406
Future with Ambient Growth	68.3 dBA	#N/A		34	83	179	385
Future with Ambient Growth and Project	68.7 dBA	#N/A		37	88	189	406
Future with Ambient Growth and Cumulative Projects	68.3 dBA	#N/A		34	83	179	385
Future with Ambient, Cumulative, and Project Growth	68.7 dBA	#N/A		37	88	189	406
Change in Noise Levels							
Due to Project	0.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	0.3 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	68.9 dBA	#N/A		38	90	195	419
Existing + Project	69.2 dBA	#N/A		42	95	205	442
Future with Ambient Growth	68.9 dBA	#N/A		38	90	195	419
Future with Ambient Growth and Project	69.2 dBA	#N/A		42	95	205	442
Future with Ambient Growth and Cumulative Projects	68.9 dBA	#N/A		38	90	195	419
Future with Ambient, Cumulative, and Project Growth	69.2 dBA	#N/A		42	95	205	442
Change in Noise Levels							
Due to Project	0.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	0.3 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: Central Avenue from V Street to O Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 8,200 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 5500 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2009

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Central Avenue from V Street to O Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	67.1 dBA	#N/A	25	69	148	318	
Existing + Project	69.3 dBA	#N/A	42	97	208	448	
Future with Ambient Growth	67.1 dBA	#N/A	25	69	148	318	
Future with Ambient Growth and Project	69.3 dBA	#N/A	42	97	208	448	
Future with Ambient Growth and Cumulative Projects	67.1 dBA	#N/A	25	69	148	318	
Future with Ambient, Cumulative, and Project Growth	69.3 dBA	#N/A	42	97	208	448	
Change in Noise Levels							
Due to Project	2.2 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.2 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	67.6 dBA	#N/A	29	74	160	346	
Existing + Project	69.8 dBA	#N/A	48	105	226	487	
Future with Ambient Growth	67.6 dBA	#N/A	29	74	160	346	
Future with Ambient Growth and Project	69.8 dBA	#N/A	48	105	226	487	
Future with Ambient Growth and Cumulative Projects	67.6 dBA	#N/A	29	74	160	346	
Future with Ambient, Cumulative, and Project Growth	69.8 dBA	#N/A	48	105	226	487	
Change in Noise Levels							
Due to Project	2.2 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.2 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: Central Avenue from O Street to L Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 13,800 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 4900 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: ATE

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Central Avenue from O Street to L Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	69.3 dBA	#N/A	43	97	209	450	
Existing + Project	70.6 dBA	18	55	119	256	551	
Future with Ambient Growth	69.3 dBA	#N/A	43	97	209	450	
Future with Ambient Growth and Project	70.6 dBA	18	55	119	256	551	
Future with Ambient Growth and Cumulative Projects	69.3 dBA	#N/A	43	97	209	450	
Future with Ambient, Cumulative, and Project Growth	70.6 dBA	18	55	119	256	551	
Change in Noise Levels							
Due to Project	1.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.3 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	69.9 dBA	#N/A	48	105	227	489	
Existing + Project	71.2 dBA	21	60	129	278	599	
Future with Ambient Growth	69.9 dBA	#N/A	48	105	227	489	
Future with Ambient Growth and Project	71.2 dBA	21	60	129	278	599	
Future with Ambient Growth and Cumulative Projects	69.9 dBA	#N/A	48	105	227	489	
Future with Ambient, Cumulative, and Project Growth	71.2 dBA	21	60	129	278	599	
Change in Noise Levels							
Due to Project	1.3 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.3 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: Central Avenue from H Street to D Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 13,000 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 1200 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Central Avenue from H Street to D Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	69.1 dBA		#N/A	40	93	201	433
Existing + Project	69.4 dBA		#N/A	44	99	213	459
Future with Ambient Growth	69.1 dBA		#N/A	40	93	201	433
Future with Ambient Growth and Project	69.4 dBA		#N/A	44	99	213	459
Future with Ambient Growth and Cumulative Projects	69.1 dBA		#N/A	40	93	201	433
Future with Ambient, Cumulative, and Project Growth	69.4 dBA		#N/A	44	99	213	459
Change in Noise Levels							
Due to Project		0.4 dBA					
Due to Ambient Growth		0.0 dBA					
Due to Ambient and Cumulative		0.0 dBA					
Due to All Future Growth		0.4 dBA					

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	69.6 dBA		#N/A	46	101	218	470
Existing + Project	70.0 dBA		#N/A	50	107	231	499
Future with Ambient Growth	69.6 dBA		#N/A	46	101	218	470
Future with Ambient Growth and Project	70.0 dBA		#N/A	50	107	231	499
Future with Ambient Growth and Cumulative Projects	69.6 dBA		#N/A	46	101	218	470
Future with Ambient, Cumulative, and Project Growth	70.0 dBA		#N/A	50	107	231	499
Change in Noise Levels							
Due to Project		0.4 dBA					
Due to Ambient Growth		0.0 dBA					
Due to Ambient and Cumulative		0.0 dBA					
Due to All Future Growth		0.4 dBA					

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: Ocean Avenue from O Street to H Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 12,100 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 10500 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Ocean Avenue from O Street to H Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	65.7 dBA	#N/A		18	55	119	257
Existing + Project	68.4 dBA	#N/A		34	84	181	389
Future with Ambient Growth	65.7 dBA	#N/A		18	55	119	257
Future with Ambient Growth and Project	68.4 dBA	#N/A		34	84	181	389
Future with Ambient Growth and Cumulative Projects	65.7 dBA	#N/A		18	55	119	257
Future with Ambient, Cumulative, and Project Growth	68.4 dBA	#N/A		34	84	181	389
Change in Noise Levels							
Due to Project	2.7 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.7 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	66.2 dBA	#N/A		21	60	129	278
Existing + Project	68.9 dBA	#N/A		39	91	196	421
Future with Ambient Growth	66.2 dBA	#N/A		21	60	129	278
Future with Ambient Growth and Project	68.9 dBA	#N/A		39	91	196	421
Future with Ambient Growth and Cumulative Projects	66.2 dBA	#N/A		21	60	129	278
Future with Ambient, Cumulative, and Project Growth	68.9 dBA	#N/A		39	91	196	421
Change in Noise Levels							
Due to Project	2.7 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.7 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: Ocean Avenue from H Street to D Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 9,300 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 5800 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Ocean Avenue from H Street to D Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	64.5 dBA	#N/A	#N/A	45	100	215	
Existing + Project	66.6 dBA	#N/A	23	64	138	297	
Future with Ambient Growth	64.5 dBA	#N/A	#N/A	45	100	215	
Future with Ambient Growth and Project	66.6 dBA	#N/A	23	64	138	297	
Future with Ambient Growth and Cumulative Projects	64.5 dBA	#N/A	#N/A	45	100	215	
Future with Ambient, Cumulative, and Project Growth	66.6 dBA	#N/A	23	64	138	297	
Change in Noise Levels							
Due to Project	2.1 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.1 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	65.0 dBA	#N/A	#N/A	50	108	233	
Existing + Project	67.1 dBA	#N/A	26	69	149	322	
Future with Ambient Growth	65.0 dBA	#N/A	#N/A	50	108	233	
Future with Ambient Growth and Project	67.1 dBA	#N/A	26	69	149	322	
Future with Ambient Growth and Cumulative Projects	65.0 dBA	#N/A	#N/A	50	108	233	
Future with Ambient, Cumulative, and Project Growth	67.1 dBA	#N/A	26	69	149	322	
Change in Noise Levels							
Due to Project	2.1 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.1 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: Ocean Avenue from A Street to 7th Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 14,800 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 11800 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	40	40	40
Medium Truck	40	40	40
Heavy Truck	40	40	40

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	40	40	40
Medium Truck	40	40	40
Heavy Truck	40	40	40

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: Ocean Avenue from A Street to 7th Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	68.1 dBA	#N/A	33	81	174	376	
Existing + Project	70.7 dBA	19	56	120	258	556	
Future with Ambient Growth	68.1 dBA	#N/A	33	81	174	376	
Future with Ambient Growth and Project	70.7 dBA	19	56	120	258	556	
Future with Ambient Growth and Cumulative Projects	68.1 dBA	#N/A	33	81	174	376	
Future with Ambient, Cumulative, and Project Growth	70.7 dBA	19	56	120	258	556	
Change in Noise Levels							
Due to Project	2.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.5 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	68.7 dBA	#N/A	37	88	189	408	
Existing + Project	71.2 dBA	21	60	130	280	603	
Future with Ambient Growth	68.7 dBA	#N/A	37	88	189	408	
Future with Ambient Growth and Project	71.2 dBA	21	60	130	280	603	
Future with Ambient Growth and Cumulative Projects	68.7 dBA	#N/A	37	88	189	408	
Future with Ambient, Cumulative, and Project Growth	71.2 dBA	21	60	130	280	603	
Change in Noise Levels							
Due to Project	2.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	2.5 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: V Street from Olive Avenue to Ocean Avenue

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 3,000 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 5300 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: V Street from Olive Avenue to Ocean Avenue

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	59.6 dBA		#N/A	#N/A	#N/A	46	101
Existing + Project	64.0 dBA		#N/A	#N/A	40	93	200
Future with Ambient Growth	59.6 dBA		#N/A	#N/A	#N/A	46	101
Future with Ambient Growth and Project	64.0 dBA		#N/A	#N/A	40	93	200
Future with Ambient Growth and Cumulative Projects	59.6 dBA		#N/A	#N/A	#N/A	46	101
Future with Ambient, Cumulative, and Project Growth	64.0 dBA		#N/A	#N/A	40	93	200
Change in Noise Levels							
Due to Project	4.4 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	4.4 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	60.1 dBA		#N/A	#N/A	#N/A	51	110
Existing + Project	64.5 dBA		#N/A	#N/A	45	100	216
Future with Ambient Growth	60.1 dBA		#N/A	#N/A	#N/A	51	110
Future with Ambient Growth and Project	64.5 dBA		#N/A	#N/A	45	100	216
Future with Ambient Growth and Cumulative Projects	60.1 dBA		#N/A	#N/A	#N/A	51	110
Future with Ambient, Cumulative, and Project Growth	64.5 dBA		#N/A	#N/A	45	100	216
Change in Noise Levels							
Due to Project	4.4 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	4.4 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: V Street from Ocean Avenue to Laurel Avenue

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 4,900 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 6100 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: V Street from Ocean Avenue to Laurel Avenue

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	61.7 dBA		#N/A	#N/A	24	65	140
Existing + Project	65.2 dBA		#N/A	#N/A	52	112	241
Future with Ambient Growth	61.7 dBA		#N/A	#N/A	24	65	140
Future with Ambient Growth and Project	65.2 dBA		#N/A	#N/A	52	112	241
Future with Ambient Growth and Cumulative Projects	61.7 dBA		#N/A	#N/A	24	65	140
Future with Ambient, Cumulative, and Project Growth	65.2 dBA		#N/A	#N/A	52	112	241
Change in Noise Levels							
Due to Project	3.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.5 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	62.2 dBA		#N/A	#N/A	27	71	152
Existing + Project	65.8 dBA		#N/A	19	56	121	261
Future with Ambient Growth	62.2 dBA		#N/A	#N/A	27	71	152
Future with Ambient Growth and Project	65.8 dBA		#N/A	19	56	121	261
Future with Ambient Growth and Cumulative Projects	62.2 dBA		#N/A	#N/A	27	71	152
Future with Ambient, Cumulative, and Project Growth	65.8 dBA		#N/A	19	56	121	261
Change in Noise Levels							
Due to Project	3.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.5 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: V Street from North Avenue to Central Avenue

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 5,500 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 5600 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: V Street from North Avenue to Central Avenue

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	62.2 dBA	#N/A	#N/A	26	70	152	
Existing + Project	65.3 dBA	#N/A	#N/A	52	112	242	
Future with Ambient Growth	62.2 dBA	#N/A	#N/A	26	70	152	
Future with Ambient Growth and Project	65.3 dBA	#N/A	#N/A	52	112	242	
Future with Ambient Growth and Cumulative Projects	62.2 dBA	#N/A	#N/A	26	70	152	
Future with Ambient, Cumulative, and Project Growth	65.3 dBA	#N/A	#N/A	52	112	242	
Change in Noise Levels							
Due to Project	3.0 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.0 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	62.7 dBA	#N/A	#N/A	30	76	164	
Existing + Project	65.8 dBA	#N/A	19	57	122	262	
Future with Ambient Growth	62.7 dBA	#N/A	#N/A	30	76	164	
Future with Ambient Growth and Project	65.8 dBA	#N/A	19	57	122	262	
Future with Ambient Growth and Cumulative Projects	62.7 dBA	#N/A	#N/A	30	76	164	
Future with Ambient, Cumulative, and Project Growth	65.8 dBA	#N/A	19	57	122	262	
Change in Noise Levels							
Due to Project	3.0 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.0 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: North Avenue from V Street to O Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 3,200 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 3900 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: North Avenue from V Street to O Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	59.9 dBA		#N/A	#N/A	#N/A	49	106
Existing + Project	63.3 dBA		#N/A	#N/A	34	83	180
Future with Ambient Growth	59.9 dBA		#N/A	#N/A	#N/A	49	106
Future with Ambient Growth and Project	63.3 dBA		#N/A	#N/A	34	83	180
Future with Ambient Growth and Cumulative Projects	59.9 dBA		#N/A	#N/A	#N/A	49	106
Future with Ambient, Cumulative, and Project Growth	63.3 dBA		#N/A	#N/A	34	83	180
Change in Noise Levels							
Due to Project	3.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.5 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	60.4 dBA		#N/A	#N/A	#N/A	53	114
Existing + Project	63.9 dBA		#N/A	#N/A	38	90	195
Future with Ambient Growth	60.4 dBA		#N/A	#N/A	#N/A	53	114
Future with Ambient Growth and Project	63.9 dBA		#N/A	#N/A	38	90	195
Future with Ambient Growth and Cumulative Projects	60.4 dBA		#N/A	#N/A	#N/A	53	114
Future with Ambient, Cumulative, and Project Growth	63.9 dBA		#N/A	#N/A	38	90	195
Change in Noise Levels							
Due to Project	3.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	3.5 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: North Avenue from V Street to O Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 6,100 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 3300 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: North Avenue from V Street to O Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	62.7 dBA	#N/A	#N/A	29	75	163	
Existing + Project	64.6 dBA	#N/A	#N/A	45	101	217	
Future with Ambient Growth	62.7 dBA	#N/A	#N/A	29	75	163	
Future with Ambient Growth and Project	64.6 dBA	#N/A	#N/A	45	101	217	
Future with Ambient Growth and Cumulative Projects	62.7 dBA	#N/A	#N/A	29	75	163	
Future with Ambient, Cumulative, and Project Growth	64.6 dBA	#N/A	#N/A	45	101	217	
Change in Noise Levels							
Due to Project	1.9 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.9 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line				
	50 feet	from road centerline	75	70	65	60	55
Existing	63.2 dBA	#N/A	#N/A	33	82	176	
Existing + Project	65.1 dBA	#N/A	#N/A	51	109	235	
Future with Ambient Growth	63.2 dBA	#N/A	#N/A	33	82	176	
Future with Ambient Growth and Project	65.1 dBA	#N/A	#N/A	51	109	235	
Future with Ambient Growth and Cumulative Projects	63.2 dBA	#N/A	#N/A	33	82	176	
Future with Ambient, Cumulative, and Project Growth	65.1 dBA	#N/A	#N/A	51	109	235	
Change in Noise Levels							
Due to Project	1.9 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.9 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update Project No. 07-61640
 Date: 17-Aug-09

Roadway: North Avenue from A Street to 7th Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM
 Distance to Receptor: 50 feet
 Site Condition (Hard or Soft): Soft
 Upgrade longer than 1 mile: 0 %
 Existing Total Traffic Volume (ADT): 2,900 vehicles
 Ambient Growth Factor: 0.0%
 Future Year : 2030
 Total Project Volume (ADT): 1200 vehicles
 Total Cumulative Growth Volume (ADT): 0 vehicles
 Source of Traffic Data: Fehr and Peers, March 2008

Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	97.5%	97.5%
Medium Truck	1.8%	1.8%	1.8%
Heavy Truck	0.7%	0.7%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Lompoc General Plan Update
 Date: 17-Aug-09

Project No. 07-61640

Roadway: North Avenue from A Street to 7th Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	59.5 dBA		#N/A	#N/A	#N/A	44	99
Existing + Project	61.0 dBA		#N/A	#N/A	20	58	125
Future with Ambient Growth	59.5 dBA		#N/A	#N/A	#N/A	44	99
Future with Ambient Growth and Project	61.0 dBA		#N/A	#N/A	20	58	125
Future with Ambient Growth and Cumulative Projects	59.5 dBA		#N/A	#N/A	#N/A	44	99
Future with Ambient, Cumulative, and Project Growth	61.0 dBA		#N/A	#N/A	20	58	125
Change in Noise Levels							
Due to Project	1.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.5 dBA						

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site		Distance to dBA Contour Line from roadway centerline, feet				
	50 feet from road centerline		75	70	65	60	55
Existing	60.0 dBA		#N/A	#N/A	#N/A	50	107
Existing + Project	61.5 dBA		#N/A	#N/A	22	63	135
Future with Ambient Growth	60.0 dBA		#N/A	#N/A	#N/A	50	107
Future with Ambient Growth and Project	61.5 dBA		#N/A	#N/A	22	63	135
Future with Ambient Growth and Cumulative Projects	60.0 dBA		#N/A	#N/A	#N/A	50	107
Future with Ambient, Cumulative, and Project Growth	61.5 dBA		#N/A	#N/A	22	63	135
Change in Noise Levels							
Due to Project	1.5 dBA						
Due to Ambient Growth	0.0 dBA						
Due to Ambient and Cumulative	0.0 dBA						
Due to All Future Growth	1.5 dBA						

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable



Appendix H






















Traffic Technical Appendix

Intersection LOS Calculations
Existing Conditions

HCM Signalized Intersection Capacity Analysis

1: Central Av & V St

4/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 									 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.85			0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3346		1770	1861		1770	1591			1743	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00			0.96	
Satd. Flow (perm)	1770	3346		1770	1861		1403	1591			1688	
Volume (vph)	5	65	37	99	356	2	127	5	168	1	3	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	68	39	104	375	2	134	5	177	1	3	3
RTOR Reduction (vph)	0	20	0	0	0	0	0	140	0	0	2	0
Lane Group Flow (vph)	5	87	0	104	377	0	134	42	0	0	5	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8				4	
Actuated Green, G (s)	0.9	25.7		6.0	30.8		11.4	11.4			11.4	
Effective Green, g (s)	0.9	27.2		6.0	32.3		11.9	11.9			11.9	
Actuated g/C Ratio	0.02	0.48		0.11	0.57		0.21	0.21			0.21	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.5	4.5			4.5	
Vehicle Extension (s)	1.5	4.5		1.5	4.5		3.0	3.0			3.0	
Lane Grp Cap (vph)	28	1594		186	1053		292	332			352	
v/s Ratio Prot	0.00	0.03		c0.06	c0.20			0.03				
v/s Ratio Perm							c0.10				0.00	
v/c Ratio	0.18	0.05		0.56	0.36		0.46	0.13			0.01	
Uniform Delay, d1	27.7	8.0		24.3	6.8		19.8	18.4			17.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	1.1	0.0		2.1	0.4		1.1	0.2			0.0	
Delay (s)	28.8	8.1		26.4	7.1		20.9	18.5			18.0	
Level of Service	C	A		C	A		C	B			B	
Approach Delay (s)		9.0			11.3			19.6			18.0	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM Average Control Delay			13.9			HCM Level of Service					B	
HCM Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			57.1			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			39.2%			ICU Level of Service					A	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis
 2: North Av & V St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	24	27	26	49	21	19	22	196	27	26	140	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	29	28	53	23	21	24	213	29	28	152	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	84	97	266	192								
Volume Left (vph)	26	53	24	28								
Volume Right (vph)	28	21	29	12								
Hadj (s)	-0.11	0.02	-0.01	0.03								
Departure Headway (s)	5.0	5.1	4.6	4.7								
Degree Utilization, x	0.12	0.14	0.34	0.25								
Capacity (veh/h)	642	633	749	720								
Control Delay (s)	8.7	9.0	10.0	9.3								
Approach Delay (s)	8.7	9.0	10.0	9.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				9.4								
HCM Level of Service				A								
Intersection Capacity Utilization				31.0%	ICU Level of Service							A
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

3: Pine Av & V St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	4	11	35	4	25	9	229	31	27	222	1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	5	5	14	44	5	32	11	290	39	34	281	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	716	702	282	699	683	309	282			329		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	716	702	282	699	683	309	282			329		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	98	87	99	96	99			97		
cM capacity (veh/h)	317	349	757	335	358	731	1280			1230		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	81	341	316
Volume Left	5	44	11	34
Volume Right	14	32	39	1
cSH	492	427	1280	1230
Volume to Capacity	0.05	0.19	0.01	0.03
Queue Length 95th (ft)	4	17	1	2
Control Delay (s)	12.7	15.4	0.3	1.1
Lane LOS	B	C	A	A
Approach Delay (s)	12.7	15.4	0.3	1.1
Approach LOS	B	C		

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

4: College Av & V St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	60	95	21	22	84	19	10	152	25	18	171	83
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	71	113	25	26	100	23	12	181	30	21	204	99

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	210	149	223	324
Volume Left (vph)	71	26	12	21
Volume Right (vph)	25	23	30	99
Hadj (s)	0.03	-0.02	-0.04	-0.14
Departure Headway (s)	5.7	5.8	5.4	5.2
Degree Utilization, x	0.33	0.24	0.34	0.47
Capacity (veh/h)	573	553	603	651
Control Delay (s)	11.5	10.5	11.2	12.6
Approach Delay (s)	11.5	10.5	11.2	12.6
Approach LOS	B	B	B	B

Intersection Summary			
Delay		11.7	
HCM Level of Service		B	
Intersection Capacity Utilization	43.2%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

5: Laurel Av & V St

4/14/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	25	38	149	24	48	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	41	162	26	52	147
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total (vph)	68	188	199			
Volume Left (vph)	27	0	52			
Volume Right (vph)	41	26	0			
Hadj (s)	-0.25	-0.05	0.09			
Departure Headway (s)	4.5	4.2	4.3			
Degree Utilization, x	0.09	0.22	0.24			
Capacity (veh/h)	731	827	801			
Control Delay (s)	7.9	8.4	8.7			
Approach Delay (s)	7.9	8.4	8.7			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.5			
HCM Level of Service			A			
Intersection Capacity Utilization			32.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6

Cycle (sec): 100 Critical Vol./Cap.(X): 0.355
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 11.4
Optimal Cycle: 0 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module:AM
Table with 12 columns representing different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module:
Table with 12 columns. Rows include Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:
Table with 12 columns. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Unsignalized Intersection Capacity Analysis

7: Ocean Av & R St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↶↷			↕			↕	
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Volume (veh/h)	26	259	4	16	285	32	3	28	43	39	28	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	282	4	17	310	35	3	30	47	42	30	52
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	1191											
pX, platoon unblocked												
vC, conflicting volume	345			286			597	720	143	621	704	172
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	345			286			597	720	143	621	704	172
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			99	91	95	87	91	94
cM capacity (veh/h)	1211			1273			329	340	879	319	347	841

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	28	188	98	17	207	138	80	125
Volume Left	28	0	0	17	0	0	3	42
Volume Right	0	0	4	0	0	35	47	52
cSH	1211	1700	1700	1273	1700	1700	527	442
Volume to Capacity	0.02	0.11	0.06	0.01	0.12	0.08	0.15	0.28
Queue Length 95th (ft)	2	0	0	1	0	0	13	29
Control Delay (s)	8.0	0.0	0.0	7.9	0.0	0.0	13.1	16.3
Lane LOS	A			A			B	C
Approach Delay (s)	0.7			0.4			13.1	16.3
Approach LOS							B	C

Intersection Summary

Average Delay	3.9	
Intersection Capacity Utilization	35.5%	ICU Level of Service A
Analysis Period (min)	15	

HCM Signalized Intersection Capacity Analysis

8: Central Av & O St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3513		1770	3509		1770	1863	1583	1770	3238	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3513		1770	3509		1770	1863	1583	1770	3238	
Volume (vph)	22	246	13	83	307	18	99	18	203	12	12	16
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	267	14	90	334	20	108	20	221	13	13	17
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	144	0	12	0
Lane Group Flow (vph)	24	279	0	90	351	0	108	20	77	13	18	0
Turn Type	Prot		Prot		Prot		Perm		Prot			
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8					
Actuated Green, G (s)	0.9	8.8		3.7	11.6		4.0	15.8	15.8	0.8	12.6	
Effective Green, g (s)	0.4	9.3		3.2	12.1		3.5	15.5	15.5	0.3	12.3	
Actuated g/C Ratio	0.01	0.21		0.07	0.27		0.08	0.35	0.35	0.01	0.28	
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.7	3.7	3.5	3.7	
Vehicle Extension (s)	2.0	3.5		2.0	3.5		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	16	737		128	958		140	652	554	12	899	
v/s Ratio Prot	0.01	0.08		c0.05	c0.10		c0.06	0.01		0.01	0.01	
v/s Ratio Perm							c0.05					
v/c Ratio	1.50	0.38		0.70	0.37		0.77	0.03	0.14	1.08	0.02	
Uniform Delay, d1	21.9	15.0		20.1	13.0		20.0	9.5	9.8	22.0	11.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	410.1	0.4		13.3	0.3		20.9	0.0	0.2	289.8	0.0	
Delay (s)	432.1	15.4		33.4	13.3		40.9	9.5	10.0	311.8	11.6	
Level of Service	F	B		C	B		D	A	B	F	B	
Approach Delay (s)	48.2		17.4		19.5		102.4					
Approach LOS	D		B		B		F					

Intersection Summary

HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 9: North Av & O St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	51	57	41	31	80	42	33	204	55	35	206	33
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	56	63	45	34	88	46	36	224	60	38	226	36

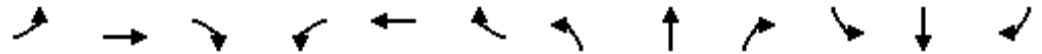
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	87	76	168	148	173	152	149
Volume Left (vph)	56	0	34	36	0	38	0
Volume Right (vph)	0	45	46	0	60	0	36
Hadj (s)	0.35	-0.38	-0.09	0.16	-0.21	0.16	-0.14
Departure Headway (s)	6.8	6.0	6.2	6.1	5.8	6.2	5.9
Degree Utilization, x	0.16	0.13	0.29	0.25	0.28	0.26	0.24
Capacity (veh/h)	490	547	536	560	594	554	583
Control Delay (s)	9.9	8.7	11.8	10.0	9.7	10.1	9.5
Approach Delay (s)	9.4		11.8	9.9		9.8	
Approach LOS	A		B	A		A	

Intersection Summary	
Delay	10.1
HCM Level of Service	B
Intersection Capacity Utilization	41.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: Pine Av & O St

4/14/2009
























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	22	50	14	40	62	32	21	229	45	26	229	11
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	25	57	16	46	71	37	24	263	52	30	263	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	99	154	339	306
Volume Left (vph)	25	46	24	30
Volume Right (vph)	16	37	52	13
Hadj (s)	-0.01	-0.05	-0.04	0.03
Departure Headway (s)	5.9	5.7	5.1	5.2
Degree Utilization, x	0.16	0.24	0.48	0.44
Capacity (veh/h)	532	559	668	658
Control Delay (s)	10.0	10.5	12.6	12.2
Approach Delay (s)	10.0	10.5	12.6	12.2
Approach LOS	A	B	B	B

Intersection Summary			
Delay		11.8	
HCM Level of Service		B	
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 11: College Av & O St

4/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Volume (vph)	45	134	7	35	69	67	18	205	45	77	238	34
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	60	179	9	47	92	89	24	273	60	103	317	45
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	60	188	47	181	297	60	103	363				
Volume Left (vph)	60	0	47	0	24	0	103	0				
Volume Right (vph)	0	9	0	89	0	60	0	45				
Hadj (s)	0.53	0.00	0.53	-0.31	0.07	-0.67	0.53	-0.05				
Departure Headway (s)	7.8	7.3	7.9	7.0	6.9	6.2	7.2	6.6				
Degree Utilization, x	0.13	0.38	0.10	0.35	0.57	0.10	0.21	0.67				
Capacity (veh/h)	431	465	426	468	498	552	479	523				
Control Delay (s)	10.8	13.5	10.6	12.6	17.5	8.7	10.9	20.6				
Approach Delay (s)	12.8		12.2		16.0		18.5					
Approach LOS	B		B		C		C					
Intersection Summary												
Delay			15.6									
HCM Level of Service			C									
Intersection Capacity Utilization			50.8%		ICU Level of Service		A					
Analysis Period (min)			15									

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12

Cycle (sec): 100 Critical Vol./Cap.(X): 0.562
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 14.0
Optimal Cycle: 0 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module:AM
Table with 12 columns representing different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module:
Table with 12 columns. Rows include Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:
Table with 12 columns. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Signalized Intersection Capacity Analysis

13: Ocean Av & O St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3458		1770	3481		1770	1821		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.63	1.00		0.58	1.00	1.00
Satd. Flow (perm)	1770	3458		1770	3481		1178	1821		1073	1863	1583
Volume (vph)	17	264	48	22	250	31	74	169	29	87	168	44
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	20	314	57	26	298	37	88	201	35	104	200	52
RTOR Reduction (vph)	0	16	0	0	10	0	0	7	0	0	0	40
Lane Group Flow (vph)	20	355	0	26	325	0	88	229	0	104	200	12
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Actuated Green, G (s)	0.8	13.2		0.8	13.2		8.8	8.8		8.8	8.8	8.8
Effective Green, g (s)	4.8	13.4		4.8	13.4		9.5	9.5		9.5	9.5	9.5
Actuated g/C Ratio	0.12	0.34		0.12	0.34		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	8.0	4.2		8.0	4.2		4.7	4.7		4.7	4.7	4.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	214	1167		214	1175		282	436		257	446	379
v/s Ratio Prot	0.01	c0.10		c0.01	0.09			c0.13			0.11	
v/s Ratio Perm							0.07			0.10		0.01
v/c Ratio	0.09	0.30		0.12	0.28		0.31	0.53		0.40	0.45	0.03
Uniform Delay, d1	15.5	9.7		15.6	9.6		12.4	13.1		12.7	12.9	11.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.1	0.0		0.6	1.1		1.0	0.7	0.0
Delay (s)	15.6	9.8		15.7	9.7		13.0	14.3		13.8	13.6	11.6
Level of Service	B	A		B	A		B	B		B	B	B
Approach Delay (s)		10.1			10.1			13.9			13.3	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	39.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

14: Ocean Av & I St

4/14/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3525		1770	3515		1770	1689		1770	1819	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3525		1770	3515		1774	1689		1774	1819	
Volume (vph)	5	337	9	66	322	15	12	12	19	10	23	4
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	6	401	11	79	383	18	14	14	23	12	27	5
RTOR Reduction (vph)	0	1	0	0	2	0	0	21	0	0	5	0
Lane Group Flow (vph)	6	411	0	79	399	0	14	16	0	12	27	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8				4	
Actuated Green, G (s)	1.4	35.3		4.4	38.3		4.0	4.0		4.0	4.0	
Effective Green, g (s)	1.1	35.8		4.1	38.8		4.2	4.2		4.2	4.2	
Actuated g/C Ratio	0.02	0.64		0.07	0.69		0.07	0.07		0.07	0.07	
Clearance Time (s)	3.7	4.5		3.7	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	35	2249		129	2431		133	126		133	136	
v/s Ratio Prot	0.00	c0.12		c0.04	c0.11			0.01			c0.02	
v/s Ratio Perm							0.01			0.01		
v/c Ratio	0.17	0.18		0.61	0.16		0.11	0.12		0.09	0.20	
Uniform Delay, d1	27.1	4.2		25.2	3.0		24.2	24.2		24.2	24.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.0		5.9	0.0		0.3	0.4		0.3	0.7	
Delay (s)	27.9	4.2		31.2	3.0		24.5	24.7		24.5	25.1	
Level of Service	C	A		C	A		C	C		C	C	
Approach Delay (s)		4.5			7.7			24.6			24.9	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			8.0	HCM Level of Service				A				
HCM Volume to Capacity ratio			0.23									
Actuated Cycle Length (s)			56.1	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			30.6%	ICU Level of Service				A				
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis
 15: Olive Av & I St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	13	70	14	9	40	2	7	45	2	13	40	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	14	73	15	9	42	2	7	47	2	14	42	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	101	53	56	61
Volume Left (vph)	14	9	7	14
Volume Right (vph)	15	2	2	6
Hadj (s)	-0.03	0.05	0.04	0.02
Departure Headway (s)	4.2	4.3	4.3	4.3
Degree Utilization, x	0.12	0.06	0.07	0.07
Capacity (veh/h)	830	794	789	799
Control Delay (s)	7.8	7.6	7.7	7.7
Approach Delay (s)	7.8	7.6	7.7	7.7
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.7	
HCM Level of Service		A	
Intersection Capacity Utilization	18.4%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis
 16: Highway 1 & Harris Grade Rd

4/14/2009





























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3485		1610	3294	1583	1770	1863	1583
Flt Permitted	0.66	1.00	1.00	0.51	1.00		0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1228	3539	1583	944	3485		1610	3294	1583	1770	1863	1583
Volume (vph)	22	135	714	131	114	13	684	243	86	42	307	35
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor (vph)	300%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	76	155	821	151	131	15	786	279	99	48	353	40
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	76	155	821	151	138	0	393	672	99	48	353	40
Turn Type	pm+pt		Free	pm+pt			Split		Free	Split		Free
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4		Free	8					Free			Free
Actuated Green, G (s)	17.7	9.4	95.2	24.3	12.7		30.1	30.1	95.2	20.1	20.1	95.2
Effective Green, g (s)	21.7	11.4	95.2	28.3	14.7		32.1	32.1	95.2	22.1	22.1	95.2
Actuated g/C Ratio	0.23	0.12	1.00	0.30	0.15		0.34	0.34	1.00	0.23	0.23	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	339	424	1583	399	538		543	1111	1583	411	432	1583
v/s Ratio Prot	0.02	0.04		0.05	0.04		c0.24	0.20		0.03	c0.19	
v/s Ratio Perm	0.03		c0.52	0.06					0.06			0.03
v/c Ratio	0.22	0.37	0.52	0.38	0.26		0.72	0.60	0.06	0.12	0.82	0.03
Uniform Delay, d1	29.6	38.6	0.0	25.8	35.4		27.7	26.3	0.0	28.8	34.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.5	1.2	0.6	0.3		4.8	0.9	0.1	0.1	11.4	0.0
Delay (s)	30.0	39.1	1.2	26.4	35.7		32.4	27.2	0.1	29.0	46.0	0.0
Level of Service	C	D	A	C	D		C	C	A	C	D	A
Approach Delay (s)		8.9			31.0			26.7			40.0	
Approach LOS		A			C			C			D	
Intersection Summary												
HCM Average Control Delay			22.7			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			95.2			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			59.4%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St

4/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.87		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3093		1770	3539	1583	1770	3461		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3093		1770	3539	1583	1770	3461		1770	3539	1583
Volume (vph)	297	31	164	110	148	241	90	482	83	243	732	191
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	316	33	174	117	157	256	96	513	88	259	779	203
RTOR Reduction (vph)	0	139	0	0	0	217	0	11	0	0	0	129
Lane Group Flow (vph)	316	68	0	117	157	39	96	590	0	259	779	74
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	10.7	12.3		7.5	9.1	9.1	6.8	17.4		14.0	24.6	24.6
Effective Green, g (s)	10.4	13.6		7.2	10.4	10.4	6.5	17.9		13.7	25.1	25.1
Actuated g/C Ratio	0.15	0.20		0.11	0.15	0.15	0.10	0.26		0.20	0.37	0.37
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	522	615		186	538	241	168	906		355	1299	581
v/s Ratio Prot	c0.09	c0.02		0.07	c0.04		0.05	0.17		c0.15	c0.22	
v/s Ratio Perm						0.02						0.05
v/c Ratio	0.61	0.11		0.63	0.29	0.16	0.57	0.65		0.73	0.60	0.13
Uniform Delay, d1	27.1	22.4		29.3	25.7	25.2	29.6	22.5		25.6	17.6	14.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.1		4.7	0.3	0.3	2.9	1.3		6.2	0.5	0.0
Delay (s)	28.4	22.5		34.0	26.0	25.5	32.5	23.8		31.9	18.1	14.4
Level of Service	C	C		C	C	C	C	C		C	B	B
Approach Delay (s)		26.1			27.6			25.0			20.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			23.7				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			68.4				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			55.3%				ICU Level of Service				B	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

18: Barton Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1811	1583		1696		1770	3527		1770	3539	1583
Flt Permitted		0.86	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1609	1583		1618		1770	3527		1770	3539	1583
Volume (vph)	43	32	81	9	16	39	43	633	15	8	744	55
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	49	37	93	10	18	45	49	728	17	9	855	63
RTOR Reduction (vph)	0	0	81	0	39	0	0	1	0	0	0	24
Lane Group Flow (vph)	0	86	12	0	34	0	49	744	0	9	855	39
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)		7.1	7.1		7.1		3.5	38.2		1.2	35.9	35.9
Effective Green, g (s)		7.3	7.3		7.3		3.2	38.7		0.9	36.4	36.4
Actuated g/C Ratio		0.12	0.12		0.12		0.05	0.66		0.02	0.62	0.62
Clearance Time (s)		4.2	4.2		4.2		3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		199	196		201		96	2317		27	2187	978
v/s Ratio Prot							c0.03	0.21		0.01	c0.24	
v/s Ratio Perm		c0.05	0.01		0.02							0.02
v/c Ratio		0.43	0.06		0.17		0.51	0.32		0.33	0.39	0.04
Uniform Delay, d1		23.9	22.8		23.1		27.1	4.4		28.7	5.7	4.4
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.5	0.1		0.4		4.5	0.1		7.2	0.1	0.0
Delay (s)		25.4	22.9		23.5		31.6	4.5		35.9	5.8	4.4
Level of Service		C	C		C		C	A		D	A	A
Approach Delay (s)		24.1			23.5			6.1			6.0	
Approach LOS		C			C			A			A	

Intersection Summary

HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	58.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

19: North Av & H St

4/14/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3477		1770	3506	
Flt Permitted	0.61	1.00	1.00	0.63	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1134	1863	1583	1175	1863	1583	1770	3477		1770	3506	
Volume (vph)	71	113	61	72	114	50	30	489	65	38	622	41
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	85	135	73	86	136	60	36	582	77	45	740	49
RTOR Reduction (vph)	0	0	64	0	0	53	0	7	0	0	3	0
Lane Group Flow (vph)	85	135	9	86	136	7	36	652	0	45	786	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	12.1	7.0	7.0	11.9	6.9	6.9	2.6	31.5		2.8	31.7	
Effective Green, g (s)	13.1	7.5	7.5	12.9	7.4	7.4	2.3	32.0		2.5	32.2	
Actuated g/C Ratio	0.21	0.12	0.12	0.20	0.12	0.12	0.04	0.50		0.04	0.51	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	290	220	187	290	217	184	64	1752		70	1778	
v/s Ratio Prot	c0.03	0.07		0.03	c0.07		0.02	0.19		c0.03	c0.22	
v/s Ratio Perm	0.03		0.01	0.03		0.00						
v/c Ratio	0.29	0.61	0.05	0.30	0.63	0.04	0.56	0.37		0.64	0.44	
Uniform Delay, d1	21.0	26.6	24.8	21.2	26.7	24.9	30.1	9.6		30.1	9.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	4.3	0.1	0.4	4.8	0.1	6.6	0.0		14.1	0.1	
Delay (s)	21.4	30.9	24.9	21.6	31.6	25.0	36.7	9.7		44.2	10.0	
Level of Service	C	C	C	C	C	C	D	A		D	B	
Approach Delay (s)		26.7			27.1			11.1			11.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			15.7				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			63.5				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			42.5%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pine Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↱		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1799		1770	3499		1770	3499	
Flt Permitted	0.43	1.00	1.00	0.67	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	799	1863	1583	1256	1799		1770	3499		1770	3499	
Volume (vph)	109	99	37	89	101	30	17	520	42	31	703	58
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	142	129	48	116	131	39	22	675	55	40	913	75
RTOR Reduction (vph)	0	0	38	0	12	0	0	5	0	0	5	0
Lane Group Flow (vph)	142	129	10	116	158	0	22	725	0	40	983	0
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	20.7	13.0	13.0	15.3	10.3		2.0	29.0		2.4	29.4	
Effective Green, g (s)	21.1	13.2	13.2	15.7	10.5		1.7	29.5		2.1	29.9	
Actuated g/C Ratio	0.32	0.20	0.20	0.24	0.16		0.03	0.45		0.03	0.45	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	372	373	317	339	286		46	1564		56	1585	
v/s Ratio Prot	c0.05	0.07		0.03	c0.09		0.01	0.21		c0.02	c0.28	
v/s Ratio Perm	0.08		0.01	0.05								
v/c Ratio	0.38	0.35	0.03	0.34	0.55		0.48	0.46		0.71	0.62	
Uniform Delay, d1	16.8	22.7	21.2	20.5	25.6		31.7	12.7		31.7	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.4	0.0	0.4	1.9		2.8	0.1		30.0	0.5	
Delay (s)	17.3	23.1	21.3	21.0	27.4		34.5	12.8		61.6	14.3	
Level of Service	B	C	C	C	C		C	B		E	B	
Approach Delay (s)		20.2			24.8			13.4			16.1	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

21: College Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↓		↰	↑↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3495		1770	3463	
Flt Permitted	0.28	1.00	1.00	0.54	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	514	1863	1583	1015	1863	1583	1770	3495		1770	3463	
Volume (vph)	124	152	54	65	182	29	60	413	38	43	665	111
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	168	205	73	88	246	39	81	558	51	58	899	150
RTOR Reduction (vph)	0	0	59	0	0	33	0	5	0	0	10	0
Lane Group Flow (vph)	168	205	14	88	246	6	81	604	0	58	1039	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	22.8	14.3	14.3	17.6	11.7	11.7	6.5	37.1		4.4	35.0	
Effective Green, g (s)	23.2	14.5	14.5	18.0	11.9	11.9	6.2	37.6		4.1	35.5	
Actuated g/C Ratio	0.30	0.19	0.19	0.23	0.15	0.15	0.08	0.48		0.05	0.45	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	292	345	293	292	283	241	140	1678		93	1570	
v/s Ratio Prot	c0.06	0.11		0.02	c0.13		c0.05	0.17		0.03	c0.30	
v/s Ratio Perm	0.11		0.01	0.05		0.00						
v/c Ratio	0.58	0.59	0.05	0.30	0.87	0.02	0.58	0.36		0.62	0.66	
Uniform Delay, d1	22.0	29.2	26.2	24.5	32.4	28.3	34.8	12.8		36.3	16.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	2.3	0.0	0.4	23.3	0.0	3.6	0.0		9.0	0.8	
Delay (s)	24.3	31.5	26.3	24.9	55.7	28.3	38.4	12.8		45.4	17.5	
Level of Service	C	C	C	C	E	C	D	B		D	B	
Approach Delay (s)		27.9			45.6			15.8			19.0	
Approach LOS		C			D			B			B	

Intersection Summary

HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

22: Laurel Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1761			1766		1770	3532		1770	3469	
Flt Permitted		0.87			0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1565			1593		1770	3532		1770	3469	
Volume (vph)	53	43	34	21	38	25	17	591	8	36	613	94
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	69	56	44	27	49	32	22	768	10	47	796	122
RTOR Reduction (vph)	0	18	0	0	21	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	151	0	0	87	0	22	778	0	47	910	0
Turn Type	pm+pt			pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.5			7.5		1.1	28.3		2.8	30.0	
Effective Green, g (s)		7.7			7.7		0.8	28.8		2.5	30.5	
Actuated g/C Ratio		0.15			0.15		0.02	0.56		0.05	0.60	
Clearance Time (s)		4.2			4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)		2.5			2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)		236			241		28	1995		87	2075	
v/s Ratio Prot							0.01	0.22		c0.03	c0.26	
v/s Ratio Perm		c0.10			0.05							
v/c Ratio		0.64			0.36		0.79	0.39		0.54	0.44	
Uniform Delay, d1		20.3			19.4		25.0	6.2		23.7	5.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.2			0.7		78.1	0.0		3.6	0.1	
Delay (s)		25.5			20.1		103.1	6.2		27.3	5.6	
Level of Service		C			C		F	A		C	A	
Approach Delay (s)		25.5			20.1			8.9			6.7	
Approach LOS		C			C			A			A	

Intersection Summary

HCM Average Control Delay	9.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

23: Ocean Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	1770	3515		1770	3539	1583	1770	1820		1681	1732	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.59	1.00		0.41	0.69	1.00
Satd. Flow (perm)	1770	3515		1770	3539	1583	1103	1820		724	1215	1583
Volume (vph)	82	291	14	20	230	97	13	153	27	260	133	144
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	90	320	15	22	253	107	14	168	30	286	146	158
RTOR Reduction (vph)	0	3	0	0	0	76	0	6	0	0	0	105
Lane Group Flow (vph)	90	332	0	22	253	31	14	192	0	174	258	53
Turn Type	Prot			Prot		Perm pm+pt				pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	4.3	19.8		0.9	16.4	16.4	12.3	11.5		23.9	23.9	18.9
Effective Green, g (s)	4.0	20.0		0.6	16.6	16.6	12.7	11.7		24.1	24.1	19.1
Actuated g/C Ratio	0.07	0.35		0.01	0.29	0.29	0.22	0.21		0.43	0.43	0.34
Clearance Time (s)	3.7	4.2		3.7	4.2	4.2	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	125	1240		19	1036	463	259	376		450	593	533
v/s Ratio Prot	c0.05	c0.09		0.01	0.07		0.00	0.11		0.06	c0.06	
v/s Ratio Perm						0.02	0.01			0.11	c0.12	0.03
v/c Ratio	0.72	0.27		1.16	0.24	0.07	0.05	0.51		0.39	0.44	0.10
Uniform Delay, d1	25.8	13.1		28.1	15.3	14.5	17.2	20.0		10.8	11.5	12.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.2	0.0		260.5	0.0	0.0	0.1	1.2		0.6	0.5	0.1
Delay (s)	41.0	13.2		288.6	15.3	14.5	17.3	21.1		11.3	12.0	13.0
Level of Service	D	B		F	B	B	B	C		B	B	B
Approach Delay (s)		19.1			30.8			20.9			12.1	
Approach LOS		B			C			C			B	

Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	27	160	29	30	205	98	24	105	28	57	86	24
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	34	200	36	38	256	122	30	131	35	71	108	30

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	270	416	196	209
Volume Left (vph)	34	38	30	71
Volume Right (vph)	36	123	35	30
Hadj (s)	-0.02	-0.12	-0.04	0.02
Departure Headway (s)	6.0	5.6	6.4	6.4
Degree Utilization, x	0.45	0.65	0.35	0.37
Capacity (veh/h)	550	609	492	489
Control Delay (s)	13.8	18.6	12.7	13.1
Approach Delay (s)	13.8	18.6	12.7	13.1
Approach LOS	B	C	B	B

Intersection Summary			
Delay		15.3	
HCM Level of Service		C	
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 25: Central Av & A St

4/14/2009



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	14	295	379	19	62	36
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	16	335	431	22	70	41
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total (vph)	16	335	431	22	111	
Volume Left (vph)	16	0	431	0	0	
Volume Right (vph)	0	335	0	0	41	
Hadj (s)	0.53	-0.67	0.53	0.03	-0.19	
Departure Headway (s)	6.7	5.5	6.2	5.7	5.9	
Degree Utilization, x	0.03	0.51	0.74	0.03	0.18	
Capacity (veh/h)	503	611	564	602	564	
Control Delay (s)	8.7	13.0	23.9	7.7	10.2	
Approach Delay (s)	12.8		23.2		10.2	
Approach LOS	B		C		B	
Intersection Summary						
Delay			17.6			
HCM Level of Service			C			
Intersection Capacity Utilization			37.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	59	91	68	37	103	44	89	215	18	37	321	69
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	74	114	85	46	129	55	111	269	22	46	401	86

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	273	230	246	157	247	287
Volume Left (vph)	74	46	111	0	46	0
Volume Right (vph)	85	55	0	23	0	86
Hadj (s)	-0.10	-0.07	0.26	-0.07	0.13	-0.18
Departure Headway (s)	7.0	7.2	7.7	7.3	7.3	7.0
Degree Utilization, x	0.53	0.46	0.52	0.32	0.50	0.56
Capacity (veh/h)	471	449	442	464	472	486
Control Delay (s)	17.7	16.2	17.6	12.5	16.4	17.4
Approach Delay (s)	17.7	16.2	15.6		16.9	
Approach LOS	C	C	C		C	

Intersection Summary

Delay	16.6
HCM Level of Service	C
Intersection Capacity Utilization	49.6%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 27: Pine Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	109	22	34	116	30	24	265	32	32	368	36
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	38	140	28	44	149	38	31	340	41	41	472	46

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	206	231	201	211	277	282
Volume Left (vph)	38	44	31	0	41	0
Volume Right (vph)	28	38	0	41	0	46
Hadj (s)	-0.01	-0.03	0.11	-0.10	0.11	-0.08
Departure Headway (s)	7.1	7.0	7.2	7.0	7.0	6.8
Degree Utilization, x	0.40	0.45	0.40	0.41	0.54	0.53
Capacity (veh/h)	461	478	467	490	497	503
Control Delay (s)	14.8	15.4	13.8	13.6	16.7	16.1
Approach Delay (s)	14.8	15.4	13.7		16.4	
Approach LOS	B	C	B		C	

Intersection Summary	
Delay	15.2
HCM Level of Service	C
Intersection Capacity Utilization	44.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 28: College Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	43	110	40	22	126	15	46	231	15	15	347	62
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	55	141	51	28	162	19	59	296	19	19	445	79

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	247	209	207	167	242	302
Volume Left (vph)	55	28	59	0	19	0
Volume Right (vph)	51	19	0	19	0	79
Hadj (s)	-0.05	0.01	0.18	-0.05	0.07	-0.15
Departure Headway (s)	6.8	7.0	7.3	7.1	7.0	6.7
Degree Utilization, x	0.47	0.41	0.42	0.33	0.47	0.56
Capacity (veh/h)	480	469	461	480	498	508
Control Delay (s)	15.8	14.7	14.3	12.3	14.7	16.9
Approach Delay (s)	15.8	14.7	13.4		15.9	
Approach LOS	C	B	B		C	

Intersection Summary	
Delay	15.0
HCM Level of Service	C
Intersection Capacity Utilization	47.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.98	1.00
Satd. Flow (prot)	1770	3491		1770	3461			1843	1583		1827	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.88	1.00		0.76	1.00
Satd. Flow (perm)	1770	3491		1770	3461			1631	1583		1409	1583
Volume (vph)	63	423	42	47	300	52	52	194	67	115	175	81
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	69	465	46	52	330	57	57	213	74	126	192	89
RTOR Reduction (vph)	0	5	0	0	8	0	0	0	47	0	0	57
Lane Group Flow (vph)	69	506	0	52	379	0	0	270	27	0	318	32
Turn Type	Prot		Prot		pm+pt		Perm		pm+pt		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	4.2	14.6		2.5	13.4			15.8	15.8		15.8	15.8
Effective Green, g (s)	3.9	14.8		2.7	13.6			16.5	16.5		16.5	16.5
Actuated g/C Ratio	0.08	0.32		0.06	0.30			0.36	0.36		0.36	0.36
Clearance Time (s)	3.7	4.2		4.2	4.2			4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	150	1123		104	1023			585	568		505	568
v/s Ratio Prot	c0.04	c0.14		0.03	0.11							
v/s Ratio Perm								0.17	0.02		c0.23	0.02
v/c Ratio	0.46	0.45		0.50	0.37			0.46	0.05		0.63	0.06
Uniform Delay, d1	20.0	12.4		21.0	12.8			11.3	9.6		12.2	9.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2	0.3		3.7	0.2			0.6	0.0		2.5	0.0
Delay (s)	22.3	12.7		24.7	13.0			11.9	9.7		14.7	9.7
Level of Service	C	B		C	B			B	A		B	A
Approach Delay (s)		13.8			14.4			11.4			13.6	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	46.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

30: Laurel Av & 7th St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	8	17	12	15	8	21	6	85	19	91	152	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	18	13	16	9	23	7	92	21	99	165	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	40	48	120	265
Volume Left (vph)	9	16	7	99
Volume Right (vph)	13	23	21	1
Hadj (s)	-0.12	-0.18	-0.06	0.11
Departure Headway (s)	4.7	4.6	4.3	4.4
Degree Utilization, x	0.05	0.06	0.14	0.32
Capacity (veh/h)	695	706	797	801
Control Delay (s)	8.0	7.9	8.1	9.4
Approach Delay (s)	8.0	7.9	8.1	9.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.8	
HCM Level of Service		A	
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

31: Ocean Av & 7th St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↑	↗	↗	↘	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3512		1770	3478		1770	1863	1583	1770	1723	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1770	3512		1770	3478		1287	1863	1583	1341	1723	
Volume (vph)	61	471	26	15	316	41	40	52	63	88	47	47
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	512	28	16	343	45	43	57	68	96	51	51
RTOR Reduction (vph)	0	5	0	0	15	0	0	0	51	0	38	0
Lane Group Flow (vph)	66	535	0	16	373	0	43	57	17	96	64	0
Turn Type	Prot		Prot			Perm		Perm	Perm	Perm		
Protected Phases	5	2		1	6			8				4
Permitted Phases							8		8		4	
Actuated Green, G (s)	2.2	11.1		0.8	9.7		8.1	8.1	8.1	8.1	8.1	
Effective Green, g (s)	1.9	12.0		0.5	10.6		8.3	8.3	8.3	8.3	8.3	
Actuated g/C Ratio	0.06	0.37		0.02	0.32		0.25	0.25	0.25	0.25	0.25	
Clearance Time (s)	3.7	4.9		3.7	4.9		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	103	1285		27	1124		326	471	401	339	436	
v/s Ratio Prot	c0.04	c0.15		0.01	0.11			0.03			0.04	
v/s Ratio Perm							0.03		0.01	c0.07		
v/c Ratio	0.64	0.42		0.59	0.33		0.13	0.12	0.04	0.28	0.15	
Uniform Delay, d1	15.1	7.8		16.0	8.4		9.5	9.4	9.3	9.9	9.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.8	0.1		21.0	0.1		0.2	0.1	0.0	0.5	0.2	
Delay (s)	24.9	7.9		37.1	8.5		9.7	9.6	9.3	10.3	9.7	
Level of Service	C	A		D	A		A	A	A	B	A	
Approach Delay (s)		9.7			9.6			9.5			10.0	
Approach LOS		A			A			A			A	

Intersection Summary

HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	32.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

32: Ocean Av & Highway 1

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↕		↖	↕	↗		↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.95	0.95	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.98	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3480		1681	1710	1583		1819	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.45	0.78	1.00		0.82	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3480		794	1379	1583		1519	1583
Volume (vph)	1	338	398	78	167	21	83	18	7	87	94	1
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	384	452	89	190	24	94	20	8	99	107	1
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	5	0	0	1
Lane Group Flow (vph)	1	384	452	89	207	0	47	67	3	0	206	0
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	0.8	18.3	60.7	4.4	21.9		22.6	22.6	22.6		14.1	14.1
Effective Green, g (s)	1.3	20.3	60.7	4.9	23.9		23.5	23.5	23.5		16.1	16.1
Actuated g/C Ratio	0.02	0.33	1.00	0.08	0.39		0.39	0.39	0.39		0.27	0.27
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	38	623	1583	143	1370		357	552	613		403	420
v/s Ratio Prot	0.00	c0.21		c0.05	0.06		0.01	0.01				
v/s Ratio Perm			c0.29				0.04	0.04	0.00		c0.14	0.00
v/c Ratio	0.03	0.62	0.29	0.62	0.15		0.13	0.12	0.01		0.51	0.00
Uniform Delay, d1	29.1	16.9	0.0	27.0	11.9		12.0	12.0	11.4		19.0	16.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	1.3	0.5	5.9	0.0		0.1	0.0	0.0		0.5	0.0
Delay (s)	29.2	18.2	0.5	32.9	11.9		12.1	12.0	11.4		19.4	16.4
Level of Service	C	B	A	C	B		B	B	B		B	B
Approach Delay (s)		8.6			18.1			12.0			19.4	
Approach LOS		A			B			B			B	

Intersection Summary

HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

1: Central Av & V St

4/14/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.85			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3428		1770	1841		1770	1585			1810	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00			0.80	
Satd. Flow (perm)	1770	3428		1770	1841		1397	1585			1483	
Volume (vph)	2	474	126	166	89	7	45	1	122	6	5	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	515	137	180	97	8	49	1	133	7	5	0
RTOR Reduction (vph)	0	16	0	0	1	0	0	116	0	0	0	0
Lane Group Flow (vph)	2	636	0	180	104	0	49	18	0	0	12	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8			4		
Actuated Green, G (s)	0.8	29.0		8.7	36.9		6.8	6.8			6.8	
Effective Green, g (s)	0.8	30.5		8.7	38.4		7.3	7.3			7.3	
Actuated g/C Ratio	0.01	0.52		0.15	0.66		0.12	0.12			0.12	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.5	4.5			4.5	
Vehicle Extension (s)	1.5	4.5		1.5	4.5		3.0	3.0			3.0	
Lane Grp Cap (vph)	24	1787		263	1208		174	198			185	
v/s Ratio Prot	0.00	c0.19		c0.10	0.06			0.01				
v/s Ratio Perm							c0.04				0.01	
v/c Ratio	0.08	0.36		0.68	0.09		0.28	0.09			0.06	
Uniform Delay, d1	28.5	8.2		23.6	3.7		23.2	22.7			22.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.5	0.2		5.8	0.1		0.9	0.2			0.1	
Delay (s)	29.0	8.4		29.4	3.7		24.1	22.9			22.7	
Level of Service	C	A		C	A		C	C			C	
Approach Delay (s)		8.5			19.9			23.2			22.7	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM Average Control Delay			13.9			HCM Level of Service					B	
HCM Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			58.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			43.9%			ICU Level of Service					A	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis
 2: North Av & V St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	16	25	22	58	34	15	36	148	44	37	212	22
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	17	27	23	62	36	16	38	157	47	39	226	23

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	67	114	243	288
Volume Left (vph)	17	62	38	39
Volume Right (vph)	23	16	47	23
Hadj (s)	-0.12	0.06	-0.05	0.01
Departure Headway (s)	5.2	5.3	4.7	4.7
Degree Utilization, x	0.10	0.17	0.32	0.38
Capacity (veh/h)	607	606	729	729
Control Delay (s)	8.8	9.4	9.9	10.5
Approach Delay (s)	8.8	9.4	9.9	10.5
Approach LOS	A	A	A	B

Intersection Summary			
Delay		10.0	
HCM Level of Service		A	
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: Pine Av & V St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	5	7	12	9	31	15	226	21	44	258	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	6	8	13	10	34	17	251	23	49	287	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	722	694	288	693	684	263	290			274		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	722	694	288	693	684	263	290			274		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	98	99	96	97	96	99			96		
cM capacity (veh/h)	308	348	751	336	352	776	1272			1289		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	19	58	291	339
Volume Left	6	13	17	49
Volume Right	8	34	23	3
cSH	426	514	1272	1289
Volume to Capacity	0.04	0.11	0.01	0.04
Queue Length 95th (ft)	3	9	1	3
Control Delay (s)	13.9	12.9	0.6	1.4
Lane LOS	B	B	A	A
Approach Delay (s)	13.9	12.9	0.6	1.4
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

4: College Av & V St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	11	23	7	34	27	44	12	191	41	40	199	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	12	26	8	39	31	50	14	217	47	45	226	26

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	47	119	277	298
Volume Left (vph)	13	39	14	45
Volume Right (vph)	8	50	47	26
Hadj (s)	-0.01	-0.15	-0.06	0.01
Departure Headway (s)	5.4	5.2	4.7	4.7
Degree Utilization, x	0.07	0.17	0.36	0.39
Capacity (veh/h)	575	621	739	732
Control Delay (s)	8.9	9.2	10.2	10.7
Approach Delay (s)	8.9	9.2	10.2	10.7
Approach LOS	A	A	B	B

Intersection Summary			
Delay		10.2	
HCM Level of Service		B	
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

5: Laurel Av & V St

4/14/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	34	53	189	35	68	155
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	38	59	210	39	76	172
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total (vph)	97	249	248			
Volume Left (vph)	38	0	76			
Volume Right (vph)	59	39	0			
Hadj (s)	-0.25	-0.06	0.09			
Departure Headway (s)	4.8	4.4	4.5			
Degree Utilization, x	0.13	0.30	0.31			
Capacity (veh/h)	686	798	769			
Control Delay (s)	8.5	9.2	9.5			
Approach Delay (s)	8.5	9.2	9.5			
Approach LOS	A	A	A			
Intersection Summary						
Delay			9.2			
HCM Level of Service			A			
Intersection Capacity Utilization			39.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6

Cycle (sec): 100 Critical Vol./Cap.(X): 0.331
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 10.7
Optimal Cycle: 0 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: PM. Table with 13 columns representing different traffic movements and 13 rows of volume-related metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module. Table with 13 columns and 3 rows: Adjustment, Lanes, and Final Sat.

Capacity Analysis Module. Table with 13 columns and 13 rows: Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Unsignalized Intersection Capacity Analysis

7: Ocean Av & R St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Volume (veh/h)	37	285	18	78	237	86	7	32	54	29	43	46
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	39	297	19	81	247	90	7	33	56	30	45	48
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	1191											
pX, platoon unblocked												
vC, conflicting volume	336			316			740	882	158	753	847	168
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	336			316			740	882	158	753	847	168
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			93			97	87	93	87	83	94
cM capacity (veh/h)	1220			1241			233	257	860	233	269	846

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	39	198	118	81	165	172	97	123
Volume Left	39	0	0	81	0	0	7	30
Volume Right	0	0	19	0	0	90	56	48
cSH	1220	1700	1700	1241	1700	1700	427	349
Volume to Capacity	0.03	0.12	0.07	0.07	0.10	0.10	0.23	0.35
Queue Length 95th (ft)	2	0	0	5	0	0	22	39
Control Delay (s)	8.0	0.0	0.0	8.1	0.0	0.0	15.9	20.8
Lane LOS	A			A			C	C
Approach Delay (s)	0.9			1.6			15.9	20.8
Approach LOS							C	C

Intersection Summary

Average Delay	5.1
Intersection Capacity Utilization	36.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

8: Central Av & O St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3450		1770	3484		1770	1863	1583	1770	3399	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3450		1770	3484		1770	1863	1583	1770	3399	
Volume (vph)	67	429	86	245	269	31	23	94	222	46	108	39
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	71	452	91	258	283	33	24	99	234	48	114	41
RTOR Reduction (vph)	0	9	0	0	5	0	0	0	188	0	22	0
Lane Group Flow (vph)	71	534	0	258	311	0	24	99	46	48	133	0
Turn Type	Prot		Prot		Prot		Perm		Prot			
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	4.0	16.9		10.4	23.3		1.9	11.5	11.5	3.5	13.1	
Effective Green, g (s)	3.5	17.4		9.9	23.8		1.4	11.2	11.2	3.0	12.8	
Actuated g/C Ratio	0.06	0.30		0.17	0.41		0.02	0.19	0.19	0.05	0.22	
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.7	3.7	3.5	3.7	
Vehicle Extension (s)	2.0	3.5		2.0	3.5		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	108	1044		305	1442		43	363	308	92	757	
v/s Ratio Prot	0.04	c0.15		c0.15	0.09		0.01	c0.05		c0.03	0.04	
v/s Ratio Perm									0.03			
v/c Ratio	0.66	0.51		0.85	0.22		0.56	0.27	0.15	0.52	0.18	
Uniform Delay, d1	26.4	16.5		23.1	10.8		27.7	19.7	19.2	26.6	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.5	0.5		18.3	0.1		8.6	0.6	0.3	2.4	0.2	
Delay (s)	36.9	17.0		41.3	10.9		36.4	20.2	19.5	29.0	18.2	
Level of Service	D	B		D	B		D	C	B	C	B	
Approach Delay (s)		19.3			24.6			20.8			20.8	
Approach LOS		B			C			C			C	

Intersection Summary

HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 9: North Av & O St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	68	85	52	48	119	61	39	285	74	53	236	36
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	75	93	57	53	131	67	43	313	81	58	259	40

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	121	104	251	199	238	188	169
Volume Left (vph)	75	0	53	43	0	58	0
Volume Right (vph)	0	57	67	0	81	0	40
Hadj (s)	0.34	-0.35	-0.08	0.14	-0.21	0.19	-0.13
Departure Headway (s)	7.7	7.0	7.0	7.0	6.6	7.1	6.8
Degree Utilization, x	0.26	0.20	0.49	0.39	0.44	0.37	0.32
Capacity (veh/h)	434	475	487	486	522	480	502
Control Delay (s)	12.1	10.5	16.5	13.1	13.4	13.1	11.8
Approach Delay (s)	11.4		16.5	13.3		12.5	
Approach LOS	B		C	B		B	

Intersection Summary

Delay	13.3
HCM Level of Service	B
Intersection Capacity Utilization	52.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: Pine Av & O St

4/14/2009























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	29	68	15	55	85	42	29	349	61	36	311	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	31	73	16	59	91	45	31	375	66	39	334	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	120	196	472	384
Volume Left (vph)	31	59	31	39
Volume Right (vph)	16	45	66	11
Hadj (s)	0.01	-0.04	-0.04	0.04
Departure Headway (s)	6.9	6.6	5.7	5.9
Degree Utilization, x	0.23	0.36	0.74	0.63
Capacity (veh/h)	444	467	613	577
Control Delay (s)	12.0	13.3	23.4	18.3
Approach Delay (s)	12.0	13.3	23.4	18.3
Approach LOS	B	B	C	C

Intersection Summary			
Delay		18.9	
HCM Level of Service		C	
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 11: College Av & O St

4/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Volume (vph)	49	113	10	82	108	95	14	315	63	61	279	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	54	124	11	90	119	104	15	346	69	67	307	37
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	54	135	90	223	362	69	67	344				
Volume Left (vph)	54	0	90	0	15	0	67	0				
Volume Right (vph)	0	11	0	104	0	69	0	37				
Hadj (s)	0.53	-0.02	0.53	-0.29	0.06	-0.67	0.53	-0.04				
Departure Headway (s)	8.1	7.6	7.9	7.0	6.9	6.2	7.4	6.8				
Degree Utilization, x	0.12	0.28	0.20	0.44	0.69	0.12	0.14	0.65				
Capacity (veh/h)	409	440	430	484	504	554	463	504				
Control Delay (s)	11.0	12.3	11.6	14.2	22.9	8.8	10.4	20.6				
Approach Delay (s)	12.0		13.4		20.7		19.0					
Approach LOS	B		B		C		C					
Intersection Summary												
Delay			17.2									
HCM Level of Service			C									
Intersection Capacity Utilization			62.3%		ICU Level of Service		B					
Analysis Period (min)			15									

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 13.7
Optimal Cycle: 0 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module: PM. Table with 13 columns representing different traffic movements and 13 rows of volume-related metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module. Table with 13 columns and 3 rows: Adjustment, Lanes, and Final Sat.
























Capacity Analysis Module. Table with 13 columns and 13 rows: Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Signalized Intersection Capacity Analysis

13: Ocean Av & O St























4/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3505		1770	3418		1770	1811		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.68	1.00		0.67	1.00	1.00
Satd. Flow (perm)	1770	3505		1770	3418		1265	1811		1250	1863	1583
Volume (vph)	32	282	19	50	355	106	66	105	24	104	116	74
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	33	294	20	52	370	110	69	109	25	108	121	77
RTOR Reduction (vph)	0	5	0	0	24	0	0	9	0	0	0	59
Lane Group Flow (vph)	33	309	0	52	456	0	69	125	0	108	121	18
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8			4		4
Actuated Green, G (s)	1.4	23.6		3.2	25.4		12.1	12.1		12.1	12.1	12.1
Effective Green, g (s)	5.4	23.8		7.2	25.6		12.8	12.8		12.8	12.8	12.8
Actuated g/C Ratio	0.10	0.43		0.13	0.46		0.23	0.23		0.23	0.23	0.23
Clearance Time (s)	8.0	4.2		8.0	4.2		4.7	4.7		4.7	4.7	4.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	171	1495		228	1568		290	415		287	427	363
v/s Ratio Prot	0.02	0.09		c0.03	c0.13			0.07				0.06
v/s Ratio Perm							0.05			c0.09		0.01
v/c Ratio	0.19	0.21		0.23	0.29		0.24	0.30		0.38	0.28	0.05
Uniform Delay, d1	23.2	10.1		21.8	9.4		17.5	17.8		18.1	17.7	16.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0		0.2	0.0		0.4	0.4		0.8	0.4	0.1
Delay (s)	23.4	10.1		22.0	9.5		18.0	18.2		19.0	18.1	16.8
Level of Service	C	B		C	A		B	B		B	B	B
Approach Delay (s)		11.4			10.7			18.1			18.1	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay			13.6	HCM Level of Service				B				
HCM Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			55.8	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			42.6%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

14: Ocean Av & I St

4/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.90		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3481		1770	1684		1770	1799	
Flt Permitted	0.95	1.00		0.95	1.00		0.89	1.00		0.89	1.00	
Satd. Flow (perm)	1770	3527		1770	3481		1656	1684		1656	1799	
Volume (vph)	14	365	9	42	495	61	19	15	26	4	15	4
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	16	424	10	49	576	71	22	17	30	5	17	5
RTOR Reduction (vph)	0	1	0	0	4	0	0	28	0	0	5	0
Lane Group Flow (vph)	16	433	0	49	643	0	22	19	0	5	17	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8				4	
Actuated Green, G (s)	1.6	39.2		4.1	41.7		4.3	4.3		4.3	4.3	
Effective Green, g (s)	1.3	39.7		3.8	42.2		4.5	4.5		4.5	4.5	
Actuated g/C Ratio	0.02	0.66		0.06	0.70		0.08	0.08		0.08	0.08	
Clearance Time (s)	3.7	4.5		3.7	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	38	2334		112	2448		124	126		124	135	
v/s Ratio Prot	0.01	0.12		c0.03	c0.18			0.01			0.01	
v/s Ratio Perm							c0.01			0.00		
v/c Ratio	0.42	0.19		0.44	0.26		0.18	0.15		0.04	0.13	
Uniform Delay, d1	29.0	3.9		27.1	3.2		26.0	26.0		25.7	25.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.0		1.0	0.0		0.7	0.6		0.1	0.4	
Delay (s)	31.7	3.9		28.1	3.3		26.7	26.5		25.9	26.4	
Level of Service	C	A		C	A		C	C		C	C	
Approach Delay (s)		4.9			5.0			26.6			26.3	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			6.6	HCM Level of Service				A				
HCM Volume to Capacity ratio			0.25									
Actuated Cycle Length (s)			60.0	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			36.7%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

15: Olive Av & I St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	13	94	11	9	74	11	25	96	24	9	48	16
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	14	103	12	10	81	12	27	105	26	10	53	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	130	103	159	80
Volume Left (vph)	14	10	27	10
Volume Right (vph)	12	12	26	18
Hadj (s)	0.00	-0.02	-0.03	-0.07
Departure Headway (s)	4.6	4.6	4.5	4.6
Degree Utilization, x	0.17	0.13	0.20	0.10
Capacity (veh/h)	731	728	753	731
Control Delay (s)	8.5	8.3	8.7	8.1
Approach Delay (s)	8.5	8.3	8.7	8.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.4	
HCM Level of Service		A	
Intersection Capacity Utilization	27.2%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis
 16: Highway 1 & Harris Grade Rd

































4/14/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3469		1610	3313	1583	1770	1863	1583
Flt Permitted	0.65	1.00	1.00	0.47	1.00		0.95	0.98	1.00	0.34	1.00	1.00
Satd. Flow (perm)	1204	3539	1583	881	3469		1610	3313	1583	625	1863	1583
Volume (vph)	44	96	649	207	136	21	712	405	192	25	279	13
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	47	102	690	220	145	22	757	431	204	27	297	14
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	47	102	690	220	156	0	382	806	204	27	297	14
Turn Type	pm+pt		Free	pm+pt			Split		Free custom			Free
Protected Phases	7	4		3	8		2	2				
Permitted Phases	4		Free	8					Free	6	6	Free
Actuated Green, G (s)	14.1	6.8	97.2	29.4	16.1		30.2	30.2	97.2	19.6	19.6	97.2
Effective Green, g (s)	18.1	8.8	97.2	31.4	18.1		32.2	32.2	97.2	21.6	21.6	97.2
Actuated g/C Ratio	0.19	0.09	1.00	0.32	0.19		0.33	0.33	1.00	0.22	0.22	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	278	320	1583	455	646		533	1098	1583	139	414	1583
v/s Ratio Prot	0.02	0.03		c0.09	0.05		0.24	c0.24				
v/s Ratio Perm	0.02		c0.44	0.06					0.13	0.04	c0.16	0.01
v/c Ratio	0.17	0.32	0.44	0.48	0.24		0.72	0.73	0.13	0.19	0.72	0.01
Uniform Delay, d1	33.1	41.4	0.0	25.5	33.7		28.5	28.7	0.0	30.7	35.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.6	0.9	0.8	0.2		4.6	2.6	0.2	0.7	5.8	0.0
Delay (s)	33.4	42.0	0.9	26.3	33.9		33.1	31.3	0.2	31.4	40.8	0.0
Level of Service	C	D	A	C	C		C	C	A	C	D	A
Approach Delay (s)		7.7			29.6			27.2			38.4	
Approach LOS		A			C			C			D	
Intersection Summary												
HCM Average Control Delay			23.3			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			97.2			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			64.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St

4/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 	 	 	 		 	 	 
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3386		1770	3539	1583	1770	3481		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3386		1770	3539	1583	1770	3481		1770	3539	1583
Volume (vph)	398	327	133	146	240	188	191	718	89	268	612	184
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	428	352	143	157	258	202	205	772	96	288	658	198
RTOR Reduction (vph)	0	38	0	0	0	168	0	7	0	0	0	132
Lane Group Flow (vph)	428	457	0	157	258	34	205	861	0	288	658	66
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	15.5	17.3		12.2	14.0	14.0	14.6	25.8		18.5	29.7	29.7
Effective Green, g (s)	15.2	18.6		11.9	15.3	15.3	14.3	26.3		18.2	30.2	30.2
Actuated g/C Ratio	0.17	0.20		0.13	0.17	0.17	0.16	0.29		0.20	0.33	0.33
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	573	692		231	595	266	278	1006		354	1174	525
v/s Ratio Prot	c0.12	c0.13		0.09	0.07		0.12	c0.25		c0.16	c0.19	
v/s Ratio Perm						0.02						0.04
v/c Ratio	0.75	0.66		0.68	0.43	0.13	0.74	0.86		0.81	0.56	0.13
Uniform Delay, d1	36.1	33.3		37.7	34.0	32.2	36.6	30.6		34.8	25.0	21.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.6	2.4		6.1	0.5	0.2	8.5	7.0		12.7	0.4	0.0
Delay (s)	40.7	35.7		43.9	34.5	32.4	45.0	37.6		47.5	25.3	21.2
Level of Service	D	D		D	C	C	D	D		D	C	C
Approach Delay (s)		38.0			36.2			39.0			30.2	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM Average Control Delay			35.6				HCM Level of Service				D	
HCM Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			91.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			72.2%				ICU Level of Service			C		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

18: Barton Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1814	1583		1759		1770	3523		1770	3539	1583
Flt Permitted		0.81	1.00		0.94		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1515	1583		1674		1770	3523		1770	3539	1583
Volume (vph)	57	50	52	12	38	28	94	1026	32	31	1135	87
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	54	57	13	41	30	102	1115	35	34	1234	95
RTOR Reduction (vph)	0	0	49	0	26	0	0	1	0	0	0	40
Lane Group Flow (vph)	0	116	8	0	58	0	102	1149	0	34	1234	55
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)		10.4	10.4		10.4		9.2	49.1		3.5	43.4	43.4
Effective Green, g (s)		10.6	10.6		10.6		8.9	49.6		3.2	43.9	43.9
Actuated g/C Ratio		0.14	0.14		0.14		0.12	0.66		0.04	0.58	0.58
Clearance Time (s)		4.2	4.2		4.2		3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		213	223		235		209	2318		75	2061	922
v/s Ratio Prot							c0.06	0.33		0.02	c0.35	
v/s Ratio Perm		c0.08	0.01		0.03							0.03
v/c Ratio		0.54	0.04		0.25		0.49	0.50		0.45	0.60	0.06
Uniform Delay, d1		30.2	28.0		28.8		31.1	6.5		35.2	10.1	6.8
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.8	0.1		0.6		1.8	0.2		4.3	0.5	0.0
Delay (s)		33.0	28.1		29.4		32.9	6.7		39.5	10.6	6.8
Level of Service		C	C		C		C	A		D	B	A
Approach Delay (s)		31.4			29.4			8.9			11.0	
Approach LOS		C			C			A			B	

Intersection Summary

HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	75.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

19: North Av & H St

4/14/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3505		1770	3513	
Flt Permitted	0.55	1.00	1.00	0.57	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1016	1863	1583	1055	1863	1583	1770	3505		1770	3513	
Volume (vph)	102	130	52	100	129	69	48	843	59	102	790	41
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	106	135	54	104	134	72	50	878	61	106	823	43
RTOR Reduction (vph)	0	0	47	0	0	63	0	4	0	0	2	0
Lane Group Flow (vph)	106	135	7	104	134	9	50	935	0	106	864	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	18.1	10.1	10.1	17.7	9.9	9.9	4.9	38.6		8.7	42.4	
Effective Green, g (s)	19.1	10.6	10.6	18.7	10.4	10.4	4.6	39.1		8.4	42.9	
Actuated g/C Ratio	0.23	0.13	0.13	0.23	0.13	0.13	0.06	0.47		0.10	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	313	240	204	311	235	200	99	1663		180	1829	
v/s Ratio Prot	c0.03	c0.07		0.03	0.07		0.03	c0.27		c0.06	c0.25	
v/s Ratio Perm	0.04		0.00	0.04		0.01						
v/c Ratio	0.34	0.56	0.03	0.33	0.57	0.05	0.51	0.56		0.59	0.47	
Uniform Delay, d1	25.9	33.7	31.4	26.2	33.9	31.6	37.8	15.5		35.4	12.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.4	0.0	0.5	2.7	0.1	1.5	0.3		3.2	0.1	
Delay (s)	26.4	36.2	31.5	26.6	36.6	31.7	39.3	15.8		38.5	12.6	
Level of Service	C	D	C	C	D	C	D	B		D	B	
Approach Delay (s)		31.8			32.1			17.0			15.4	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			19.9				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			82.4				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			56.6%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pine Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↗		↖	↑↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1779		1770	3518		1770	3482	
Flt Permitted	0.35	1.00	1.00	0.68	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	646	1863	1583	1270	1779		1770	3518		1770	3482	
Volume (vph)	165	108	35	70	119	51	44	846	35	64	747	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	117	38	76	129	55	48	920	38	70	812	98
RTOR Reduction (vph)	0	0	29	0	17	0	0	2	0	0	8	0
Lane Group Flow (vph)	179	117	9	76	167	0	48	956	0	70	902	0
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	25.4	16.9	16.9	15.9	11.6		4.1	32.9		4.8	33.6	
Effective Green, g (s)	25.6	17.1	17.1	16.3	11.8		3.8	33.4		4.5	34.1	
Actuated g/C Ratio	0.34	0.23	0.23	0.22	0.16		0.05	0.44		0.06	0.45	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	365	422	359	304	278		89	1556		105	1573	
v/s Ratio Prot	c0.06	0.06		0.01	c0.09		0.03	c0.27		c0.04	0.26	
v/s Ratio Perm	0.10		0.01	0.04								
v/c Ratio	0.49	0.28	0.02	0.25	0.60		0.54	0.61		0.67	0.57	
Uniform Delay, d1	18.8	24.1	22.7	24.3	29.7		35.0	16.1		34.8	15.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.3	0.0	0.3	3.1		3.1	0.5		11.7	0.3	
Delay (s)	19.5	24.4	22.7	24.6	32.7		38.1	16.6		46.5	15.6	
Level of Service	B	C	C	C	C		D	B		D	B	
Approach Delay (s)		21.6			30.3			17.7			17.8	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

21: College Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↓		↰	↑↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3506		1770	3439	
Flt Permitted	0.37	1.00	1.00	0.65	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	680	1863	1583	1218	1863	1583	1770	3506		1770	3439	
Volume (vph)	184	158	50	54	182	30	71	691	47	66	589	138
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	190	163	52	56	188	31	73	712	48	68	607	142
RTOR Reduction (vph)	0	0	39	0	0	26	0	4	0	0	18	0
Lane Group Flow (vph)	190	163	13	56	188	5	73	756	0	68	731	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	24.9	17.0	17.0	15.0	11.3	11.3	4.6	26.8		4.4	26.6	
Effective Green, g (s)	25.1	17.2	17.2	15.4	11.5	11.5	4.3	27.3		4.1	27.1	
Actuated g/C Ratio	0.37	0.25	0.25	0.22	0.17	0.17	0.06	0.40		0.06	0.40	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	402	468	397	305	313	266	111	1397		106	1361	
v/s Ratio Prot	c0.07	0.09		0.01	c0.10		c0.04	c0.22		0.04	0.21	
v/s Ratio Perm	0.11		0.01	0.03		0.00						
v/c Ratio	0.47	0.35	0.03	0.18	0.60	0.02	0.66	0.54		0.64	0.54	
Uniform Delay, d1	15.8	21.1	19.4	21.3	26.4	23.8	31.4	15.8		31.5	15.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.3	0.0	0.2	2.7	0.0	10.2	0.2		9.5	0.2	
Delay (s)	16.4	21.4	19.4	21.5	29.1	23.8	41.6	16.0		41.0	16.1	
Level of Service	B	C	B	C	C	C	D	B		D	B	
Approach Delay (s)		18.8			27.0			18.3			18.2	
Approach LOS		B			C			B			B	

Intersection Summary

HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

22: Laurel Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1764			1742		1770	3533		1770	3487	
Flt Permitted		0.88			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1591			1688		1770	3533		1770	3487	
Volume (vph)	49	38	28	11	38	38	57	817	9	27	634	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	41	30	12	41	41	62	888	10	29	689	75
RTOR Reduction (vph)	0	16	0	0	35	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	108	0	0	59	0	62	898	0	29	758	0
Turn Type	pm+pt			pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		6.8			6.8		3.2	31.0		1.3	29.1	
Effective Green, g (s)		7.0			7.0		2.9	31.5		1.0	29.6	
Actuated g/C Ratio		0.14			0.14		0.06	0.61		0.02	0.57	
Clearance Time (s)		4.2			4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)		2.5			2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)		216			229		100	2161		34	2004	
v/s Ratio Prot							c0.04	c0.25		0.02	0.22	
v/s Ratio Perm		c0.07			0.03							
v/c Ratio		0.50			0.26		0.62	0.42		0.85	0.38	
Uniform Delay, d1		20.6			19.9		23.8	5.2		25.2	6.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			0.4		7.8	0.0		93.1	0.0	
Delay (s)		21.9			20.3		31.6	5.3		118.3	6.0	
Level of Service		C			C		C	A		F	A	
Approach Delay (s)		21.9			20.3			7.0			10.1	
Approach LOS		C			C			A			B	

Intersection Summary

HCM Average Control Delay	9.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	51.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

23: Ocean Av & H St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	1770	3504		1770	3539	1583	1770	1841		1681	1734	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.62	1.00		0.33	0.63	1.00
Satd. Flow (perm)	1770	3504		1770	3539	1583	1156	1841		576	1114	1583
Volume (vph)	136	238	17	14	435	220	16	203	17	208	116	176
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	145	253	18	15	463	234	17	216	18	221	123	187
RTOR Reduction (vph)	0	3	0	0	0	155	0	2	0	0	0	131
Lane Group Flow (vph)	145	268	0	15	463	79	17	232	0	135	209	56
Turn Type	Prot			Prot		Perm pm+pt				pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	7.6	29.6		0.9	22.9	22.9	14.1	13.2		25.4	25.4	20.3
Effective Green, g (s)	7.3	29.8		0.6	23.1	23.1	14.5	13.4		25.6	25.6	20.5
Actuated g/C Ratio	0.11	0.44		0.01	0.34	0.34	0.21	0.20		0.38	0.38	0.30
Clearance Time (s)	3.7	4.2		3.7	4.2	4.2	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	190	1536		16	1202	538	256	363		350	494	477
v/s Ratio Prot	c0.08	0.08		0.01	c0.13		0.00	c0.13		0.05	c0.05	
v/s Ratio Perm						0.05	0.01			0.10	0.11	0.04
v/c Ratio	0.76	0.17		0.94	0.39	0.15	0.07	0.64		0.39	0.42	0.12
Uniform Delay, d1	29.5	11.6		33.7	17.1	15.6	21.3	25.1		14.9	15.7	17.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.0		190.1	0.1	0.0	0.1	3.7		0.7	0.6	0.1
Delay (s)	44.5	11.6		223.8	17.1	15.7	21.4	28.7		15.6	16.3	17.3
Level of Service	D	B		F	B	B	C	C		B	B	B
Approach Delay (s)		23.1			21.0			28.2			16.5	
Approach LOS		C			C			C			B	

Intersection Summary

HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/14/2009















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	34	202	35	21	215	78	28	105	16	82	102	34
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	35	210	36	22	224	81	29	109	17	85	106	35

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	282	327	155	227
Volume Left (vph)	35	22	29	85
Volume Right (vph)	36	81	17	35
Hadj (s)	-0.02	-0.10	0.01	0.02
Departure Headway (s)	5.6	5.5	6.1	6.0
Degree Utilization, x	0.44	0.50	0.26	0.38
Capacity (veh/h)	592	614	512	544
Control Delay (s)	13.0	13.8	11.3	12.5
Approach Delay (s)	13.0	13.8	11.3	12.5
Approach LOS	B	B	B	B

Intersection Summary			
Delay		12.9	
HCM Level of Service		B	
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 25: Central Av & A St

4/14/2009

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	51	397	351	53	34	22
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	53	409	362	55	35	23
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total (vph)	53	409	362	55	58	
Volume Left (vph)	53	0	362	0	0	
Volume Right (vph)	0	409	0	0	23	
Hadj (s)	0.53	-0.67	0.53	0.03	-0.20	
Departure Headway (s)	6.5	5.3	6.4	5.9	6.1	
Degree Utilization, x	0.09	0.60	0.64	0.09	0.10	
Capacity (veh/h)	528	661	543	581	544	
Control Delay (s)	8.9	14.6	18.9	8.3	9.7	
Approach Delay (s)	14.0		17.5		9.7	
Approach LOS	B		C		A	
Intersection Summary						
Delay			15.3			
HCM Level of Service			C			
Intersection Capacity Utilization			36.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	42	126	99	25	141	34	101	242	28	53	252	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	45	134	105	27	150	36	107	257	30	56	268	41

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	284	213	236	159	190	176
Volume Left (vph)	45	27	107	0	56	0
Volume Right (vph)	105	36	0	30	0	41
Hadj (s)	-0.16	-0.04	0.26	-0.10	0.18	-0.13
Departure Headway (s)	6.4	6.7	7.2	6.8	7.1	6.8
Degree Utilization, x	0.50	0.40	0.47	0.30	0.38	0.33
Capacity (veh/h)	514	489	472	501	473	495
Control Delay (s)	15.7	14.0	15.2	11.5	13.2	12.0
Approach Delay (s)	15.7	14.0	13.7		12.6	
Approach LOS	C	B	B		B	

Intersection Summary	
Delay	13.9
HCM Level of Service	B
Intersection Capacity Utilization	51.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 27: Pine Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	76	14	21	71	21	14	288	18	21	273	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	22	84	15	23	78	23	15	316	20	23	300	30

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	121	124	174	178	173	180
Volume Left (vph)	22	23	15	0	23	0
Volume Right (vph)	15	23	0	20	0	30
Hadj (s)	-0.01	-0.04	0.08	-0.04	0.10	-0.08
Departure Headway (s)	5.8	5.8	5.8	5.7	5.8	5.6
Degree Utilization, x	0.19	0.20	0.28	0.28	0.28	0.28
Capacity (veh/h)	564	567	598	610	594	614
Control Delay (s)	10.2	10.2	9.8	9.6	9.8	9.6
Approach Delay (s)	10.2	10.2	9.7		9.7	
Approach LOS	B	B	A		A	

Intersection Summary	
Delay	9.8
HCM Level of Service	A
Intersection Capacity Utilization	36.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 28: College Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	25	96	38	29	144	31	59	275	35	47	233	34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	26	99	39	30	148	32	61	284	36	48	240	35

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	164	210	203	178	169	155
Volume Left (vph)	26	30	61	0	48	0
Volume Right (vph)	39	32	0	36	0	35
Hadj (s)	-0.08	-0.03	0.18	-0.11	0.18	-0.12
Departure Headway (s)	6.1	6.0	6.4	6.1	6.5	6.1
Degree Utilization, x	0.28	0.35	0.36	0.30	0.30	0.26
Capacity (veh/h)	535	550	537	560	525	550
Control Delay (s)	11.4	12.2	11.7	10.5	11.0	10.1
Approach Delay (s)	11.4	12.2	11.1		10.6	
Approach LOS	B	B	B		B	

Intersection Summary	
Delay	11.2
HCM Level of Service	B
Intersection Capacity Utilization	43.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.98	1.00
Satd. Flow (prot)	1770	3489		1770	3444			1850	1583		1824	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.94	1.00		0.80	1.00
Satd. Flow (perm)	1770	3489		1770	3444			1750	1583		1483	1583
Volume (vph)	108	360	37	45	706	155	23	144	50	93	128	70
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	110	367	38	46	720	158	23	147	51	95	131	71
RTOR Reduction (vph)	0	4	0	0	10	0	0	0	38	0	0	53
Lane Group Flow (vph)	110	401	0	46	868	0	0	170	13	0	226	18
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	7.3	27.5		4.1	24.8			14.7	14.7		14.7	14.7
Effective Green, g (s)	7.0	27.7		4.3	25.0			15.4	15.4		15.4	15.4
Actuated g/C Ratio	0.12	0.47		0.07	0.42			0.26	0.26		0.26	0.26
Clearance Time (s)	3.7	4.2		4.2	4.2			4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	209	1627		128	1449			454	410		384	410
v/s Ratio Prot	c0.06	c0.11		0.03	c0.25							
v/s Ratio Perm								0.10	0.01		c0.15	0.01
v/c Ratio	0.53	0.25		0.36	0.60			0.37	0.03		0.59	0.04
Uniform Delay, d1	24.6	9.6		26.2	13.3			18.0	16.4		19.2	16.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2.4	0.1		1.7	0.7			0.5	0.0		2.3	0.0
Delay (s)	27.0	9.6		28.0	14.0			18.6	16.5		21.5	16.5
Level of Service	C	A		C	B			B	B		C	B
Approach Delay (s)		13.4			14.7			18.1			20.3	
Approach LOS		B			B			B			C	

Intersection Summary

HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	59.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

30: Laurel Av & 7th St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	11	8	20	74	192	14	169	9	29	106	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	12	9	21	79	204	15	180	10	31	113	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	22	304	204	152
Volume Left (vph)	2	21	15	31
Volume Right (vph)	9	204	10	9
Hadj (s)	-0.18	-0.35	0.02	0.04
Departure Headway (s)	5.0	4.5	4.9	5.0
Degree Utilization, x	0.03	0.38	0.28	0.21
Capacity (veh/h)	632	754	688	666
Control Delay (s)	8.2	10.2	9.8	9.3
Approach Delay (s)	8.2	10.2	9.8	9.3
Approach LOS	A	B	A	A

Intersection Summary			
Delay		9.8	
HCM Level of Service		A	
Intersection Capacity Utilization	42.3%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

31: Ocean Av & 7th St

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3449		1770	3491		1770	1863	1583	1770	1752	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1770	3449		1770	3491		1292	1863	1583	1343	1752	
Volume (vph)	54	312	64	65	822	81	33	54	39	61	58	38
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	55	318	65	66	839	83	34	55	40	62	59	39
RTOR Reduction (vph)	0	21	0	0	9	0	0	0	31	0	30	0
Lane Group Flow (vph)	55	362	0	66	913	0	34	55	9	62	68	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	5	2		1	6			8				4
Permitted Phases							8		8		4	
Actuated Green, G (s)	2.1	14.2		2.2	14.3		7.9	7.9	7.9	7.9	7.9	
Effective Green, g (s)	1.8	15.1		1.9	15.2		8.1	8.1	8.1	8.1	8.1	
Actuated g/C Ratio	0.05	0.41		0.05	0.41		0.22	0.22	0.22	0.22	0.22	
Clearance Time (s)	3.7	4.9		3.7	4.9		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	86	1404		91	1430		282	407	346	293	383	
v/s Ratio Prot	0.03	0.10		c0.04	c0.26			0.03			0.04	
v/s Ratio Perm							0.03		0.01	c0.05		
v/c Ratio	0.64	0.26		0.73	0.64		0.12	0.14	0.03	0.21	0.18	
Uniform Delay, d1	17.3	7.3		17.3	8.8		11.6	11.7	11.4	11.9	11.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.9	0.0		21.4	0.7		0.2	0.2	0.0	0.4	0.2	
Delay (s)	28.3	7.3		38.7	9.4		11.8	11.8	11.4	12.2	12.0	
Level of Service	C	A		D	A		B	B	B	B	B	
Approach Delay (s)		10.0			11.4			11.7			12.1	
Approach LOS		A			B			B			B	

Intersection Summary

HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	37.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

32: Ocean Av & Highway 1

4/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↕	↗	↖	↕	↗		↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.95	0.95	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		0.96	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3448		1681	1727	1583		1786	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.51	0.60	1.00		0.53	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3448		894	1070	1583		979	1583
Volume (vph)	2	267	114	13	469	98	438	178	50	41	7	3
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2	275	118	13	484	101	452	184	52	42	7	3
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	29	0	0	2
Lane Group Flow (vph)	2	275	118	13	570	0	269	367	23	0	49	1
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	0.9	12.2	49.1	0.9	12.2		20.6	20.6	20.6		7.2	7.2
Effective Green, g (s)	1.4	14.2	49.1	1.4	14.2		21.5	21.5	21.5		9.2	9.2
Actuated g/C Ratio	0.03	0.29	1.00	0.03	0.29		0.44	0.44	0.44		0.19	0.19
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	50	539	1583	50	997		525	580	693		183	297
v/s Ratio Prot	0.00	0.15		0.01	c0.17		0.09	c0.11				
v/s Ratio Perm			c0.07				0.14	c0.17	0.01		0.05	0.00
v/c Ratio	0.04	0.51	0.07	0.26	0.57		0.51	0.63	0.03		0.27	0.00
Uniform Delay, d1	23.2	14.6	0.0	23.3	14.9		9.4	10.7	7.9		17.1	16.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.3	0.1	1.0	0.5		0.4	1.7	0.0		0.3	0.0
Delay (s)	23.3	14.9	0.1	24.4	15.4		9.8	12.4	7.9		17.4	16.2
Level of Service	C	B	A	C	B		A	B	A		B	B
Approach Delay (s)		10.5			15.6			11.0			17.3	
Approach LOS		B			B			B			B	

Intersection Summary






















HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	49.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection LOS Calculations
Cumulative with Current General Plan Conditions

HCM Signalized Intersection Capacity Analysis

1: Central Av & V St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 									 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.86			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3382		1770	1856		1770	1596			1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00			0.86	
Satd. Flow (perm)	1770	3382		1770	1856		1370	1596			1530	
Volume (vph)	10	120	50	170	400	10	150	10	220	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	126	53	179	421	11	158	11	232	11	11	11
RTOR Reduction (vph)	0	31	0	0	1	0	0	186	0	0	9	0
Lane Group Flow (vph)	11	148	0	179	431	0	158	57	0	0	24	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8				4	
Actuated Green, G (s)	0.6	18.7		7.2	25.3		9.2	9.2			9.2	
Effective Green, g (s)	0.6	20.2		7.2	26.8		9.7	9.7			9.7	
Actuated g/C Ratio	0.01	0.41		0.15	0.55		0.20	0.20			0.20	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.5	4.5			4.5	
Vehicle Extension (s)	1.5	4.5		1.5	4.5		3.0	3.0			3.0	
Lane Grp Cap (vph)	22	1391		260	1013		271	315			302	
v/s Ratio Prot	0.01	0.04		c0.10	c0.23			0.04				
v/s Ratio Perm							c0.12				0.02	
v/c Ratio	0.50	0.11		0.69	0.43		0.58	0.18			0.08	
Uniform Delay, d1	24.1	8.9		19.9	6.6		17.9	16.4			16.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	6.4	0.1		5.9	0.5		3.2	0.3			0.1	
Delay (s)	30.5	9.0		25.8	7.1		21.0	16.7			16.2	
Level of Service	C	A		C	A		C	B			B	
Approach Delay (s)		10.2			12.6			18.4			16.2	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay			14.2	HCM Level of Service				B				
HCM Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			49.1	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			50.0%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 2: North Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	70	50	70	60	30	40	210	40	60	190	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	76	54	76	65	33	43	228	43	65	207	43

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	174	174	315	315
Volume Left (vph)	43	76	43	65
Volume Right (vph)	54	33	43	43
Hadj (s)	-0.10	0.01	-0.02	-0.01
Departure Headway (s)	5.9	6.0	5.5	5.5
Degree Utilization, x	0.29	0.29	0.48	0.48
Capacity (veh/h)	535	527	611	614
Control Delay (s)	11.3	11.5	13.4	13.5
Approach Delay (s)	11.3	11.5	13.4	13.5
Approach LOS	B	B	B	B

Intersection Summary			
Delay		12.7	
HCM Level of Service		B	
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: Pine Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	20	50	10	30	10	280	40	30	320	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	11	22	54	11	33	11	304	43	33	348	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	804	788	353	793	772	326	359			348		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	804	788	353	793	772	326	359			348		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	97	97	81	97	95	99			97		
cM capacity (veh/h)	272	312	690	281	319	715	1200			1211		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	98	359	391
Volume Left	11	54	11	33
Volume Right	22	33	43	11
cSH	409	358	1200	1211
Volume to Capacity	0.11	0.27	0.01	0.03
Queue Length 95th (ft)	9	27	1	2
Control Delay (s)	14.8	18.8	0.3	0.9
Lane LOS	B	C	A	A
Approach Delay (s)	14.8	18.8	0.3	0.9
Approach LOS	B	C		

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

4: College Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	100	30	30	100	30	30	200	30	20	220	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	109	33	33	109	33	33	217	33	22	239	130

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	228	174	283	391
Volume Left (vph)	87	33	33	22
Volume Right (vph)	33	33	33	130
Hadj (s)	0.02	-0.04	-0.01	-0.15
Departure Headway (s)	6.3	6.4	5.9	5.6
Degree Utilization, x	0.40	0.31	0.47	0.61
Capacity (veh/h)	505	484	557	610
Control Delay (s)	13.4	12.2	14.0	17.0
Approach Delay (s)	13.4	12.2	14.0	17.0
Approach LOS	B	B	B	C

Intersection Summary			
Delay		14.7	
HCM Level of Service		B	
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

5: Laurel Av & V St

4/15/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Sign Control	Stop		Stop			Stop
Volume (vph)	30	80	180	30	90	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	87	196	33	98	185
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total (vph)	120	228	283			
Volume Left (vph)	33	0	98			
Volume Right (vph)	87	33	0			
Hadj (s)	-0.35	-0.05	0.10			
Departure Headway (s)	4.7	4.5	4.6			
Degree Utilization, x	0.16	0.28	0.36			
Capacity (veh/h)	693	774	760			
Control Delay (s)	8.6	9.2	10.1			
Approach Delay (s)	8.6	9.2	10.1			
Approach LOS	A	A	B			
Intersection Summary						
Delay			9.5			
HCM Level of Service			A			
Intersection Capacity Utilization			41.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6

Cycle (sec): 100 Critical Vol./Cap.(X): 0.432
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 12.7
Optimal Cycle: 0 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module:AM. Table with 12 columns representing different traffic movements and 12 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Saturation Flow Module. Table with 12 columns and 3 rows showing adjustment factors and final saturation values.

Capacity Analysis Module. Table with 12 columns and 12 rows showing delay, LOS, and other capacity-related metrics.

Note: Queue reported is the number of cars per lane.

HCM Unsignalized Intersection Capacity Analysis

7: Ocean Av & R St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↘		↙	↑↘			↕			↕	
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Volume (veh/h)	30	310	10	20	330	40	10	30	50	40	30	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	337	11	22	359	43	11	33	54	43	33	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	1191											
pX, platoon unblocked												
vC, conflicting volume	402			348			701	853	174	728	837	201
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	402			348			701	853	174	728	837	201
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			96	88	94	83	89	93
cM capacity (veh/h)	1153			1208			268	281	839	256	288	806

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	33	225	123	22	239	163	98	130
Volume Left	33	0	0	22	0	0	11	43
Volume Right	0	0	11	0	0	43	54	54
cSH	1153	1700	1700	1208	1700	1700	442	372
Volume to Capacity	0.03	0.13	0.07	0.02	0.14	0.10	0.22	0.35
Queue Length 95th (ft)	2	0	0	1	0	0	21	39
Control Delay (s)	8.2	0.0	0.0	8.0	0.0	0.0	15.4	19.8
Lane LOS	A			A			C	C
Approach Delay (s)	0.7			0.4			15.4	19.8
Approach LOS							C	C

























Intersection Summary

Average Delay	4.4	
Intersection Capacity Utilization	37.2%	ICU Level of Service A
Analysis Period (min)	15	

HCM Signalized Intersection Capacity Analysis

8: Central Av & O St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3509		1770	3513		1770	1863	1583	1770	3274	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3509		1770	3513		1770	1863	1583	1770	3274	
Volume (vph)	30	330	20	90	390	20	110	20	210	20	20	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	359	22	98	424	22	120	22	228	22	22	22
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	165	0	18	0
Lane Group Flow (vph)	33	375	0	98	441	0	120	22	63	22	26	0
Turn Type	Prot		Prot			Prot		Perm		Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	1.8	12.3		3.7	14.2		4.2	12.5	12.5	0.8	9.1	
Effective Green, g (s)	1.3	12.8		3.2	14.7		3.7	12.2	12.2	0.3	8.8	
Actuated g/C Ratio	0.03	0.29		0.07	0.33		0.08	0.27	0.27	0.01	0.20	
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.7	3.7	3.5	3.7	
Vehicle Extension (s)	2.0	3.5		2.0	3.5		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	52	1009		127	1160		147	511	434	12	647	
v/s Ratio Prot	0.02	0.11		c0.06	c0.13		c0.07	0.01		c0.01	0.01	
v/s Ratio Perm									c0.04			
v/c Ratio	0.63	0.37		0.77	0.38		0.82	0.04	0.14	1.83	0.04	
Uniform Delay, d1	21.4	12.6		20.3	11.4		20.1	11.9	12.2	22.1	14.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	17.1	0.3		22.7	0.2		27.0	0.0	0.2	586.1	0.0	
Delay (s)	38.5	12.9		43.0	11.7		47.1	11.9	12.4	608.2	14.5	
Level of Service	D	B		D	B		D	B	B	F	B	
Approach Delay (s)		15.0			17.3			23.6			212.4	
Approach LOS		B			B			C			F	
Intersection Summary												
HCM Average Control Delay			27.5	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			44.5	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			37.5%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: North Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	60	130	60	40	150	50	50	210	60	40	210	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	141	65	43	163	54	54	228	65	43	228	65

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	136	136	261	168	179	158	179
Volume Left (vph)	65	0	43	54	0	43	0
Volume Right (vph)	0	65	54	0	65	0	65
Hadj (s)	0.27	-0.30	-0.06	0.20	-0.22	0.17	-0.22
Departure Headway (s)	7.3	6.8	6.9	7.1	6.7	7.1	6.7
Degree Utilization, x	0.28	0.26	0.50	0.33	0.33	0.31	0.33
Capacity (veh/h)	458	496	497	471	509	478	507
Control Delay (s)	11.9	10.9	16.5	12.4	11.8	12.1	11.8
Approach Delay (s)	11.4		16.5	12.1		11.9	
Approach LOS	B		C	B		B	

Intersection Summary

Delay	12.8
HCM Level of Service	B
Intersection Capacity Utilization	51.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: Pine Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	60	20	50	70	40	30	240	50	30	250	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	65	22	54	76	43	33	261	54	33	272	22





















Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	120	174	348	326
Volume Left (vph)	33	54	33	33
Volume Right (vph)	22	43	54	22
Hadj (s)	-0.02	-0.05	-0.04	0.01
Departure Headway (s)	6.1	5.9	5.3	5.4
Degree Utilization, x	0.20	0.28	0.51	0.49
Capacity (veh/h)	503	540	640	634
Control Delay (s)	10.6	11.2	13.7	13.3
Approach Delay (s)	10.6	11.2	13.7	13.3
Approach LOS	B	B	B	B

Intersection Summary			
Delay		12.7	
HCM Level of Service		B	
Intersection Capacity Utilization	41.6%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

11: College Av & O St

4/15/2009

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control	Stop			Stop				Stop			Stop		
Volume (vph)	50	140	20	40	80	70	20	210	50	90	240	40	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	54	152	22	43	87	76	22	228	54	98	261	43	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	54	174	43	163	250	54	98	304					
Volume Left (vph)	54	0	43	0	22	0	98	0					
Volume Right (vph)	0	22	0	76	0	54	0	43					
Hadj (s)	0.53	-0.05	0.53	-0.29	0.08	-0.67	0.53	-0.07					
Departure Headway (s)	7.3	6.7	7.4	6.6	6.5	5.8	6.8	6.2					
Degree Utilization, x	0.11	0.33	0.09	0.30	0.45	0.09	0.19	0.53					
Capacity (veh/h)	457	499	452	511	519	584	501	555					
Control Delay (s)	10.0	11.8	9.9	11.1	13.6	8.1	10.2	14.8					
Approach Delay (s)	11.4		10.9		12.6		13.7						
Approach LOS	B		B		B		B						
Intersection Summary													
Delay			12.4										
HCM Level of Service			B										
Intersection Capacity Utilization			52.5%		ICU Level of Service						A		
Analysis Period (min)			15										

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

 Intersection #12

Cycle (sec): 100 Critical Vol./Cap.(X): 0.507
 Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 13.0
 Optimal Cycle: 0 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	0	0	1	0	0	1

Volume Module:AM

Base Vol:	70	200	30	20	250	30	30	120	80	50	130	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	200	30	20	250	30	30	120	80	50	130	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	70	200	30	20	250	30	30	120	80	50	130	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	76	217	33	22	272	33	33	130	87	54	141	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	217	33	22	272	33	33	130	87	54	141	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	76	217	33	22	272	33	33	130	87	54	141	33

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	0.13	0.52	0.35	0.24	0.62	0.14
Final Sat.:	495	533	592	497	536	596	74	294	196	130	338	78

Capacity Analysis Module:
























Vol/Sat:	0.15	0.41	0.06	0.04	0.51	0.05	0.44	0.44	0.44	0.42	0.42	0.42
Crit Moves:	****			****			****			****		
Delay/Veh:	10.8	13.1	8.7	9.9	14.9	8.7	13.1	13.1	13.1	13.0	13.0	13.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.8	13.1	8.7	9.9	14.9	8.7	13.1	13.1	13.1	13.0	13.0	13.0
LOS by Move:	B	B	A	A	B	A	B	B	B	B	B	B
ApproachDel:	12.1			14.0			13.1			13.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	12.1			14.0			13.1			13.0		
LOS by Appr:	B			B			B			B		
AllWayAvgQ:	0.2	0.6	0.1	0.0	0.9	0.1	0.6	0.6	0.6	0.6	0.6	0.6

Note: Queue reported is the number of cars per lane.

HCM Signalized Intersection Capacity Analysis

13: Ocean Av & O St























4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3468		1770	3453		1770	1820		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.64	1.00		0.60	1.00	1.00
Satd. Flow (perm)	1770	3468		1770	3453		1194	1820		1113	1863	1583
Volume (vph)	30	320	50	30	310	60	80	170	30	130	170	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	348	54	33	337	65	87	185	33	141	185	76
RTOR Reduction (vph)	0	18	0	0	23	0	0	12	0	0	0	57
Lane Group Flow (vph)	33	384	0	33	379	0	87	206	0	141	185	19
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8			4		4
Actuated Green, G (s)	1.0	14.8		1.0	14.8		9.7	9.7		9.7	9.7	9.7
Effective Green, g (s)	5.0	15.0		5.0	15.0		10.4	10.4		10.4	10.4	10.4
Actuated g/C Ratio	0.12	0.35		0.12	0.35		0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	8.0	4.2		8.0	4.2		4.7	4.7		4.7	4.7	4.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	209	1227		209	1222		293	446		273	457	388
v/s Ratio Prot	c0.02	c0.11		0.02	0.11			0.11			0.10	
v/s Ratio Perm							0.07			c0.13		0.01
v/c Ratio	0.16	0.31		0.16	0.31		0.30	0.46		0.52	0.40	0.05
Uniform Delay, d1	16.8	10.0		16.8	9.9		13.0	13.6		13.8	13.4	12.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.1	0.1		0.6	0.8		1.6	0.6	0.1
Delay (s)	16.9	10.0		16.9	10.0		13.6	14.4		15.5	14.0	12.3
Level of Service	B	B		B	A		B	B		B	B	B
Approach Delay (s)		10.5			10.5			14.2			14.2	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay			12.2	HCM Level of Service				B				
HCM Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			42.4	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			45.1%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

14: Ocean Av & I St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.93		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3528		1770	3515		1770	1723		1770	1793	
Flt Permitted	0.95	1.00		0.95	1.00		0.98	1.00		0.98	1.00	
Satd. Flow (perm)	1770	3528		1770	3515		1817	1723		1817	1793	
Volume (vph)	10	460	10	90	420	20	20	20	20	20	30	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	500	11	98	457	22	22	22	22	22	33	11
RTOR Reduction (vph)	0	1	0	0	3	0	0	20	0	0	10	0
Lane Group Flow (vph)	11	510	0	98	476	0	22	24	0	22	34	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8					4
Actuated Green, G (s)	0.9	31.7		2.7	33.8		3.9	3.9		3.9	3.9	
Effective Green, g (s)	0.6	32.2		2.7	34.3		4.1	4.1		4.1	4.1	
Actuated g/C Ratio	0.01	0.63		0.05	0.67		0.08	0.08		0.08	0.08	
Clearance Time (s)	3.7	4.5		4.0	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	2.0		3.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	21	2227		94	2364		146	139		146	144	
v/s Ratio Prot	0.01	c0.14		c0.06	0.14			0.01			c0.02	
v/s Ratio Perm							0.01			0.01		
v/c Ratio	0.52	0.23		1.04	0.20		0.15	0.17		0.15	0.24	
Uniform Delay, d1	25.1	4.1		24.1	3.2		21.8	21.9		21.8	22.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.4	0.0		104.8	0.0		0.5	0.6		0.5	0.8	
Delay (s)	35.5	4.1		129.0	3.2		22.3	22.5		22.3	22.8	
Level of Service	D	A		F	A		C	C		C	C	
Approach Delay (s)		4.7			24.5			22.4			22.7	
Approach LOS		A			C			C			C	
Intersection Summary												
HCM Average Control Delay			15.9	HCM Level of Service				B				
HCM Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			51.0	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			35.8%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

15: Olive Av & I St

4/15/2009





























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	80	20	10	50	10	10	60	10	20	50	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	21	83	21	10	52	10	10	62	10	21	52	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	125	73	83	83
Volume Left (vph)	21	10	10	21
Volume Right (vph)	21	10	10	10
Hadj (s)	-0.03	-0.02	-0.02	0.01
Departure Headway (s)	4.3	4.4	4.4	4.5
Degree Utilization, x	0.15	0.09	0.10	0.10
Capacity (veh/h)	795	770	768	759
Control Delay (s)	8.1	7.8	7.9	8.0
Approach Delay (s)	8.1	7.8	7.9	8.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.0	
HCM Level of Service		A	
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis
 16: Highway 1 & Harris Grade Rd

4/15/2009





























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3477		1610	3306	1583	1770	1863	1583
Flt Permitted	0.41	1.00	1.00	0.41	1.00		0.95	0.98	1.00	0.36	1.00	1.00
Satd. Flow (perm)	766	3539	1583	764	3477		1610	3306	1583	673	1863	1583
Volume (vph)	30	340	720	160	300	40	690	330	140	60	350	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	300%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	98	370	783	174	326	43	750	359	152	65	380	43
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	0	0
Lane Group Flow (vph)	98	370	783	174	355	0	375	734	152	65	380	43
Turn Type	pm+pt		Free	pm+pt			Split		Free custom			Free
Protected Phases	7	4		3	8		2	2				
Permitted Phases	4		Free	8					Free	6	6	Free
Actuated Green, G (s)	16.8	12.8	75.7	16.8	12.8		18.5	18.5	75.7	16.4	16.4	75.7
Effective Green, g (s)	20.8	14.8	75.7	20.8	14.8		20.5	20.5	75.7	18.4	18.4	75.7
Actuated g/C Ratio	0.27	0.20	1.00	0.27	0.20		0.27	0.27	1.00	0.24	0.24	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	290	692	1583	290	680		436	895	1583	164	453	1583
v/s Ratio Prot	0.03	0.10		0.05	0.10		c0.23	0.22				
v/s Ratio Perm	0.07		c0.49	0.12					0.10	0.10	c0.20	0.03
v/c Ratio	0.34	0.53	0.49	0.60	0.52		0.86	0.82	0.10	0.40	0.84	0.03
Uniform Delay, d1	21.2	27.4	0.0	22.2	27.3		26.2	25.9	0.0	24.0	27.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.8	1.1	3.3	0.7		15.8	6.1	0.1	1.6	12.8	0.0
Delay (s)	21.9	28.2	1.1	25.5	28.0		42.0	31.9	0.1	25.6	40.0	0.0
Level of Service	C	C	A	C	C		D	C	A	C	D	A
Approach Delay (s)		10.7			27.2			31.1			34.6	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM Average Control Delay			23.8			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			75.7			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			69.5%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.90		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3198		1770	3539	1583	1770	3442		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3198		1770	3539	1583	1770	3442		1770	3539	1583
Volume (vph)	310	100	180	120	160	250	100	490	110	280	740	230
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	330	106	191	128	170	266	106	521	117	298	787	245
RTOR Reduction (vph)	0	156	0	0	0	225	0	22	0	0	0	151
Lane Group Flow (vph)	330	141	0	128	170	41	106	616	0	298	787	94
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	9.6	11.1		7.6	9.1	9.1	6.3	16.5		15.4	25.6	25.6
Effective Green, g (s)	9.3	12.4		7.3	10.4	10.4	6.0	17.0		15.1	26.1	26.1
Actuated g/C Ratio	0.14	0.18		0.11	0.15	0.15	0.09	0.25		0.22	0.38	0.38
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	471	585		191	543	243	157	863		394	1362	609
v/s Ratio Prot	c0.10	0.04		0.07	c0.05		0.06	c0.18		c0.17	0.22	
v/s Ratio Perm						0.03						0.06
v/c Ratio	0.70	0.24		0.67	0.31	0.17	0.68	0.71		0.76	0.58	0.15
Uniform Delay, d1	27.9	23.7		29.1	25.5	24.9	30.0	23.2		24.6	16.5	13.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.8	0.2		7.1	0.3	0.3	8.7	2.4		7.2	0.4	0.0
Delay (s)	31.7	23.9		36.1	25.9	25.3	38.6	25.5		31.8	16.9	13.7
Level of Service	C	C		D	C	C	D	C		C	B	B
Approach Delay (s)		28.0			27.9			27.4			19.6	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM Average Control Delay			24.4				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			67.8				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			61.1%				ICU Level of Service				B	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

18: Barton Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔		↖	↕		↖	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1812	1583		1708		1770	3524		1770	3539	1583
Flt Permitted		0.80	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1484	1583		1640		1770	3524		1770	3539	1583
Volume (vph)	50	40	90	10	20	40	50	670	20	10	780	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	43	98	11	22	43	54	728	22	11	848	65
RTOR Reduction (vph)	0	0	80	0	35	0	0	2	0	0	0	28
Lane Group Flow (vph)	0	97	18	0	41	0	54	748	0	11	848	37
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)		9.7	9.7		9.7		2.5	32.3		0.8	30.6	30.6
Effective Green, g (s)		9.9	9.9		9.9		2.2	32.8		0.5	31.1	31.1
Actuated g/C Ratio		0.18	0.18		0.18		0.04	0.59		0.01	0.56	0.56
Clearance Time (s)		4.2	4.2		4.2		3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		266	284		294		71	2094		16	1994	892
v/s Ratio Prot							c0.03	0.21		0.01	c0.24	
v/s Ratio Perm		c0.07	0.01		0.02							0.02
v/c Ratio		0.36	0.06		0.14		0.76	0.36		0.69	0.43	0.04
Uniform Delay, d1		19.9	18.8		19.1		26.2	5.8		27.3	6.9	5.4
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.9	0.1		0.2		37.3	0.1		80.1	0.1	0.0
Delay (s)		20.7	18.9		19.3		63.6	5.9		107.4	7.1	5.4
Level of Service		C	B		B		E	A		F	A	A
Approach Delay (s)		19.8			19.3			9.7			8.1	
Approach LOS		B			B			A			A	

Intersection Summary

HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

19: North Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3473		1770	3500	
Flt Permitted	0.57	1.00	1.00	0.54	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1057	1863	1583	1012	1863	1583	1770	3473		1770	3500	
Volume (vph)	90	200	80	80	170	70	50	490	70	90	630	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	217	87	87	185	76	54	533	76	98	685	54
RTOR Reduction (vph)	0	0	70	0	0	62	0	15	0	0	8	0
Lane Group Flow (vph)	98	217	17	87	185	14	54	594	0	98	731	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	11.9	9.4	9.4	11.1	9.0	9.0	2.3	18.9		3.2	19.8	
Effective Green, g (s)	12.9	9.9	9.9	12.1	9.5	9.5	2.0	19.4		2.9	20.3	
Actuated g/C Ratio	0.25	0.19	0.19	0.24	0.19	0.19	0.04	0.38		0.06	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	311	363	308	280	348	296	70	1326		101	1399	
v/s Ratio Prot	c0.02	c0.12		0.02	0.10		0.03	0.17		c0.06	c0.21	
v/s Ratio Perm	0.06		0.01	0.06		0.01						
v/c Ratio	0.32	0.60	0.06	0.31	0.53	0.05	0.77	0.45		0.97	0.52	
Uniform Delay, d1	15.0	18.6	16.6	15.5	18.6	16.9	24.2	11.7		23.9	11.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	2.2	0.1	0.5	1.2	0.0	37.0	0.1		79.4	0.2	
Delay (s)	15.4	20.8	16.7	16.0	19.9	17.0	61.2	11.8		103.3	11.7	
Level of Service	B	C	B	B	B	B	E	B		F	B	
Approach Delay (s)		18.6			18.3			15.8			22.5	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM Average Control Delay			19.2				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			50.8				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			50.6%				ICU Level of Service				A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pine Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1789		1770	3477		1770	3499	
Flt Permitted	0.57	1.00	1.00	0.68	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1057	1863	1583	1266	1789		1770	3477		1770	3499	
Volume (vph)	110	110	50	100	110	40	20	530	70	40	720	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	120	54	109	120	43	22	576	76	43	783	65
RTOR Reduction (vph)	0	0	47	0	25	0	0	12	0	0	7	0
Lane Group Flow (vph)	120	120	7	109	138	0	22	640	0	43	841	0
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	9.9	7.0	7.0	9.9	7.0		0.6	28.6		1.8	29.8	
Effective Green, g (s)	10.3	7.2	7.2	10.3	7.2		0.3	29.1		1.5	30.3	
Actuated g/C Ratio	0.18	0.13	0.13	0.18	0.13		0.01	0.51		0.03	0.53	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	230	236	200	257	226		9	1778		47	1863	
v/s Ratio Prot	c0.03	0.06		0.02	c0.08		0.01	0.18		c0.02	c0.24	
v/s Ratio Perm	0.07		0.00	0.05								
v/c Ratio	0.52	0.51	0.03	0.42	0.61		2.44	0.36		0.91	0.45	
Uniform Delay, d1	20.6	23.2	21.8	20.3	23.5		28.3	8.3		27.6	8.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	1.3	0.1	0.8	3.9		895.6	0.0		97.4	0.1	
Delay (s)	22.2	24.5	21.9	21.2	27.4		923.9	8.4		125.0	8.2	
Level of Service	C	C	C	C	C		F	A		F	A	
Approach Delay (s)		23.0			24.9			38.3			13.9	
Approach LOS		C			C			D			B	
Intersection Summary												
HCM Average Control Delay			24.3			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			56.9			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			52.8%			ICU Level of Service				A		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

21: College Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3494		1770	3463	
Flt Permitted	0.31	1.00	1.00	0.65	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	572	1863	1583	1206	1863	1583	1770	3494		1770	3463	
Volume (vph)	130	160	60	70	200	30	70	430	40	50	710	120
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	174	65	76	217	33	76	467	43	54	772	130
RTOR Reduction (vph)	0	0	50	0	0	28	0	7	0	0	14	0
Lane Group Flow (vph)	141	174	15	76	217	5	76	503	0	54	888	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	22.9	15.9	15.9	13.9	11.1	11.1	4.1	28.9		3.7	28.5	
Effective Green, g (s)	23.1	16.1	16.1	14.3	11.3	11.3	3.8	29.4		3.4	29.0	
Actuated g/C Ratio	0.34	0.24	0.24	0.21	0.17	0.17	0.06	0.43		0.05	0.43	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	332	442	375	279	310	263	99	1513		89	1479	
v/s Ratio Prot	c0.05	0.09		0.01	c0.12		c0.04	0.14		0.03	c0.26	
v/s Ratio Perm	0.10		0.01	0.05		0.00						
v/c Ratio	0.42	0.39	0.04	0.27	0.70	0.02	0.77	0.33		0.61	0.60	
Uniform Delay, d1	16.6	21.8	20.0	22.1	26.7	23.7	31.6	12.8		31.6	15.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.4	0.0	0.4	6.2	0.0	26.8	0.0		7.8	0.5	
Delay (s)	17.2	22.2	20.0	22.5	32.9	23.7	58.4	12.8		39.4	15.5	
Level of Service	B	C	B	C	C	C	E	B		D	B	
Approach Delay (s)		20.0			29.6			18.7			16.8	
Approach LOS		B			C			B			B	

Intersection Summary

HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	67.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

22: Laurel Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1751			1760		1770	3531		1770	3471	
Flt Permitted		0.89			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1587			1544		1770	3531		1770	3471	
Volume (vph)	60	50	50	30	40	30	30	620	10	40	680	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	54	54	33	43	33	33	674	11	43	739	109
RTOR Reduction (vph)	0	39	0	0	28	0	0	1	0	0	12	0
Lane Group Flow (vph)	0	134	0	0	81	0	33	684	0	43	836	0
Turn Type	pm+pt			pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		6.2			6.2		0.6	22.4		1.3	23.1	
Effective Green, g (s)		6.4			6.4		0.3	22.9		1.0	23.6	
Actuated g/C Ratio		0.15			0.15		0.01	0.54		0.02	0.56	
Clearance Time (s)		4.2			4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)		2.5			2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)		240			234		13	1912		42	1937	
v/s Ratio Prot							0.02	0.19		c0.02	c0.24	
v/s Ratio Perm		c0.08			0.05							
v/c Ratio		0.56			0.35		2.54	0.36		1.02	0.43	
Uniform Delay, d1		16.6			16.1		21.0	5.5		20.6	5.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.2			0.7		873.4	0.0		146.0	0.1	
Delay (s)		18.9			16.7		894.4	5.6		166.6	5.5	
Level of Service		B			B		F	A		F	A	
Approach Delay (s)		18.9			16.7			46.4			13.3	
Approach LOS		B			B			D			B	

Intersection Summary

HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

23: Ocean Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1770	3514		1770	3539	1583	1770	1818		1681	1725	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.56	1.00		0.47	0.55	1.00
Satd. Flow (perm)	1770	3514		1770	3539	1583	1045	1818		835	973	1583
Volume (vph)	90	410	20	30	320	130	20	160	30	330	140	170
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	446	22	33	348	141	22	174	33	359	152	185
RTOR Reduction (vph)	0	4	0	0	0	97	0	11	0	0	0	134
Lane Group Flow (vph)	98	464	0	33	348	44	22	196	0	197	314	51
Turn Type	Prot			Prot		Perm	pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	4.4	18.3		1.8	15.7	15.7	11.9	11.4		16.7	16.7	13.8
Effective Green, g (s)	4.1	18.5		1.5	15.9	15.9	12.3	11.6		17.1	17.1	14.0
Actuated g/C Ratio	0.08	0.36		0.03	0.31	0.31	0.24	0.23		0.34	0.34	0.28
Clearance Time (s)	3.7	4.2		3.7	4.2	4.2	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	143	1282		52	1110	496	264	416		333	374	437
v/s Ratio Prot	c0.06	c0.13		0.02	0.10		0.00	0.11		0.04	c0.05	
v/s Ratio Perm						0.03	0.02			0.16	c0.23	0.03
v/c Ratio	0.69	0.36		0.63	0.31	0.09	0.08	0.47		0.59	0.84	0.12
Uniform Delay, d1	22.7	11.8		24.3	13.2	12.3	14.7	16.9		13.7	15.5	13.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.3	0.1		17.1	0.1	0.0	0.1	0.8		2.8	15.2	0.1
Delay (s)	33.0	11.8		41.4	13.3	12.3	14.9	17.7		16.5	30.7	13.8
Level of Service	C	B		D	B	B	B	B		B	C	B
Approach Delay (s)		15.5			14.8			17.5			22.2	
Approach LOS		B			B			B			C	

Intersection Summary

HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	50.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/15/2009















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	260	50	40	270	100	30	120	30	70	110	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	283	54	43	293	109	33	130	33	76	120	33

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	370	446	196	228
Volume Left (vph)	33	43	33	76
Volume Right (vph)	54	109	33	33
Hadj (s)	-0.04	-0.09	-0.03	0.01
Departure Headway (s)	6.4	6.2	7.1	7.0
Degree Utilization, x	0.65	0.76	0.39	0.45
Capacity (veh/h)	530	553	429	442
Control Delay (s)	20.6	26.3	14.5	15.6
Approach Delay (s)	20.6	26.3	14.5	15.6
Approach LOS	C	D	B	C

Intersection Summary			
Delay		20.8	
HCM Level of Service		C	
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 25: Central Av & A St

4/15/2009

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	20	320	380	20	70	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	348	413	22	76	43
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total (vph)	22	348	413	22	120	
Volume Left (vph)	22	0	413	0	0	
Volume Right (vph)	0	348	0	0	43	
Hadj (s)	0.53	-0.67	0.53	0.03	-0.18	
Departure Headway (s)	6.7	5.5	6.3	5.8	5.9	
Degree Utilization, x	0.04	0.53	0.72	0.03	0.20	
Capacity (veh/h)	505	614	557	594	561	
Control Delay (s)	8.8	13.3	22.6	7.8	10.4	
Approach Delay (s)	13.1		21.9		10.4	
Approach LOS	B		C		B	
Intersection Summary						
Delay			16.9			
HCM Level of Service			C			
Intersection Capacity Utilization			37.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	60	110	150	40	120	60	140	220	20	50	340	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	120	163	43	130	65	152	239	22	54	370	76

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	348	239	272	141	239	261
Volume Left (vph)	65	43	152	0	54	0
Volume Right (vph)	163	65	0	22	0	76
Hadj (s)	-0.21	-0.09	0.31	-0.07	0.15	-0.17
Departure Headway (s)	7.1	7.6	8.2	7.8	7.9	7.6
Degree Utilization, x	0.69	0.51	0.62	0.31	0.52	0.55
Capacity (veh/h)	476	429	419	439	437	449
Control Delay (s)	24.6	18.2	22.3	13.0	18.1	18.2
Approach Delay (s)	24.6	18.2	19.1		18.1	
Approach LOS	C	C	C		C	

Intersection Summary

Delay	19.9
HCM Level of Service	C
Intersection Capacity Utilization	58.6%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

27: Pine Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	120	50	40	120	40	50	320	40	40	460	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	130	54	43	130	43	54	348	43	43	500	43

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	228	217	228	217	293	293
Volume Left (vph)	43	43	54	0	43	0
Volume Right (vph)	54	43	0	43	0	43
Hadj (s)	-0.07	-0.05	0.15	-0.11	0.11	-0.07
Departure Headway (s)	7.1	7.2	7.4	7.1	7.1	7.0
Degree Utilization, x	0.45	0.43	0.47	0.43	0.58	0.57
Capacity (veh/h)	460	460	460	483	489	494
Control Delay (s)	15.9	15.6	15.6	14.2	18.5	17.5
Approach Delay (s)	15.9	15.6	14.9		18.0	
Approach LOS	C	C	B		C	

Intersection Summary	
Delay	16.4
HCM Level of Service	C
Intersection Capacity Utilization	52.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 28: College Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	120	50	30	130	20	50	310	20	20	480	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	130	54	33	141	22	54	337	22	22	522	76

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	239	196	223	190	283	337
Volume Left (vph)	54	33	54	0	22	0
Volume Right (vph)	54	22	0	22	0	76
Hadj (s)	-0.06	0.00	0.16	-0.05	0.07	-0.12
Departure Headway (s)	7.0	7.2	7.4	7.2	7.0	6.8
Degree Utilization, x	0.47	0.39	0.46	0.38	0.55	0.64
Capacity (veh/h)	469	455	460	479	499	509
Control Delay (s)	16.0	14.8	15.2	13.3	17.0	19.7
Approach Delay (s)	16.0	14.8	14.3		18.5	
Approach LOS	C	B	B		C	

Intersection Summary	
Delay	16.4
HCM Level of Service	C
Intersection Capacity Utilization	55.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.97	1.00
Satd. Flow (prot)	1770	3502		1770	3409			1842	1583		1809	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.75	1.00		0.59	1.00
Satd. Flow (perm)	1770	3502		1770	3409			1398	1583		1107	1583
Volume (vph)	70	660	50	60	460	150	60	200	80	270	180	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	717	54	65	500	163	65	217	87	293	196	98
RTOR Reduction (vph)	0	5	0	0	33	0	0	0	47	0	0	53
Lane Group Flow (vph)	76	766	0	65	630	0	0	282	40	0	489	45
Turn Type	Prot		Prot		pm+pt		Perm		pm+pt		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	6.5	21.6		6.5	22.1			33.3	33.3		33.3	33.3
Effective Green, g (s)	6.2	21.8		6.7	22.3			34.0	34.0		34.0	34.0
Actuated g/C Ratio	0.08	0.29		0.09	0.30			0.46	0.46		0.46	0.46
Clearance Time (s)	3.7	4.2		4.2	4.2			4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	147	1025		159	1020			638	722		505	722
v/s Ratio Prot	c0.04	c0.22		0.04	0.18							
v/s Ratio Perm								0.20	0.03		c0.44	0.03
v/c Ratio	0.52	0.75		0.41	0.62			0.44	0.05		0.97	0.06
Uniform Delay, d1	32.7	23.9		32.0	22.4			13.8	11.3		19.7	11.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	3.1	3.0		1.7	1.1			0.5	0.0		31.7	0.0
Delay (s)	35.8	26.9		33.7	23.6			14.3	11.3		51.4	11.4
Level of Service	D	C		C	C			B	B		D	B
Approach Delay (s)		27.7			24.5			13.6			44.7	
Approach LOS		C			C			B			D	

Intersection Summary

HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	74.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

30: Laurel Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	20	20	20	10	40	10	90	20	120	160	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	22	22	22	11	43	11	98	22	130	174	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	54	76	130	315
Volume Left (vph)	11	22	11	130
Volume Right (vph)	22	43	22	11
Hadj (s)	-0.17	-0.25	-0.05	0.10
Departure Headway (s)	4.9	4.8	4.5	4.5
Degree Utilization, x	0.07	0.10	0.16	0.39
Capacity (veh/h)	663	682	755	776
Control Delay (s)	8.3	8.3	8.4	10.3
Approach Delay (s)	8.3	8.3	8.4	10.3
Approach LOS	A	A	A	B

Intersection Summary			
Delay		9.4	
HCM Level of Service		A	
Intersection Capacity Utilization	35.3%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

31: Ocean Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↕↰		↰	↕↰		↰	↕	↰	↰	↕	↰
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3506		1770	3499		1770	1863	1583	1770	1736	
Flt Permitted	0.95	1.00		0.95	1.00		0.68	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	1770	3506		1770	3499		1268	1863	1583	1331	1736	
Volume (vph)	70	900	60	40	600	50	50	60	90	100	60	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	978	65	43	652	54	54	65	98	109	65	54
RTOR Reduction (vph)	0	5	0	0	7	0	0	0	76	0	42	0
Lane Group Flow (vph)	76	1038	0	43	699	0	54	65	22	109	77	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8				4
Permitted Phases							8		8		4	
Actuated Green, G (s)	3.1	18.1		1.3	16.3		9.1	9.1	9.1	9.1	9.1	
Effective Green, g (s)	2.8	19.0		1.0	17.2		9.3	9.3	9.3	9.3	9.3	
Actuated g/C Ratio	0.07	0.46		0.02	0.42		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	3.7	4.9		3.7	4.9		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	120	1613		43	1457		286	420	356	300	391	
v/s Ratio Prot	c0.04	c0.30		0.02	0.20			0.03			0.04	
v/s Ratio Perm							0.04		0.01	c0.08		
v/c Ratio	0.63	0.64		1.00	0.48		0.19	0.15	0.06	0.36	0.20	
Uniform Delay, d1	18.8	8.6		20.1	8.8		12.9	12.8	12.6	13.5	13.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.8	0.7		137.2	0.1		0.3	0.2	0.1	0.8	0.2	
Delay (s)	26.5	9.2		157.4	8.9		13.3	13.0	12.6	14.3	13.2	
Level of Service	C	A		F	A		B	B	B	B	B	
Approach Delay (s)		10.4			17.4			12.9			13.7	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	41.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

32: Ocean Av & Highway 1

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗↘		↖	↗	↘		↗↘	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.95	0.95	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3482		1681	1703	1583		1825	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.36	0.40	1.00		0.77	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3482		643	704	1583		1435	1583
Volume (vph)	10	430	760	110	250	30	290	40	30	100	140	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	467	826	120	272	33	315	43	33	109	152	33
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	20	0	0	24
Lane Group Flow (vph)	11	467	826	120	297	0	158	200	13	0	261	9
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	1.1	21.6	67.6	5.7	26.2		24.9	24.9	24.9		15.6	15.6
Effective Green, g (s)	1.6	23.6	67.6	6.2	28.2		25.8	25.8	25.8		17.6	17.6
Actuated g/C Ratio	0.02	0.35	1.00	0.09	0.42		0.38	0.38	0.38		0.26	0.26
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	42	650	1583	162	1453		310	331	604		374	412
v/s Ratio Prot	0.01	c0.25		0.07	0.09		0.03	0.04				
v/s Ratio Perm			c0.52				0.16	0.19	0.01		c0.18	0.01
v/c Ratio	0.26	0.72	0.52	0.74	0.20		0.51	0.60	0.02		0.70	0.02
Uniform Delay, d1	32.4	19.1	0.0	29.9	12.6		15.1	16.8	13.0		22.6	18.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	3.2	1.2	14.7	0.0		0.5	2.1	0.0		4.5	0.0
Delay (s)	33.6	22.3	1.2	44.6	12.6		15.6	18.9	13.0		27.1	18.6
Level of Service	C	C	A	D	B		B	B	B		C	B
Approach Delay (s)		9.0			21.6			17.1			26.2	
Approach LOS		A			C			B			C	

Intersection Summary

HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

33: Ocean Av & N Bailey Avenue

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	90	20	20	350	10	10	10	20	10	10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	98	22	22	380	11	11	11	22	11	11	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	391			120			576	565	109	587	571	386
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	391			120			576	565	109	587	571	386
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			97	97	98	97	97	98
cM capacity (veh/h)	1167			1468			405	424	945	396	421	662

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	130	413	43	33
Volume Left	11	22	11	11
Volume Right	22	11	22	11
cSH	1167	1468	576	468
Volume to Capacity	0.01	0.01	0.08	0.07
Queue Length 95th (ft)	1	1	6	6
Control Delay (s)	0.8	0.5	11.8	13.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.8	0.5	11.8	13.3
Approach LOS			B	B

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)		15	

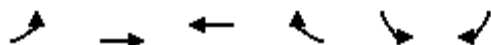
HCM Unsignalized Intersection Capacity Analysis
 34: Central Av & N Bailey Avenue

4/15/2009

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	130	20	40	500	30	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	141	22	43	543	33	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			163		783	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			163		783	152
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		91	90
cM capacity (veh/h)			1416		351	894
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	163	43	543	33	87	
Volume Left	0	43	0	33	0	
Volume Right	22	0	0	0	87	
cSH	1700	1416	1700	351	894	
Volume to Capacity	0.10	0.03	0.32	0.09	0.10	
Queue Length 95th (ft)	0	2	0	8	8	
Control Delay (s)	0.0	7.6	0.0	16.3	9.5	
Lane LOS		A		C	A	
Approach Delay (s)	0.0	0.6		11.3		
Approach LOS				B		
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			36.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 35: Ocean Av & Floradale Ave

4/15/2009



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↗	↘	↘
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	50	180	180	60	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	54	196	196	65	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	391				272	196
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	391				272	196
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				91	99
cM capacity (veh/h)	1167				711	846




















Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	65	196	196	76
Volume Left	11	0	0	65
Volume Right	0	0	196	11
cSH	1167	1700	1700	728
Volume to Capacity	0.01	0.12	0.12	0.10
Queue Length 95th (ft)	1	0	0	9
Control Delay (s)	1.4	0.0	0.0	10.5
Lane LOS	A			B
Approach Delay (s)	1.4	0.0		10.5
Approach LOS				B

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization	21.8%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

36: Central Av & Floradale Ave

4/15/2009

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0		
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.93		
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1804			1842	1583	1770	1847		1770	1723		
Flt Permitted		0.86			0.92	1.00	0.71	1.00		0.63	1.00		
Satd. Flow (perm)		1573			1708	1583	1330	1847		1182	1723		
Volume (vph)	30	50	10	40	140	370	10	170	10	100	30	30	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	33	54	11	43	152	402	11	185	11	109	33	33	
RTOR Reduction (vph)	0	7	0	0	0	266	0	5	0	0	21	0	
Lane Group Flow (vph)	0	91	0	0	195	136	11	191	0	109	45	0	
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm			
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4			8		8	2			6			
Actuated Green, G (s)		8.6			8.6	8.6	8.9	8.9		8.9	8.9		
Effective Green, g (s)		8.6			8.6	8.6	8.9	8.9		8.9	8.9		
Actuated g/C Ratio		0.34			0.34	0.34	0.35	0.35		0.35	0.35		
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0		
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		531			576	534	464	645		413	601		
v/s Ratio Prot								c0.10			0.03		
v/s Ratio Perm		0.06			c0.11	0.09	0.01			0.09			
v/c Ratio		0.17			0.34	0.25	0.02	0.30		0.26	0.07		
Uniform Delay, d1		5.9			6.3	6.1	5.4	6.0		6.0	5.5		
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.2			0.4	0.3	0.0	0.3		0.3	0.1		
Delay (s)		6.1			6.7	6.4	5.5	6.3		6.3	5.6		
Level of Service		A			A	A	A	A		A	A		
Approach Delay (s)		6.1			6.5			6.2			6.0		
Approach LOS		A			A			A			A		
Intersection Summary													
HCM Average Control Delay			6.3									HCM Level of Service	A
HCM Volume to Capacity ratio			0.32										
Actuated Cycle Length (s)			25.5									Sum of lost time (s)	8.0
Intersection Capacity Utilization			47.4%									ICU Level of Service	A
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Central Av & V St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.86			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3430		1770	1844		1770	1597			1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00			0.74	
Satd. Flow (perm)	1770	3430		1770	1844		1370	1597			1321	
Volume (vph)	10	540	140	240	140	10	70	10	190	10	10	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	587	152	261	152	11	76	11	207	11	11	11
RTOR Reduction (vph)	0	28	0	0	2	0	0	177	0	0	9	0
Lane Group Flow (vph)	11	711	0	261	161	0	76	41	0	0	24	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8				4	
Actuated Green, G (s)	0.7	20.7		9.1	29.1		6.7	6.7			6.7	
Effective Green, g (s)	0.7	22.2		9.1	30.6		7.2	7.2			7.2	
Actuated g/C Ratio	0.01	0.44		0.18	0.61		0.14	0.14			0.14	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.5	4.5			4.5	
Vehicle Extension (s)	1.5	4.5		1.5	4.5		3.0	3.0			3.0	
Lane Grp Cap (vph)	25	1508		319	1117		195	228			188	
v/s Ratio Prot	0.01	c0.21		c0.15	0.09			0.03				
v/s Ratio Perm							c0.06				0.02	
v/c Ratio	0.44	0.47		0.82	0.14		0.39	0.18			0.13	
Uniform Delay, d1	24.7	10.0		19.9	4.3		19.7	19.0			18.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	4.4	0.4		14.2	0.1		1.3	0.4			0.3	
Delay (s)	29.2	10.4		34.1	4.4		20.9	19.4			19.2	
Level of Service	C	B		C	A		C	B			B	
Approach Delay (s)		10.7			22.7			19.8			19.2	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM Average Control Delay			16.1			HCM Level of Service					B	
HCM Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			50.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			55.0%			ICU Level of Service					A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 2: North Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	70	50	80	80	40	60	200	70	50	240	50
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	43	74	53	85	85	43	64	213	74	53	255	53

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	170	213	351	362
Volume Left (vph)	43	85	64	53
Volume Right (vph)	53	43	74	53
Hadj (s)	-0.10	-0.01	-0.06	-0.02
Departure Headway (s)	6.4	6.4	5.8	5.8
Degree Utilization, x	0.30	0.38	0.57	0.58
Capacity (veh/h)	478	489	581	576
Control Delay (s)	12.2	13.2	16.1	16.6
Approach Delay (s)	12.2	13.2	16.1	16.6
Approach LOS	B	B	C	C

Intersection Summary			
Delay		15.1	
HCM Level of Service		C	
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: Pine Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	10	20	10	40	20	330	30	50	340	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	11	11	22	11	43	22	359	33	54	370	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	951	918	375	918	908	375	380			391		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	951	918	375	918	908	375	380			391		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	96	98	90	96	94	98			95		
cM capacity (veh/h)	206	254	671	228	258	671	1178			1167		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	76	413	435
Volume Left	11	22	22	54
Volume Right	11	43	33	11
cSH	292	376	1178	1167
Volume to Capacity	0.11	0.20	0.02	0.05
Queue Length 95th (ft)	9	19	1	4
Control Delay (s)	18.9	17.0	0.6	1.5
Lane LOS	C	C	A	A
Approach Delay (s)	18.9	17.0	0.6	1.5
Approach LOS	C	C		

Intersection Summary			
Average Delay		2.9	
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 4: College Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	30	30	40	30	50	30	260	50	50	260	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	33	33	43	33	54	33	283	54	54	283	54

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	109	130	370	391
Volume Left (vph)	43	43	33	54
Volume Right (vph)	33	54	54	54
Hadj (s)	-0.07	-0.15	-0.04	-0.02
Departure Headway (s)	6.1	5.9	5.2	5.2
Degree Utilization, x	0.18	0.22	0.53	0.56
Capacity (veh/h)	499	521	656	667
Control Delay (s)	10.4	10.6	13.9	14.6
Approach Delay (s)	10.4	10.6	13.9	14.6
Approach LOS	B	B	B	B

Intersection Summary			
Delay		13.4	
HCM Level of Service		B	
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

5: Laurel Av & V St

4/15/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	40	110	230	40	110	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	120	250	43	120	217
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total (vph)	163	293	337			
Volume Left (vph)	43	0	120			
Volume Right (vph)	120	43	0			
Hadj (s)	-0.35	-0.05	0.10			
Departure Headway (s)	5.0	4.7	4.8			
Degree Utilization, x	0.23	0.38	0.45			
Capacity (veh/h)	646	736	721			
Control Delay (s)	9.5	10.6	11.6			
Approach Delay (s)	9.5	10.6	11.6			
Approach LOS	A	B	B			
Intersection Summary						
Delay			10.8			
HCM Level of Service			B			
Intersection Capacity Utilization			50.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6

Cycle (sec): 100 Critical Vol./Cap.(X): 0.469
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 12.9
Optimal Cycle: 0 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: PM. Table with 13 columns representing different traffic volumes and adjustment factors.

Saturation Flow Module. Table with 13 columns representing saturation flow values and final saturation levels.

Capacity Analysis Module. Table with 13 columns representing capacity analysis metrics like Vol/Sat, Crit Moves, Delay/Veh, etc.

Note: Queue reported is the number of cars per lane.

HCM Unsignalized Intersection Capacity Analysis

7: Ocean Av & R St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Sign Control	Free		Free				Stop				Stop	
Grade	0%		0%				0%				0%	
Volume (veh/h)	40	330	20	80	310	90	10	40	60	30	50	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	42	344	21	83	323	94	10	42	62	31	52	52
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	1191											
pX, platoon unblocked												
vC, conflicting volume	417			365			844	1021	182	875	984	208
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	417			365			844	1021	182	875	984	208
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			93			94	80	92	82	76	93
cM capacity (veh/h)	1139			1191			181	210	829	176	221	798

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	42	229	135	83	215	201	115	135
Volume Left	42	0	0	83	0	0	10	31
Volume Right	0	0	21	0	0	94	62	52
cSH	1139	1700	1700	1191	1700	1700	346	283
Volume to Capacity	0.04	0.13	0.08	0.07	0.13	0.12	0.33	0.48
Queue Length 95th (ft)	3	0	0	6	0	0	35	61
Control Delay (s)	8.3	0.0	0.0	8.3	0.0	0.0	20.4	28.8
Lane LOS	A			A			C	D
Approach Delay (s)	0.8			1.4			20.4	28.8
Approach LOS							C	D

Intersection Summary

Average Delay	6.3
Intersection Capacity Utilization	38.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

8: Central Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3448		1770	3489		1770	1863	1583	1770	3373	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3448		1770	3489		1770	1863	1583	1770	3373	
Volume (vph)	80	530	110	260	380	40	40	100	230	50	110	50
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	558	116	274	400	42	42	105	242	53	116	53
RTOR Reduction (vph)	0	22	0	0	9	0	0	0	202	0	44	0
Lane Group Flow (vph)	84	652	0	274	433	0	42	105	40	53	125	0
Turn Type	Prot		Prot			Prot		Perm		Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	4.2	18.0		12.2	26.0		2.3	9.9	9.9	2.3	9.9	
Effective Green, g (s)	3.7	18.5		11.7	26.5		1.8	9.6	9.6	1.8	9.6	
Actuated g/C Ratio	0.06	0.32		0.20	0.46		0.03	0.17	0.17	0.03	0.17	
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.7	3.7	3.5	3.7	
Vehicle Extension (s)	2.0	3.5		2.0	3.5		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	114	1107		360	1605		55	311	264	55	562	
v/s Ratio Prot	0.05	c0.19		c0.15	0.12		c0.02	c0.06		c0.03	0.04	
v/s Ratio Perm									0.03			
v/c Ratio	0.74	0.59		0.76	0.27		0.76	0.34	0.15	0.96	0.22	
Uniform Delay, d1	26.5	16.4		21.6	9.6		27.7	21.2	20.5	27.9	20.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	19.0	0.9		8.3	0.1		42.3	0.9	0.4	106.9	0.3	
Delay (s)	45.5	17.2		29.9	9.7		70.0	22.1	20.9	134.7	21.0	
Level of Service	D	B		C	A		E	C	C	F	C	
Approach Delay (s)		20.4			17.4			26.5			48.2	
Approach LOS		C			B			C			D	

Intersection Summary

HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 9: North Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	170	70	50	210	70	50	290	80	60	240	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	185	76	54	228	76	54	315	87	65	261	65

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	190	168	359	212	245	196	196
Volume Left (vph)	98	0	54	54	0	65	0
Volume Right (vph)	0	76	76	0	87	0	65
Hadj (s)	0.29	-0.28	-0.06	0.16	-0.21	0.20	-0.20
Departure Headway (s)	8.5	7.9	7.8	8.2	7.9	8.4	8.0
Degree Utilization, x	0.45	0.37	0.78	0.49	0.53	0.46	0.43
Capacity (veh/h)	401	429	441	413	432	397	418
Control Delay (s)	17.1	14.3	33.1	17.6	18.3	17.1	15.8
Approach Delay (s)	15.8		33.1	18.0		16.4	
Approach LOS	C		D	C		C	

Intersection Summary	
Delay	20.6
HCM Level of Service	C
Intersection Capacity Utilization	63.3%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 10: Pine Av & O St

4/15/2009























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	80	20	60	90	50	30	360	70	40	330	20
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	86	22	65	97	54	32	387	75	43	355	22

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	140	215	495	419
Volume Left (vph)	32	65	32	43
Volume Right (vph)	22	54	75	22
Hadj (s)	-0.01	-0.06	-0.04	0.02
Departure Headway (s)	7.3	7.0	6.0	6.2
Degree Utilization, x	0.29	0.42	0.83	0.73
Capacity (veh/h)	421	461	572	550
Control Delay (s)	13.3	15.0	31.5	23.9
Approach Delay (s)	13.3	15.0	31.5	23.9
Approach LOS	B	C	D	C

Intersection Summary			
Delay		24.2	
HCM Level of Service		C	
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 11: College Av & O St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Volume (vph)	50	130	20	90	120	100	30	320	70	70	280	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	141	22	98	130	109	33	348	76	76	304	43
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	54	163	98	239	380	76	76	348				
Volume Left (vph)	54	0	98	0	33	0	76	0				
Volume Right (vph)	0	22	0	109	0	76	0	43				
Hadj (s)	0.53	-0.06	0.53	-0.28	0.08	-0.67	0.53	-0.05				
Departure Headway (s)	8.4	7.8	8.1	7.3	7.2	6.5	7.7	7.1				
Degree Utilization, x	0.13	0.35	0.22	0.48	0.76	0.14	0.16	0.69				
Capacity (veh/h)	399	421	419	461	487	533	446	486				
Control Delay (s)	11.4	13.7	12.2	15.8	28.5	9.3	11.0	23.3				
Approach Delay (s)	13.1		14.7		25.3		21.1					
Approach LOS	B		B		D		C					
Intersection Summary												
Delay			19.7									
HCM Level of Service			C									
Intersection Capacity Utilization			64.8%		ICU Level of Service	C						
Analysis Period (min)			15									

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12

Cycle (sec): 100 Critical Vol./Cap.(X): 0.620
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 15.6
Optimal Cycle: 0 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module: PM. Table with 12 columns representing traffic flows and 12 rows of metrics including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module. Table with 12 columns and 3 rows: Adjustment, Lanes, and Final Sat.

Capacity Analysis Module. Table with 12 columns and 12 rows: Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Signalized Intersection Capacity Analysis

13: Ocean Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3498		1770	3391		1770	1803		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.68	1.00		0.66	1.00	1.00
Satd. Flow (perm)	1770	3498		1770	3391		1261	1803		1237	1863	1583
Volume (vph)	50	350	30	60	440	170	70	110	30	140	120	90
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	365	31	62	458	177	73	115	31	146	125	94
RTOR Reduction (vph)	0	8	0	0	52	0	0	18	0	0	0	71
Lane Group Flow (vph)	52	388	0	62	583	0	73	128	0	146	125	23
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Actuated Green, G (s)	1.3	24.0		1.3	24.0		13.1	13.1		13.1	13.1	13.1
Effective Green, g (s)	5.3	24.2		5.3	24.2		13.8	13.8		13.8	13.8	13.8
Actuated g/C Ratio	0.10	0.44		0.10	0.44		0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	8.0	4.2		8.0	4.2		4.7	4.7		4.7	4.7	4.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	170	1531		170	1484		315	450		309	465	395
v/s Ratio Prot	0.03	0.11		c0.04	c0.17			0.07			0.07	
v/s Ratio Perm							0.06			c0.12		0.01
v/c Ratio	0.31	0.25		0.36	0.39		0.23	0.28		0.47	0.27	0.06
Uniform Delay, d1	23.3	9.8		23.4	10.6		16.5	16.8		17.7	16.7	15.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0		0.5	0.1		0.4	0.3		1.1	0.3	0.1
Delay (s)	23.7	9.9		23.9	10.6		16.9	17.1		18.8	17.0	15.9
Level of Service	C	A		C	B		B	B		B	B	B
Approach Delay (s)		11.5			11.8			17.0			17.4	
Approach LOS		B			B			B			B	























Intersection Summary

HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

14: Ocean Av & I St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3528		1770	3488		1770	1695		1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3528		1770	3488		1774	1695		1774	1770	
Volume (vph)	20	490	10	50	660	70	20	20	30	10	20	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	533	11	54	717	76	22	22	33	11	22	11
RTOR Reduction (vph)	0	1	0	0	6	0	0	31	0	0	10	0
Lane Group Flow (vph)	22	543	0	54	787	0	22	24	0	11	23	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8					4
Actuated Green, G (s)	1.0	36.3		2.9	37.9		4.0	4.0		4.0	4.0	
Effective Green, g (s)	1.0	36.8		2.6	38.4		4.2	4.2		4.2	4.2	
Actuated g/C Ratio	0.02	0.66		0.05	0.69		0.08	0.08		0.08	0.08	
Clearance Time (s)	4.0	4.5		3.7	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	32	2335		83	2409		134	128		134	134	
v/s Ratio Prot	0.01	0.15		c0.03	c0.23			c0.01			0.01	
v/s Ratio Perm							0.01			0.01		
v/c Ratio	0.69	0.23		0.65	0.33		0.16	0.19		0.08	0.17	
Uniform Delay, d1	27.1	3.8		26.1	3.4		24.1	24.1		23.9	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	47.1	0.0		13.1	0.0		0.6	0.7		0.3	0.6	
Delay (s)	74.2	3.8		39.1	3.5		24.6	24.8		24.2	24.7	
Level of Service	E	A		D	A		C	C		C	C	
Approach Delay (s)		6.5			5.7			24.8			24.5	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			7.5			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			55.6			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			41.6%			ICU Level of Service				A		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis
 15: Olive Av & I St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	100	20	10	90	20	30	110	30	10	70	20
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	22	110	22	11	99	22	33	121	33	11	77	22

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	154	132	187	110
Volume Left (vph)	22	11	33	11
Volume Right (vph)	22	22	33	22
Hadj (s)	-0.02	-0.05	-0.04	-0.07
Departure Headway (s)	4.8	4.8	4.7	4.8
Degree Utilization, x	0.20	0.18	0.24	0.15
Capacity (veh/h)	698	696	718	694
Control Delay (s)	9.0	8.8	9.2	8.6
Approach Delay (s)	9.0	8.8	9.2	8.6
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.0	
HCM Level of Service		A	
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis
 16: Highway 1 & Harris Grade Rd


































4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3470		1610	3324	1583	1770	1863	1583
Flt Permitted	0.28	1.00	1.00	0.38	1.00		0.95	0.98	1.00	0.31	1.00	1.00
Satd. Flow (perm)	521	3539	1583	712	3470		1610	3324	1583	579	1863	1583
Volume (vph)	50	330	650	270	400	60	720	500	230	50	400	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	351	691	287	426	64	766	532	245	53	426	21
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	351	691	287	476	0	418	880	245	53	426	21
Turn Type	pm+pt		Free pm+pt			Split		Free custom			Free	
Protected Phases	7	4		3	8		2	2				
Permitted Phases	4		Free	8					Free	6	6	Free
Actuated Green, G (s)	18.7	14.7	88.4	20.7	15.7		24.7	24.7	88.4	20.0	20.0	88.4
Effective Green, g (s)	22.7	16.7	88.4	24.7	17.7		26.7	26.7	88.4	22.0	22.0	88.4
Actuated g/C Ratio	0.26	0.19	1.00	0.28	0.20		0.30	0.30	1.00	0.25	0.25	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	219	669	1583	283	695		486	1004	1583	144	464	1583
v/s Ratio Prot	0.02	0.10		c0.08	0.14		0.26	c0.26				
v/s Ratio Perm	0.05		c0.44	c0.20					0.15	0.09	c0.23	0.01
v/c Ratio	0.24	0.52	0.44	1.01	0.69		0.86	0.88	0.15	0.37	0.92	0.01
Uniform Delay, d1	25.4	32.3	0.0	30.6	32.8		29.1	29.3	0.0	27.5	32.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.7	0.9	57.2	2.8		14.4	8.7	0.2	1.6	22.9	0.0
Delay (s)	26.0	33.0	0.9	87.7	35.6		43.5	38.0	0.2	29.0	55.3	0.0
Level of Service	C	C	A	F	D		D	D	A	C	E	A
Approach Delay (s)		12.4			54.8			33.5			50.2	
Approach LOS		B			D			C			D	
Intersection Summary												
HCM Average Control Delay			34.0	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			88.4	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			81.6%	ICU Level of Service				D				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 	 	 	 	 	 	 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3392		1770	3539	1583	1770	3469		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3392		1770	3539	1583	1770	3469		1770	3539	1583
Volume (vph)	400	390	150	150	280	230	210	720	110	270	620	240
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	430	419	161	161	301	247	226	774	118	290	667	258
RTOR Reduction (vph)	0	48	0	0	0	196	0	13	0	0	0	177
Lane Group Flow (vph)	430	532	0	161	301	51	226	879	0	290	667	81
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	11.5	17.9		9.3	15.7	15.7	12.3	22.6		14.7	25.0	25.0
Effective Green, g (s)	11.2	19.2		9.0	17.0	17.0	12.0	23.1		14.4	25.5	25.5
Actuated g/C Ratio	0.14	0.24		0.11	0.21	0.21	0.15	0.28		0.18	0.31	0.31
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	471	797		195	736	329	260	981		312	1105	494
v/s Ratio Prot	c0.13	c0.16		0.09	0.09		0.13	c0.25		c0.16	0.19	
v/s Ratio Perm						0.03						0.05
v/c Ratio	0.91	0.67		0.83	0.41	0.16	0.87	0.90		0.93	0.60	0.16
Uniform Delay, d1	34.8	28.4		35.6	28.0	26.5	34.1	28.1		33.1	23.8	20.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	21.6	2.1		22.9	0.4	0.2	24.3	10.4		32.3	0.6	0.1
Delay (s)	56.4	30.5		58.5	28.4	26.7	58.4	38.5		65.4	24.5	20.4
Level of Service	E	C		E	C	C	E	D		E	C	C
Approach Delay (s)		41.5			34.6			42.6			33.4	
Approach LOS		D			C			D			C	
Intersection Summary												
HCM Average Control Delay			38.2				HCM Level of Service				D	
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			81.7				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			75.6%				ICU Level of Service			D		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

18: Barton Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1817	1583		1758		1770	3520		1770	3539	1583
Flt Permitted		0.83	1.00		0.91		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1537	1583		1622		1770	3520		1770	3539	1583
Volume (vph)	60	60	60	20	40	30	100	1080	40	40	1160	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	65	65	22	43	33	109	1174	43	43	1261	98
RTOR Reduction (vph)	0	0	54	0	28	0	0	3	0	0	0	42
Lane Group Flow (vph)	0	130	11	0	70	0	109	1214	0	43	1261	56
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)		10.6	10.6		10.6		5.4	40.4		2.1	37.1	37.1
Effective Green, g (s)		10.8	10.8		10.8		5.1	40.9		1.8	37.6	37.6
Actuated g/C Ratio		0.16	0.16		0.16		0.08	0.62		0.03	0.57	0.57
Clearance Time (s)		4.2	4.2		4.2		3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		253	261		267		138	2198		49	2032	909
v/s Ratio Prot							c0.06	c0.34		0.02	c0.36	
v/s Ratio Perm		c0.08	0.01		0.04							0.04
v/c Ratio		0.51	0.04		0.26		0.79	0.55		0.88	0.62	0.06
Uniform Delay, d1		25.0	23.0		23.9		29.7	7.1		31.7	9.2	6.2
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.8	0.1		0.5		25.2	0.3		83.1	0.6	0.0
Delay (s)		26.7	23.1		24.4		54.9	7.4		114.9	9.8	6.2
Level of Service		C	C		C		D	A		F	A	A
Approach Delay (s)		25.5			24.4			11.3			12.8	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	65.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

19: North Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3504		1770	3508	
Flt Permitted	0.39	1.00	1.00	0.46	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	723	1863	1583	854	1863	1583	1770	3504		1770	3508	
Volume (vph)	110	210	70	110	240	140	70	850	60	130	800	50
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	219	73	115	250	146	73	885	62	135	833	52
RTOR Reduction (vph)	0	0	60	0	0	120	0	6	0	0	6	0
Lane Group Flow (vph)	115	219	13	115	250	26	73	941	0	135	879	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	12.7	9.8	9.8	12.7	9.8	9.8	2.7	23.6		5.2	26.1	
Effective Green, g (s)	13.7	10.3	10.3	13.7	10.3	10.3	2.4	24.1		4.9	26.6	
Actuated g/C Ratio	0.23	0.18	0.18	0.23	0.18	0.18	0.04	0.41		0.08	0.45	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	229	327	278	252	327	278	72	1439		148	1590	
v/s Ratio Prot	c0.03	0.12		0.03	c0.13		0.04	c0.27		c0.08	0.25	
v/s Ratio Perm	0.09		0.01	0.08		0.02						
v/c Ratio	0.50	0.67	0.05	0.46	0.76	0.09	1.01	0.65		0.91	0.55	
Uniform Delay, d1	18.6	22.6	20.1	18.5	23.0	20.3	28.2	13.9		26.7	11.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	4.6	0.1	1.0	9.8	0.1	110.0	0.8		47.9	0.2	
Delay (s)	19.8	27.2	20.2	19.5	32.8	20.4	138.1	14.8		74.6	11.9	
Level of Service	B	C	C	B	C	C	F	B		E	B	
Approach Delay (s)		23.9			26.3			23.6			20.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			22.9				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			58.7				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			64.7%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pine Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1775		1770	3505		1770	3477	
Flt Permitted	0.45	1.00	1.00	0.67	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	843	1863	1583	1255	1775		1770	3505		1770	3477	
Volume (vph)	170	120	40	100	130	60	60	860	60	70	750	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	130	43	109	141	65	65	935	65	76	815	109
RTOR Reduction (vph)	0	0	34	0	31	0	0	7	0	0	15	0
Lane Group Flow (vph)	185	130	9	109	175	0	65	993	0	76	909	0
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	14.5	11.1	11.1	12.1	9.9		2.0	24.0		2.4	24.4	
Effective Green, g (s)	14.9	11.3	11.3	12.5	10.1		1.7	24.5		2.1	24.9	
Actuated g/C Ratio	0.26	0.20	0.20	0.22	0.18		0.03	0.44		0.04	0.44	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	282	374	318	301	318		53	1525		66	1538	
v/s Ratio Prot	c0.04	0.07		0.02	0.10		0.04	c0.28		c0.04	0.26	
v/s Ratio Perm	c0.13		0.01	0.07								
v/c Ratio	0.66	0.35	0.03	0.36	0.55		1.23	0.65		1.15	0.59	
Uniform Delay, d1	17.9	19.3	18.1	18.2	21.0		27.3	12.5		27.1	11.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	0.4	0.0	0.5	1.5		197.0	0.8		157.8	0.4	
Delay (s)	22.7	19.7	18.1	18.7	22.6		224.3	13.3		184.9	12.3	
Level of Service	C	B	B	B	C		F	B		F	B	
Approach Delay (s)		21.1			21.2			26.2			25.4	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

21: College Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↗		↖	↑↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3506		1770	3442	
Flt Permitted	0.35	1.00	1.00	0.65	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	650	1863	1583	1205	1863	1583	1770	3506		1770	3442	
Volume (vph)	190	170	60	60	190	40	80	750	50	70	620	140
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	175	62	62	196	41	82	773	52	72	639	144
RTOR Reduction (vph)	0	0	45	0	0	34	0	5	0	0	22	0
Lane Group Flow (vph)	196	175	17	62	196	7	82	820	0	72	761	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	23.3	17.0	17.0	12.3	10.2	10.2	4.0	24.4		3.3	23.7	
Effective Green, g (s)	23.5	17.2	17.2	12.7	10.4	10.4	3.7	24.9		3.0	24.2	
Actuated g/C Ratio	0.37	0.27	0.27	0.20	0.16	0.16	0.06	0.39		0.05	0.38	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	402	505	429	262	306	260	103	1377		84	1314	
v/s Ratio Prot	c0.07	0.09		0.01	c0.11		c0.05	c0.23		0.04	0.22	
v/s Ratio Perm	0.11		0.01	0.04		0.00						
v/c Ratio	0.49	0.35	0.04	0.24	0.64	0.03	0.80	0.60		0.86	0.58	
Uniform Delay, d1	14.5	18.6	17.0	21.0	24.8	22.2	29.5	15.3		30.0	15.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.3	0.0	0.3	4.0	0.0	31.5	0.5		51.9	0.4	
Delay (s)	15.2	18.9	17.0	21.3	28.8	22.3	61.0	15.7		81.9	15.9	
Level of Service	B	B	B	C	C	C	E	B		F	B	
Approach Delay (s)		16.9			26.3			19.8			21.5	
Approach LOS		B			C			B			C	

Intersection Summary

HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	63.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

22: Laurel Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1752			1745		1770	3533		1770	3490	
Flt Permitted		0.87			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1554			1618		1770	3533		1770	3490	
Volume (vph)	50	40	40	20	40	40	70	900	10	30	680	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	43	43	22	43	43	76	978	11	33	739	76
RTOR Reduction (vph)	0	34	0	0	37	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	106	0	0	71	0	76	988	0	33	808	0
Turn Type	pm+pt			pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.0			7.0		4.0	33.6		1.5	31.1	
Effective Green, g (s)		7.2			7.2		3.7	34.1		1.2	31.6	
Actuated g/C Ratio		0.13			0.13		0.07	0.63		0.02	0.58	
Clearance Time (s)		4.2			4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)		2.5			2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)		205			214		120	2211		39	2024	
v/s Ratio Prot							c0.04	c0.28		0.02	0.23	
v/s Ratio Perm		c0.07			0.04							
v/c Ratio		0.52			0.33		0.63	0.45		0.85	0.40	
Uniform Delay, d1		22.0			21.5		24.7	5.3		26.6	6.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6			0.7		7.8	0.1		82.5	0.0	
Delay (s)		23.7			22.1		32.5	5.4		109.0	6.3	
Level of Service		C			C		C	A		F	A	
Approach Delay (s)		23.7			22.1			7.3			10.3	
Approach LOS		C			C			A			B	

Intersection Summary

HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

23: Ocean Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	1770	3510		1770	3539	1583	1770	1839		1681	1726	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.59	1.00		0.39	0.46	1.00
Satd. Flow (perm)	1770	3510		1770	3539	1583	1100	1839		691	820	1583
Volume (vph)	160	340	20	20	590	310	20	210	20	250	120	190
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	170	362	21	21	628	330	21	223	21	266	128	202
RTOR Reduction (vph)	0	5	0	0	0	211	0	5	0	0	0	155
Lane Group Flow (vph)	170	378	0	21	628	119	21	239	0	133	261	47
Turn Type	Prot			Prot		Perm pm+pt				pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	7.0	27.2		1.1	21.3	21.3	13.4	12.2		16.6	16.6	13.8
Effective Green, g (s)	6.7	27.4		0.8	21.5	21.5	13.8	12.4		17.0	17.0	14.0
Actuated g/C Ratio	0.11	0.46		0.01	0.36	0.36	0.23	0.21		0.29	0.29	0.23
Clearance Time (s)	3.7	4.2		3.7	4.2	4.2	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	199	1614		24	1277	571	270	383		247	279	372
v/s Ratio Prot	c0.10	0.11		0.01	c0.18		0.00	0.13		0.03	c0.05	
v/s Ratio Perm						0.08	0.02			0.13	c0.22	0.03
v/c Ratio	0.85	0.23		0.88	0.49	0.21	0.08	0.62		0.54	0.94	0.13
Uniform Delay, d1	26.0	9.7		29.4	14.8	13.2	17.8	21.5		17.5	20.8	18.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.3	0.0		124.9	0.1	0.1	0.1	3.2		2.3	36.7	0.2
Delay (s)	53.3	9.8		154.2	14.9	13.2	17.9	24.6		19.8	57.5	18.1
Level of Service	D	A		F	B	B	B	C		B	E	B
Approach Delay (s)		23.2			17.3			24.1			35.7	
Approach LOS		C			B			C			D	

Intersection Summary

HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	290	50	30	350	90	50	130	20	90	120	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	42	302	52	31	365	94	52	135	21	94	125	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	396	490	208	260
Volume Left (vph)	42	31	52	94
Volume Right (vph)	52	94	21	42
Hadj (s)	-0.02	-0.07	0.02	0.01
Departure Headway (s)	7.1	6.8	8.0	7.7
Degree Utilization, x	0.78	0.92	0.46	0.56
Capacity (veh/h)	481	490	412	436
Control Delay (s)	30.4	48.5	17.6	20.1
Approach Delay (s)	30.4	48.5	17.6	20.1
Approach LOS	D	E	C	C

Intersection Summary			
Delay		33.0	
HCM Level of Service		D	
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 25: Central Av & A St

4/15/2009



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	60	400	390	60	40	30
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	62	412	402	62	41	31
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total (vph)	62	412	402	62	72	
Volume Left (vph)	62	0	402	0	0	
Volume Right (vph)	0	412	0	0	31	
Hadj (s)	0.53	-0.67	0.53	0.03	-0.22	
Departure Headway (s)	6.7	5.5	6.5	6.0	6.2	
Degree Utilization, x	0.11	0.63	0.72	0.10	0.12	
Capacity (veh/h)	513	628	540	574	534	
Control Delay (s)	9.3	15.9	23.5	8.5	10.1	
Approach Delay (s)	15.1		21.5		10.1	
Approach LOS	C		C		B	
Intersection Summary						
Delay			17.7			
HCM Level of Service			C			
Intersection Capacity Utilization			38.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	150	160	30	160	40	210	280	30	60	270	40
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	53	160	170	32	170	43	223	298	32	64	287	43

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	383	245	372	181	207	186
Volume Left (vph)	53	32	223	0	64	0
Volume Right (vph)	170	43	0	32	0	43
Hadj (s)	-0.20	-0.04	0.33	-0.09	0.19	-0.13
Departure Headway (s)	7.5	8.1	8.4	7.9	8.6	8.3
Degree Utilization, x	0.79	0.55	0.87	0.40	0.49	0.43
Capacity (veh/h)	462	403	416	442	390	403
Control Delay (s)	33.4	20.7	44.5	14.9	18.5	16.1
Approach Delay (s)	33.4	20.7	34.8		17.3	
Approach LOS	D	C	D		C	

Intersection Summary

Delay	27.9
HCM Level of Service	D
Intersection Capacity Utilization	63.1%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

27: Pine Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	80	50	30	80	30	60	430	20	30	350	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	87	54	33	87	33	65	467	22	33	380	33

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	174	152	299	255	223	223
Volume Left (vph)	33	33	65	0	33	0
Volume Right (vph)	54	33	0	22	0	33
Hadj (s)	-0.12	-0.05	0.14	-0.03	0.11	-0.07
Departure Headway (s)	6.5	6.7	6.5	6.3	6.6	6.4
Degree Utilization, x	0.32	0.28	0.54	0.45	0.41	0.40
Capacity (veh/h)	500	486	530	551	522	537
Control Delay (s)	12.5	12.3	15.5	13.1	12.8	12.4
Approach Delay (s)	12.5	12.3	14.4		12.6	
Approach LOS	B	B	B		B	

Intersection Summary	
Delay	13.3
HCM Level of Service	B
Intersection Capacity Utilization	47.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 28: College Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	100	50	30	150	50	80	450	40	50	350	40
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	31	103	52	31	155	52	82	464	41	52	361	41

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	186	237	314	273	232	222
Volume Left (vph)	31	31	82	0	52	0
Volume Right (vph)	52	52	0	41	0	41
Hadj (s)	-0.10	-0.07	0.17	-0.07	0.15	-0.10
Departure Headway (s)	7.1	7.0	7.1	6.8	7.3	7.0
Degree Utilization, x	0.37	0.46	0.62	0.52	0.47	0.43
Capacity (veh/h)	450	477	489	501	475	492
Control Delay (s)	14.3	15.8	19.7	15.8	15.3	14.1
Approach Delay (s)	14.3	15.8	17.9		14.7	
Approach LOS	B	C	C		B	

Intersection Summary	
Delay	16.1
HCM Level of Service	C
Intersection Capacity Utilization	54.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↕		↰	↕			↕	↰		↕	↰
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.97	1.00
Satd. Flow (prot)	1770	3504		1770	3394			1839	1583		1806	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.68	1.00		0.57	1.00
Satd. Flow (perm)	1770	3504		1770	3394			1271	1583		1070	1583
Volume (vph)	110	560	40	50	930	350	60	170	60	220	130	80
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	571	41	51	949	357	61	173	61	224	133	82
RTOR Reduction (vph)	0	4	0	0	43	0	0	0	42	0	0	57
Lane Group Flow (vph)	112	608	0	51	1263	0	0	234	19	0	357	25
Turn Type	Prot		Prot		pm+pt		Perm		pm+pt		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	5.2	31.7		4.7	31.7			20.9	20.9		20.9	20.9
Effective Green, g (s)	4.9	31.9		4.9	31.9			21.6	21.6		21.6	21.6
Actuated g/C Ratio	0.07	0.45		0.07	0.45			0.31	0.31		0.31	0.31
Clearance Time (s)	3.7	4.2		4.2	4.2			4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	123	1588		123	1538			390	486		328	486
v/s Ratio Prot	c0.06	0.17		0.03	c0.37							
v/s Ratio Perm								0.18	0.01		c0.33	0.02
v/c Ratio	0.91	0.38		0.41	0.82			0.60	0.04		1.09	0.05
Uniform Delay, d1	32.5	12.7		31.4	16.8			20.7	17.1		24.4	17.2
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	54.3	0.2		2.3	3.7			2.5	0.0		75.4	0.0
Delay (s)	86.8	12.9		33.6	20.4			23.2	17.1		99.8	17.2
Level of Service	F	B		C	C			C	B		F	B
Approach Delay (s)		24.3			20.9			22.0			84.4	
Approach LOS		C			C			C			F	

Intersection Summary

HCM Average Control Delay	31.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	70.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

30: Laurel Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	20	10	30	80	240	20	180	10	50	110	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	21	11	32	85	255	21	191	11	53	117	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	43	372	223	181
Volume Left (vph)	11	32	21	53
Volume Right (vph)	11	255	11	11
Hadj (s)	-0.07	-0.36	0.02	0.06
Departure Headway (s)	5.5	4.7	5.3	5.4
Degree Utilization, x	0.06	0.49	0.33	0.27
Capacity (veh/h)	570	724	627	617
Control Delay (s)	8.9	12.1	10.8	10.3
Approach Delay (s)	8.9	12.1	10.8	10.3
Approach LOS	A	B	B	B

Intersection Summary			
Delay		11.2	
HCM Level of Service		B	
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

31: Ocean Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3475		1770	3496		1770	1863	1583	1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.68	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	1770	3475		1770	3496		1263	1863	1583	1324	1770	
Volume (vph)	60	650	90	250	1250	110	40	70	70	70	80	40
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	663	92	255	1276	112	41	71	71	71	82	41
RTOR Reduction (vph)	0	11	0	0	6	0	0	0	59	0	26	0
Lane Group Flow (vph)	61	744	0	255	1382	0	41	71	12	71	97	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	5	2		1	6			8				4
Permitted Phases							8		8		4	
Actuated Green, G (s)	2.7	19.2		11.7	28.2		8.5	8.5	8.5	8.5	8.5	
Effective Green, g (s)	2.4	20.1		11.4	29.1		8.7	8.7	8.7	8.7	8.7	
Actuated g/C Ratio	0.05	0.39		0.22	0.56		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	3.7	4.9		3.7	4.9		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	81	1338		387	1949		211	311	264	221	295	
v/s Ratio Prot	0.03	0.21		c0.14	c0.40			0.04				c0.05
v/s Ratio Perm							0.03		0.01	0.05		
v/c Ratio	0.75	0.56		0.66	0.71		0.19	0.23	0.04	0.32	0.33	
Uniform Delay, d1	24.6	12.6		18.6	8.5		18.7	18.8	18.3	19.2	19.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	29.0	0.3		3.1	1.0		0.5	0.4	0.1	0.8	0.7	
Delay (s)	53.6	12.8		21.7	9.4		19.2	19.2	18.3	20.0	19.8	
Level of Service	D	B		C	A		B	B	B	B	B	
Approach Delay (s)		15.9			11.3			18.9			19.9	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

32: Ocean Av & Highway 1

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↕		↖	↗	↗		↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.95	0.95	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3449		1681	1716	1583		1812	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.57	0.62	1.00		0.56	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3449		1005	1090	1583		1047	1583
Volume (vph)	20	350	370	30	590	120	940	250	100	50	40	10
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	361	381	31	608	124	969	258	103	52	41	10
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	51	0	0	8
Lane Group Flow (vph)	21	361	381	31	716	0	542	685	52	0	93	2
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	2.3	19.0	72.2	2.3	19.0		35.5	35.5	35.5		15.6	15.6
Effective Green, g (s)	2.8	21.0	72.2	2.8	21.0		36.4	36.4	36.4		17.6	17.6
Actuated g/C Ratio	0.04	0.29	1.00	0.04	0.29		0.50	0.50	0.50		0.24	0.24
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	69	542	1583	69	1003		645	678	798		255	386
v/s Ratio Prot	0.01	0.19		0.02	c0.21		0.17	c0.21				
v/s Ratio Perm			c0.24				0.25	c0.30	0.03		0.09	0.00
v/c Ratio	0.30	0.67	0.24	0.45	0.71		0.84	1.01	0.07		0.36	0.01
Uniform Delay, d1	33.8	22.5	0.0	33.9	22.9		13.8	17.9	9.2		22.7	20.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	2.4	0.4	1.7	2.0		9.3	37.1	0.0		0.3	0.0
Delay (s)	34.7	24.9	0.4	35.6	24.9		23.1	55.0	9.2		23.0	20.7
Level of Service	C	C	A	D	C		C	E	A		C	C
Approach Delay (s)		12.9			25.4			38.5			22.8	
Approach LOS		B			C			D			C	

Intersection Summary

HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	72.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

33: Ocean Av & N Bailey Ave

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	340	30	10	90	10	20	10	20	10	10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	370	33	11	98	11	22	11	22	11	11	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None				None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	109			402			549	538	386	560	549	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	109			402			549	538	386	560	549	103
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			95	98	97	97	98	99
cM capacity (veh/h)	1482			1156			428	442	662	411	436	952

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	413	120	54	33
Volume Left	11	11	22	11
Volume Right	33	11	22	11
cSH	1482	1156	502	519
Volume to Capacity	0.01	0.01	0.11	0.06
Queue Length 95th (ft)	1	1	9	5
Control Delay (s)	0.3	0.8	13.0	12.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.3	0.8	13.0	12.4
Approach LOS			B	B

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
 34: Central Av & N Bailey Ave

4/15/2009

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	610	50	70	170	20	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	663	54	76	185	22	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			717		1027	690
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			717		1027	690
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		91	88
cM capacity (veh/h)			884		237	445
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	717	76	185	22	54	
Volume Left	0	76	0	22	0	
Volume Right	54	0	0	0	54	
cSH	1700	884	1700	237	445	
Volume to Capacity	0.42	0.09	0.11	0.09	0.12	
Queue Length 95th (ft)	0	7	0	7	10	
Control Delay (s)	0.0	9.5	0.0	21.7	14.2	
Lane LOS		A		C	B	
Approach Delay (s)	0.0	2.8		16.4		
Approach LOS				C		
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			52.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 35: Ocean Av & Floradale Ave

4/15/2009



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↗	↘	↘
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	180	50	60	190	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	196	54	65	207	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	120				272	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	120				272	54
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				71	99
cM capacity (veh/h)	1468				712	1013

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	207	54	65	217
Volume Left	11	0	0	207
Volume Right	0	0	65	11
cSH	1468	1700	1700	723
Volume to Capacity	0.01	0.03	0.04	0.30
Queue Length 95th (ft)	1	0	0	32
Control Delay (s)	0.5	0.0	0.0	12.1
Lane LOS	A			B
Approach Delay (s)	0.5	0.0		12.1
Approach LOS				B

Intersection Summary			
Average Delay		5.0	
Intersection Capacity Utilization	34.5%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

36: Central Av & Floradale Ave

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1829			1839	1583	1770	1822		1770	1820	
Flt Permitted		0.94			0.91	1.00	0.62	1.00		0.71	1.00	
Satd. Flow (perm)		1739			1702	1583	1158	1822		1318	1820	
Volume (vph)	40	200	20	20	60	130	10	60	10	470	170	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	217	22	22	65	141	11	65	11	511	185	33
RTOR Reduction (vph)	0	6	0	0	0	104	0	5	0	0	9	0
Lane Group Flow (vph)	0	276	0	0	87	37	11	71	0	511	209	0
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		11.7			11.7	11.7	25.3	25.3		25.3	25.3	
Effective Green, g (s)		11.7			11.7	11.7	25.3	25.3		25.3	25.3	
Actuated g/C Ratio		0.26			0.26	0.26	0.56	0.56		0.56	0.56	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		452			443	412	651	1024		741	1023	
v/s Ratio Prot								0.04			0.11	
v/s Ratio Perm		c0.16			0.05	0.02	0.01			c0.39		
v/c Ratio		0.61			0.20	0.09	0.02	0.07		0.69	0.20	
Uniform Delay, d1		14.6			13.0	12.6	4.4	4.5		7.0	4.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4			0.2	0.1	0.0	0.0		2.7	0.1	
Delay (s)		17.1			13.2	12.7	4.4	4.5		9.7	5.0	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		17.1			12.9			4.5			8.3	
Approach LOS		B			B			A			A	

Intersection Summary






















HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection LOS Calculations
Cumulative with Updated General Plan Conditions

HCM Signalized Intersection Capacity Analysis

1: Central Av & V St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 									 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.85			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3349		1770	1855		1770	1590			1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00			0.55	
Satd. Flow (perm)	1770	3349		1770	1855		1370	1590			977	
Volume (vph)	10	90	50	240	360	10	150	10	440	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	95	53	253	379	11	158	11	463	11	11	11
RTOR Reduction (vph)	0	37	0	0	2	0	0	351	0	0	8	0
Lane Group Flow (vph)	11	111	0	253	388	0	158	123	0	0	25	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8				4	
Actuated Green, G (s)	0.6	12.8		9.3	21.5		10.8	10.8			10.8	
Effective Green, g (s)	0.6	14.3		9.3	23.0		11.3	11.3			11.3	
Actuated g/C Ratio	0.01	0.30		0.20	0.49		0.24	0.24			0.24	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.5	4.5			4.5	
Vehicle Extension (s)	1.5	4.5		1.5	4.5		3.0	3.0			3.0	
Lane Grp Cap (vph)	23	1021		351	910		330	383			235	
v/s Ratio Prot	0.01	0.03		c0.14	c0.21			0.08				
v/s Ratio Perm							c0.12				0.03	
v/c Ratio	0.48	0.11		0.72	0.43		0.48	0.32			0.10	
Uniform Delay, d1	23.0	11.7		17.6	7.7		15.3	14.6			13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	5.6	0.1		6.1	0.6		1.1	0.5			0.2	
Delay (s)	28.6	11.8		23.6	8.3		16.4	15.1			14.1	
Level of Service	C	B		C	A		B	B			B	
Approach Delay (s)		13.0			14.3			15.4			14.1	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay			14.6			HCM Level of Service					B	
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			46.9			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			60.6%			ICU Level of Service					B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 2: North Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	80	40	110	60	30	50	430	170	60	260	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	87	43	120	65	33	54	467	185	65	283	43

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	174	217	707	391
Volume Left (vph)	43	120	54	65
Volume Right (vph)	43	33	185	43
Hadj (s)	-0.07	0.05	-0.11	0.00
Departure Headway (s)	7.6	7.5	6.2	6.6
Degree Utilization, x	0.37	0.45	1.22	0.72
Capacity (veh/h)	430	449	586	527
Control Delay (s)	14.9	16.6	136.7	24.8
Approach Delay (s)	14.9	16.6	136.7	24.8
Approach LOS	B	C	F	C

Intersection Summary			
Delay		75.5	
HCM Level of Service		F	
Intersection Capacity Utilization	65.0%		ICU Level of Service C
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: Pine Av & V St

4/15/2009



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	20	50	10	30	10	490	40	30	370	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	11	22	54	11	33	11	533	43	33	402	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1087	1071	408	1076	1054	554	413			576		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1087	1071	408	1076	1054	554	413			576		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	95	97	69	95	94	99			97		
cM capacity (veh/h)	169	212	644	177	216	532	1146			997		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	98	587	446
Volume Left	11	54	11	33
Volume Right	22	33	43	11
cSH	291	234	1146	997
Volume to Capacity	0.15	0.42	0.01	0.03
Queue Length 95th (ft)	13	48	1	3
Control Delay (s)	19.5	31.1	0.3	1.0
Lane LOS	C	D	A	A
Approach Delay (s)	19.5	31.1	0.3	1.0
Approach LOS	C	D		

Intersection Summary			
Average Delay		3.8	
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 4: College Av & V St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	140	170	30	110	30	100	410	30	30	300	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	152	185	33	120	33	109	446	33	33	326	120
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	413	185	587	478								
Volume Left (vph)	76	33	109	33								
Volume Right (vph)	185	33	33	120								
Hadj (s)	-0.20	-0.04	0.04	-0.10								
Departure Headway (s)	8.0	9.3	8.1	7.9								
Degree Utilization, x	0.92	0.48	1.32	1.06								
Capacity (veh/h)	440	366	454	460								
Control Delay (s)	53.4	20.6	182.6	86.3								
Approach Delay (s)	53.4	20.6	182.6	86.3								
Approach LOS	F	C	F	F								
Intersection Summary												
Delay			104.8									
HCM Level of Service			F									
Intersection Capacity Utilization			91.4%	ICU Level of Service	F							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

5: Laurel Av & V St

4/15/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑			↕
Sign Control	Stop		Stop			Stop
Volume (vph)	70	130	420	140	200	270
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	141	457	152	217	293
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total (vph)	217	609	511			
Volume Left (vph)	76	0	217			
Volume Right (vph)	141	152	0			
Hadj (s)	-0.29	-0.12	0.12			
Departure Headway (s)	6.4	5.3	5.7			
Degree Utilization, x	0.39	0.90	0.80			
Capacity (veh/h)	533	659	622			
Control Delay (s)	13.4	37.5	27.7			
Approach Delay (s)	13.4	37.5	27.7			
Approach LOS	B	E	D			
Intersection Summary						
Delay			29.8			
HCM Level of Service			D			
Intersection Capacity Utilization			77.8%	ICU Level of Service	D	
Analysis Period (min)			15			

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6

Cycle (sec): 100 Critical Vol./Cap.(X): 1.103

Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 43.3

Optimal Cycle: 0 Level Of Service: E

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

-----|-----|-----|-----|

Control: Stop Sign Stop Sign Stop Sign Stop Sign

Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 0 0 1! 0 0 0 1 0 0 1 0 1 0 1 0 1 0

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Volume Module:AM

Base Vol: 30 210 190 120 120 100 120 330 20 110 380 90

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 30 210 190 120 120 100 120 330 20 110 380 90

Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 30 210 190 120 120 100 120 330 20 110 380 90

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92

PHF Volume: 33 228 207 130 130 109 130 359 22 120 413 98

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 33 228 207 130 130 109 130 359 22 120 413 98

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

FinalVolume: 33 228 207 130 130 109 130 359 22 120 413 98

-----|-----|-----|-----|

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Lanes: 0.07 0.49 0.44 0.50 0.50 1.00 1.00 1.89 0.11 1.00 1.62 0.38

Final Sat.: 30 207 187 188 188 413 343 683 42 352 611 147

-----|-----|-----|-----|

Capacity Analysis Module:

Vol/Sat: 1.10 1.10 1.10 0.69 0.69 0.26 0.38 0.52 0.52 0.34 0.68 0.66

Crit Moves: **** **** ****

Delay/Veh: 103.4 103 103.4 30.1 30.1 14.0 19.0 22.4 22.2 17.7 29.2 28.0

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 103.4 103 103.4 30.1 30.1 14.0 19.0 22.4 22.2 17.7 29.2 28.0

LOS by Move: F F F D D B C C C C D D

ApproachDel: 103.4 25.4 21.5 26.8

Delay Adj: 1.00 1.00 1.00

ApprAdjDel: 103.4 25.4 21.5 26.8

LOS by Appr: F D C D

AllWayAvgQ: 10.8 10.8 10.8 1.9 1.9 0.3 0.6 1.0 1.0 0.5 1.8 1.7

Note: Queue reported is the number of cars per lane.

HCM Unsignalized Intersection Capacity Analysis

7: Ocean Av & R St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Sign Control	Free		Free				Stop				Stop	
Grade	0%		0%				0%				0%	
Volume (veh/h)	30	650	10	20	440	40	10	30	50	40	30	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	707	11	22	478	43	11	33	54	43	33	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	1191											
pX, platoon unblocked												
vC, conflicting volume	522			717			1130	1342	359	1033	1326	261
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	522			717			1130	1342	359	1033	1326	261
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			91	77	91	68	78	93
cM capacity (veh/h)	1041			879			116	143	638	135	146	738

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	33	471	246	22	319	203	98	130
Volume Left	33	0	0	22	0	0	11	43
Volume Right	0	0	11	0	0	43	54	54
cSH	1041	1700	1700	879	1700	1700	240	211
Volume to Capacity	0.03	0.28	0.14	0.02	0.19	0.12	0.41	0.62
Queue Length 95th (ft)	2	0	0	2	0	0	47	90
Control Delay (s)	8.6	0.0	0.0	9.2	0.0	0.0	29.9	46.4
Lane LOS	A			A			D	E
Approach Delay (s)	0.4			0.4			29.9	46.4
Approach LOS							D	E

Intersection Summary

Average Delay	6.2	
Intersection Capacity Utilization	45.1%	ICU Level of Service A
Analysis Period (min)	15	

HCM Signalized Intersection Capacity Analysis

8: Central Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗	↗	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3519		1770	3514		1770	1863	1583	1770	3221	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3519		1770	3514		1770	1863	1583	1770	3221	
Volume (vph)	50	510	20	90	410	20	100	20	210	20	20	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	554	22	98	446	22	109	22	228	22	22	33
RTOR Reduction (vph)	0	3	0	0	5	0	0	0	167	0	27	0
Lane Group Flow (vph)	54	573	0	98	463	0	109	22	61	22	28	0
Turn Type	Prot		Prot		Prot		Perm		Prot			
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8					
Actuated Green, G (s)	3.1	14.3		3.9	15.1		4.0	12.8	12.8	0.7	9.5	
Effective Green, g (s)	2.6	14.8		3.4	15.6		3.5	12.5	12.5	0.2	9.2	
Actuated g/C Ratio	0.06	0.32		0.07	0.33		0.07	0.27	0.27	0.00	0.20	
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.7	3.7	3.5	3.7	
Vehicle Extension (s)	2.0	3.5		2.0	3.5		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	98	1110		128	1169		132	497	422	8	632	
v/s Ratio Prot	0.03	c0.16		c0.06	0.13		c0.06	0.01		c0.01	0.01	
v/s Ratio Perm							c0.04					
v/c Ratio	0.55	0.52		0.77	0.40		0.83	0.04	0.14	2.75	0.05	
Uniform Delay, d1	21.6	13.1		21.4	12.0		21.4	12.8	13.1	23.3	15.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.8	0.5		21.4	0.3		31.2	0.1	0.2	1052.1	0.0	
Delay (s)	25.3	13.6		42.7	12.3		52.6	12.8	13.3	1075.5	15.3	
Level of Service	C	B		D	B		D	B	B	F	B	
Approach Delay (s)	14.6		17.6		25.2		318.2					
Approach LOS	B		B		C		F					

Intersection Summary

HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	46.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

9: North Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	240	60	40	180	50	50	210	60	40	210	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	261	65	43	196	54	54	228	65	43	228	65

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	217	196	293	168	179	158	179
Volume Left (vph)	87	0	43	54	0	43	0
Volume Right (vph)	0	65	54	0	65	0	65
Hadj (s)	0.23	-0.20	-0.05	0.20	-0.22	0.17	-0.22
Departure Headway (s)	7.6	7.2	7.3	7.8	7.4	7.8	7.4
Degree Utilization, x	0.46	0.39	0.60	0.37	0.37	0.34	0.37
Capacity (veh/h)	452	479	462	430	451	434	449
Control Delay (s)	15.7	13.5	20.7	14.0	13.4	13.6	13.5
Approach Delay (s)	14.7		20.7	13.7		13.5	
Approach LOS	B		C	B		B	

Intersection Summary	
Delay	15.4
HCM Level of Service	C
Intersection Capacity Utilization	57.0%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: Pine Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	90	20	50	80	40	30	250	60	30	240	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	98	22	54	87	43	33	272	65	33	261	22





















Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	152	185	370	315
Volume Left (vph)	33	54	33	33
Volume Right (vph)	22	43	65	22
Hadj (s)	-0.01	-0.05	-0.05	0.01
Departure Headway (s)	6.2	6.1	5.5	5.6
Degree Utilization, x	0.26	0.31	0.56	0.49
Capacity (veh/h)	495	509	621	602
Control Delay (s)	11.4	11.8	15.2	13.9
Approach Delay (s)	11.4	11.8	15.2	13.9
Approach LOS	B	B	C	B

Intersection Summary			
Delay		13.6	
HCM Level of Service		B	
Intersection Capacity Utilization	44.4%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

11: College Av & O St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Volume (vph)	50	190	20	50	100	70	20	220	100	90	240	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	207	22	54	109	76	22	239	109	98	261	43
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	54	228	54	185	261	109	98	304				
Volume Left (vph)	54	0	54	0	22	0	98	0				
Volume Right (vph)	0	22	0	76	0	109	0	43				
Hadj (s)	0.53	-0.03	0.53	-0.25	0.08	-0.67	0.53	-0.07				
Departure Headway (s)	7.7	7.1	7.8	7.0	6.9	6.2	7.3	6.7				
Degree Utilization, x	0.12	0.45	0.12	0.36	0.50	0.19	0.20	0.57				
Capacity (veh/h)	441	471	432	484	492	549	468	508				
Control Delay (s)	10.5	14.6	10.6	12.7	15.6	9.4	10.9	17.0				
Approach Delay (s)	13.8		12.2		13.8		15.6					
Approach LOS	B		B		B		C					
Intersection Summary												
Delay			14.0									
HCM Level of Service			B									
Intersection Capacity Utilization			55.6%		ICU Level of Service		B					
Analysis Period (min)			15									

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12

Cycle (sec): 100 Critical Vol./Cap.(X): 0.829
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 20.8
Optimal Cycle: 0 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module:AM
Table with 12 columns representing different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module:
Table with 12 columns. Rows include Adjustment, Lanes, and Final Sat.
























Capacity Analysis Module:
Table with 12 columns. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Signalized Intersection Capacity Analysis

13: Ocean Av & O St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3470		1770	3435		1770	1820		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.64	1.00		0.58	1.00	1.00
Satd. Flow (perm)	1770	3470		1770	3435		1193	1820		1082	1863	1583
Volume (vph)	30	600	90	30	410	100	90	170	30	200	170	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	652	98	33	446	109	98	185	33	217	185	65
RTOR Reduction (vph)	0	17	0	0	30	0	0	12	0	0	0	48
Lane Group Flow (vph)	33	733	0	33	525	0	98	206	0	217	185	17
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8			4		4
Actuated Green, G (s)	0.5	18.3		0.5	18.3		11.7	11.7		11.7	11.7	11.7
Effective Green, g (s)	4.5	18.5		4.5	18.5		12.4	12.4		12.4	12.4	12.4
Actuated g/C Ratio	0.09	0.39		0.09	0.39		0.26	0.26		0.26	0.26	0.26
Clearance Time (s)	8.0	4.2		8.0	4.2		4.7	4.7		4.7	4.7	4.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	168	1354		168	1341		312	476		283	487	414
v/s Ratio Prot	c0.02	c0.21		0.02	0.15			0.11				0.10
v/s Ratio Perm							0.08			c0.20		0.01
v/c Ratio	0.20	0.54		0.20	0.39		0.31	0.43		0.77	0.38	0.04
Uniform Delay, d1	19.8	11.2		19.8	10.4		14.1	14.6		16.2	14.3	13.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2		0.2	0.1		0.6	0.6		11.7	0.5	0.0
Delay (s)	20.0	11.4		20.0	10.5		14.7	15.2		27.9	14.8	13.1
Level of Service	B	B		B	B		B	B		C	B	B
Approach Delay (s)		11.8			11.0			15.0			20.7	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM Average Control Delay			14.0	HCM Level of Service				B				
HCM Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			47.4	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			56.8%	ICU Level of Service				B				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

















14: Ocean Av & I St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.93		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3532		1770	3520		1770	1723		1770	1793	
Flt Permitted	0.95	1.00		0.95	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (perm)	1770	3532		1770	3520		1863	1723		1863	1793	
Volume (vph)	10	760	10	90	550	20	20	20	20	20	30	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	826	11	98	598	22	22	22	22	22	33	11
RTOR Reduction (vph)	0	1	0	0	2	0	0	20	0	0	10	0
Lane Group Flow (vph)	11	836	0	98	618	0	22	24	0	22	34	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8				4	
Actuated Green, G (s)	0.8	35.1		6.5	40.8		3.8	3.8		3.8	3.8	
Effective Green, g (s)	0.5	35.6		6.2	41.3		4.0	4.0		4.0	4.0	
Actuated g/C Ratio	0.01	0.62		0.11	0.71		0.07	0.07		0.07	0.07	
Clearance Time (s)	3.7	4.5		3.7	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	15	2175		190	2515		129	119		129	124	
v/s Ratio Prot	0.01	c0.24		c0.06	0.18			0.01			c0.02	
v/s Ratio Perm							0.01			0.01		
v/c Ratio	0.73	0.38		0.52	0.25		0.17	0.20		0.17	0.27	
Uniform Delay, d1	28.6	5.6		24.4	2.9		25.3	25.4		25.3	25.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	93.0	0.0		1.0	0.0		0.6	0.8		0.6	1.2	
Delay (s)	121.6	5.6		25.4	2.9		26.0	26.2		26.0	26.7	
Level of Service	F	A		C	A		C	C		C	C	
Approach Delay (s)		7.1			5.9			26.1			26.5	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			8.1	HCM Level of Service				A				
HCM Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			57.8	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			44.1%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 15: Olive Av & I St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	80	20	10	50	10	10	60	10	20	50	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	21	83	21	10	52	10	10	62	10	21	52	10
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	125	73	83	83								
Volume Left (vph)	21	10	10	21								
Volume Right (vph)	21	10	10	10								
Hadj (s)	-0.03	-0.02	-0.02	0.01								
Departure Headway (s)	4.3	4.4	4.4	4.5								
Degree Utilization, x	0.15	0.09	0.10	0.10								
Capacity (veh/h)	795	770	768	759								
Control Delay (s)	8.1	7.8	7.9	8.0								
Approach Delay (s)	8.1	7.8	7.9	8.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.0								
HCM Level of Service				A								
Intersection Capacity Utilization				23.6%	ICU Level of Service							A
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis
 16: Highway 1 & Harris Grade Rd

4/15/2009




























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.91	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3479		1610	3306	1583	1770	3539	1583
Flt Permitted	0.41	1.00	1.00	0.41	1.00		0.95	0.98	1.00	0.33	1.00	1.00
Satd. Flow (perm)	758	3539	1583	758	3479		1610	3306	1583	619	3539	1583
Volume (vph)	30	350	720	160	310	40	760	370	150	60	360	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	300%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	98	380	783	174	337	43	826	402	163	65	391	43
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	0	0	0	0
Lane Group Flow (vph)	98	380	783	174	367	0	413	815	163	65	391	43
Turn Type	pm+pt		Free	pm+pt			Split		Free custom			Free
Protected Phases	7	4		3	8		2	2				
Permitted Phases	4		Free	8					Free	6	6	Free
Actuated Green, G (s)	16.8	12.8	73.7	16.8	12.8		19.8	19.8	73.7	13.1	13.1	73.7
Effective Green, g (s)	20.8	14.8	73.7	20.8	14.8		21.8	21.8	73.7	15.1	15.1	73.7
Actuated g/C Ratio	0.28	0.20	1.00	0.28	0.20		0.30	0.30	1.00	0.20	0.20	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	296	711	1583	296	699		476	978	1583	127	725	1583
v/s Ratio Prot	0.03	0.11		0.05	0.11		c0.26	0.25				
v/s Ratio Perm	0.07		c0.49	0.12					0.10	0.11	0.11	0.03
v/c Ratio	0.33	0.53	0.49	0.59	0.53		0.87	0.83	0.10	0.51	0.54	0.03
Uniform Delay, d1	20.2	26.4	0.0	21.1	26.3		24.6	24.3	0.0	26.0	26.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.8	1.1	3.0	0.7		15.3	6.2	0.1	3.5	0.8	0.0
Delay (s)	20.8	27.1	1.1	24.1	27.0		39.9	30.4	0.1	29.5	27.0	0.0
Level of Service	C	C	A	C	C		D	C	A	C	C	A
Approach Delay (s)		10.5			26.1			29.7			25.0	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM Average Control Delay			22.0			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			73.7			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			63.4%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3257		1770	3539	1583	1770	3436		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3257		1770	3539	1583	1770	3436		1770	3539	1583
Volume (vph)	430	150	170	120	160	270	100	500	120	280	740	260
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	457	160	181	128	170	287	106	532	128	298	787	277
RTOR Reduction (vph)	0	141	0	0	0	240	0	24	0	0	0	176
Lane Group Flow (vph)	457	200	0	128	170	47	106	636	0	298	787	101
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	11.4	14.3		7.2	10.1	10.1	6.5	17.1		14.5	25.1	25.1
Effective Green, g (s)	11.1	15.6		6.9	11.4	11.4	6.2	17.6		14.2	25.6	25.6
Actuated g/C Ratio	0.16	0.22		0.10	0.16	0.16	0.09	0.25		0.20	0.36	0.36
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	542	723		174	574	257	156	860		358	1289	576
v/s Ratio Prot	c0.13	c0.06		0.07	0.05		0.06	c0.19		c0.17	0.22	
v/s Ratio Perm						0.03						0.06
v/c Ratio	0.84	0.28		0.74	0.30	0.18	0.68	0.74		0.83	0.61	0.18
Uniform Delay, d1	28.8	22.7		30.8	25.9	25.4	31.1	24.2		26.9	18.3	15.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	11.0	0.2		13.0	0.3	0.3	8.9	2.9		14.5	0.6	0.1
Delay (s)	39.8	22.9		43.8	26.2	25.8	40.0	27.1		41.4	18.9	15.2
Level of Service	D	C		D	C	C	D	C		D	B	B
Approach Delay (s)		32.5			29.8			28.9			23.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			27.6				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			70.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			63.2%				ICU Level of Service			B		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

18: Barton Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↔		↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1812	1583		1708		1770	3525		1770	3539	1583
Flt Permitted		0.80	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1484	1583		1640		1770	3525		1770	3539	1583
Volume (vph)	50	40	90	10	20	40	50	710	20	10	780	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	43	98	11	22	43	54	772	22	11	848	65
RTOR Reduction (vph)	0	0	80	0	35	0	0	2	0	0	0	28
Lane Group Flow (vph)	0	97	18	0	41	0	54	792	0	11	848	37
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)		9.7	9.7		9.7		2.5	32.3		0.8	30.6	30.6
Effective Green, g (s)		9.9	9.9		9.9		2.2	32.8		0.5	31.1	31.1
Actuated g/C Ratio		0.18	0.18		0.18		0.04	0.59		0.01	0.56	0.56
Clearance Time (s)		4.2	4.2		4.2		3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		266	284		294		71	2095		16	1994	892
v/s Ratio Prot							c0.03	0.22		0.01	c0.24	
v/s Ratio Perm		c0.07	0.01		0.02							0.02
v/c Ratio		0.36	0.06		0.14		0.76	0.38		0.69	0.43	0.04
Uniform Delay, d1		19.9	18.8		19.1		26.2	5.9		27.3	6.9	5.4
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.9	0.1		0.2		37.3	0.1		80.1	0.1	0.0
Delay (s)		20.7	18.9		19.3		63.6	6.0		107.4	7.1	5.4
Level of Service		C	B		B		E	A		F	A	A
Approach Delay (s)		19.8			19.3			9.6			8.1	
Approach LOS		B			B			A			A	

Intersection Summary

HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

19: North Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3474		1770	3493	
Flt Permitted	0.45	1.00	1.00	0.59	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	839	1863	1583	1097	1863	1583	1770	3474		1770	3493	
Volume (vph)	130	230	90	80	180	70	40	500	70	80	630	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	250	98	87	196	76	43	543	76	87	685	65
RTOR Reduction (vph)	0	0	75	0	0	62	0	16	0	0	10	0
Lane Group Flow (vph)	141	250	23	87	196	14	43	603	0	87	740	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	16.0	11.7	11.7	11.4	9.4	9.4	1.4	19.1		2.8	20.5	
Effective Green, g (s)	17.0	12.2	12.2	12.4	9.9	9.9	1.1	19.6		2.5	21.0	
Actuated g/C Ratio	0.32	0.23	0.23	0.23	0.19	0.19	0.02	0.37		0.05	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	355	430	366	289	349	297	37	1290		84	1389	
v/s Ratio Prot	c0.04	c0.13		0.01	0.11		0.02	0.17		c0.05	c0.21	
v/s Ratio Perm	0.09		0.01	0.06		0.01						
v/c Ratio	0.40	0.58	0.06	0.30	0.56	0.05	1.16	0.47		1.04	0.53	
Uniform Delay, d1	13.3	18.0	15.8	16.3	19.5	17.6	25.8	12.6		25.1	12.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.7	0.1	0.4	1.7	0.0	200.1	0.1		108.3	0.2	
Delay (s)	13.9	19.7	15.9	16.7	21.2	17.6	226.0	12.7		133.4	12.3	
Level of Service	B	B	B	B	C	B	F	B		F	B	
Approach Delay (s)		17.2			19.3			26.6			24.9	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM Average Control Delay			22.9			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			52.8	Sum of lost time (s)			12.0					
Intersection Capacity Utilization			52.7%	ICU Level of Service			A					
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pine Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1789		1770	3472		1770	3500	
Flt Permitted	0.57	1.00	1.00	0.64	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1054	1863	1583	1201	1789		1770	3472		1770	3500	
Volume (vph)	110	130	60	100	110	40	30	550	80	40	740	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	141	65	109	120	43	33	598	87	43	804	65
RTOR Reduction (vph)	0	0	57	0	25	0	0	14	0	0	7	0
Lane Group Flow (vph)	120	141	8	109	138	0	33	671	0	43	862	0
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	9.8	7.0	7.0	9.8	7.0		1.3	29.0		1.7	29.4	
Effective Green, g (s)	10.2	7.2	7.2	10.2	7.2		1.0	29.5		1.4	29.9	
Actuated g/C Ratio	0.18	0.13	0.13	0.18	0.13		0.02	0.52		0.02	0.52	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	226	235	200	244	226		31	1794		43	1833	
v/s Ratio Prot	c0.03	0.08		0.02	c0.08		0.02	0.19		c0.02	c0.25	
v/s Ratio Perm	0.07		0.01	0.06								
v/c Ratio	0.53	0.60	0.04	0.45	0.61		1.06	0.37		1.00	0.47	
Uniform Delay, d1	20.8	23.6	21.9	20.5	23.6		28.1	8.3		27.9	8.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	3.4	0.1	0.9	3.9		181.9	0.0		137.2	0.1	
Delay (s)	22.6	27.0	22.0	21.5	27.5		210.0	8.3		165.1	8.7	
Level of Service	C	C	C	C	C		F	A		F	A	
Approach Delay (s)		24.4			25.1			17.6			16.0	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			18.9				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			57.1				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			53.4%				ICU Level of Service		A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: College Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↗		↖	↑↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3500		1770	3466	
Flt Permitted	0.32	1.00	1.00	0.64	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	592	1863	1583	1194	1863	1583	1770	3500		1770	3466	
Volume (vph)	140	170	60	70	190	30	70	490	40	50	750	120
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	185	65	76	207	33	76	533	43	54	815	130
RTOR Reduction (vph)	0	0	50	0	0	28	0	6	0	0	13	0
Lane Group Flow (vph)	152	185	15	76	207	5	76	570	0	54	932	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	23.0	16.0	16.0	13.7	10.9	10.9	4.1	29.4		3.7	29.0	
Effective Green, g (s)	23.2	16.2	16.2	14.1	11.1	11.1	3.8	29.9		3.4	29.5	
Actuated g/C Ratio	0.34	0.24	0.24	0.21	0.16	0.16	0.06	0.44		0.05	0.43	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	340	441	374	271	302	257	98	1528		88	1493	
v/s Ratio Prot	c0.05	0.10		0.01	c0.11		c0.04	0.16		0.03	c0.27	
v/s Ratio Perm	0.10		0.01	0.05		0.00						
v/c Ratio	0.45	0.42	0.04	0.28	0.69	0.02	0.78	0.37		0.61	0.62	
Uniform Delay, d1	16.9	22.2	20.2	22.6	27.1	24.1	31.9	13.0		31.9	15.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.5	0.0	0.4	5.8	0.0	28.7	0.1		8.6	0.6	
Delay (s)	17.5	22.6	20.2	23.0	32.8	24.2	60.6	13.0		40.5	15.8	
Level of Service	B	C	C	C	C	C	E	B		D	B	
Approach Delay (s)		20.3			29.6			18.6			17.1	
Approach LOS		C			C			B			B	



















Intersection Summary

HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

22: Laurel Av & H St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1751			1760		1770	3531		1770	3474	
Flt Permitted		0.89			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1585			1528		1770	3531		1770	3474	
Volume (vph)	60	50	50	30	40	30	30	670	10	40	720	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	54	54	33	43	33	33	728	11	43	783	109
RTOR Reduction (vph)	0	39	0	0	28	0	0	1	0	0	11	0
Lane Group Flow (vph)	0	134	0	0	81	0	33	738	0	43	881	0
Turn Type	pm+pt			pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		6.5			6.5		0.6	24.3		1.3	25.0	
Effective Green, g (s)		6.7			6.7		0.3	24.8		1.0	25.5	
Actuated g/C Ratio		0.15			0.15		0.01	0.56		0.02	0.57	
Clearance Time (s)		4.2			4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)		2.5			2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)		239			230		12	1968		40	1991	
v/s Ratio Prot							0.02	0.21		c0.02	c0.25	
v/s Ratio Perm		c0.08			0.05							
v/c Ratio		0.56			0.35		2.75	0.38		1.07	0.44	
Uniform Delay, d1		17.5			17.0		22.1	5.5		21.8	5.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4			0.7		977.4	0.0		165.4	0.1	
Delay (s)		20.0			17.6		999.5	5.6		187.1	5.5	
Level of Service		B			B		F	A		F	A	
Approach Delay (s)		20.0			17.6			48.0			13.8	
Approach LOS		B			B			D			B	
Intersection Summary												
HCM Average Control Delay			27.9				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			44.5				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			49.4%				ICU Level of Service				A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

23: Ocean Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕		↙	↕	↙	↙	↕		↙	↕	↙
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1770	3524		1770	3539	1583	1770	1820		1681	1722	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.55	1.00		0.49	0.57	1.00
Satd. Flow (perm)	1770	3524		1770	3539	1583	1022	1820		873	1002	1583
Volume (vph)	120	670	20	30	440	140	20	170	30	360	140	170
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	728	22	33	478	152	22	185	33	391	152	185
RTOR Reduction (vph)	0	3	0	0	0	111	0	9	0	0	0	126
Lane Group Flow (vph)	130	747	0	33	478	41	22	209	0	206	337	59
Turn Type	Prot			Prot		Perm	pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	6.7	21.0		1.2	15.5	15.5	17.4	16.2		21.6	21.6	18.3
Effective Green, g (s)	6.4	21.2		0.9	15.7	15.7	17.8	16.4		22.0	22.0	18.5
Actuated g/C Ratio	0.11	0.37		0.02	0.27	0.27	0.31	0.28		0.38	0.38	0.32
Clearance Time (s)	3.7	4.2		3.7	4.2	4.2	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	195	1288		27	958	429	332	515		380	424	505
v/s Ratio Prot	c0.07	c0.21		0.02	0.14		0.00	0.11		0.03	c0.05	
v/s Ratio Perm						0.03	0.02			0.17	c0.25	0.04
v/c Ratio	0.67	0.58		1.22	0.50	0.10	0.07	0.41		0.54	0.79	0.12
Uniform Delay, d1	24.8	14.8		28.6	17.8	15.8	14.1	16.8		13.9	16.0	14.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.4		247.9	0.1	0.0	0.1	0.5		1.6	9.9	0.1
Delay (s)	31.3	15.2		276.5	18.0	15.9	14.2	17.4		15.5	25.9	14.1
Level of Service	C	B		F	B	B	B	B		B	C	B
Approach Delay (s)		17.6			30.4			17.1			19.9	
Approach LOS		B			C			B			B	

Intersection Summary

HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	240	70	40	260	100	40	120	30	70	110	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	261	76	43	283	109	43	130	33	76	120	33

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	370	435	207	228
Volume Left (vph)	33	43	43	76
Volume Right (vph)	76	109	33	33
Hadj (s)	-0.07	-0.10	-0.02	0.01
Departure Headway (s)	6.4	6.2	7.1	7.1
Degree Utilization, x	0.65	0.75	0.41	0.45
Capacity (veh/h)	530	548	432	441
Control Delay (s)	20.6	25.5	14.9	15.6
Approach Delay (s)	20.6	25.5	14.9	15.6
Approach LOS	C	D	B	C

Intersection Summary			
Delay		20.4	
HCM Level of Service		C	
Intersection Capacity Utilization	55.3%		ICU Level of Service B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 25: Central Av & A St

4/15/2009



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	20	320	380	20	70	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	348	413	22	76	43
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total (vph)	22	348	413	22	120	
Volume Left (vph)	22	0	413	0	0	
Volume Right (vph)	0	348	0	0	43	
Hadj (s)	0.53	-0.67	0.53	0.03	-0.18	
Departure Headway (s)	6.7	5.5	6.3	5.8	5.9	
Degree Utilization, x	0.04	0.53	0.72	0.03	0.20	
Capacity (veh/h)	505	614	557	594	561	
Control Delay (s)	8.8	13.3	22.6	7.8	10.4	
Approach Delay (s)	13.1		21.9		10.4	
Approach LOS	B		C		B	
Intersection Summary						
Delay			16.9			
HCM Level of Service			C			
Intersection Capacity Utilization			37.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	110	120	40	130	60	120	220	20	50	330	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	120	130	43	141	65	130	239	22	54	359	87

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	326	250	250	141	234	266
Volume Left (vph)	76	43	130	0	54	0
Volume Right (vph)	130	65	0	22	0	87
Hadj (s)	-0.16	-0.09	0.29	-0.07	0.15	-0.19
Departure Headway (s)	7.1	7.4	8.0	7.6	7.7	7.4
Degree Utilization, x	0.64	0.51	0.56	0.30	0.50	0.54
Capacity (veh/h)	475	441	422	442	444	459
Control Delay (s)	21.8	17.9	19.4	12.7	17.0	17.6
Approach Delay (s)	21.8	17.9	17.0		17.3	
Approach LOS	C	C	C		C	

Intersection Summary

Delay	18.4
HCM Level of Service	C
Intersection Capacity Utilization	58.7%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

27: Pine Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	130	60	40	130	40	60	290	40	40	400	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	141	65	43	141	43	65	315	43	43	435	43

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	250	228	223	201	261	261
Volume Left (vph)	43	43	65	0	43	0
Volume Right (vph)	65	43	0	43	0	43
Hadj (s)	-0.09	-0.04	0.18	-0.12	0.12	-0.08
Departure Headway (s)	7.0	7.1	7.4	7.1	7.2	7.0
Degree Utilization, x	0.49	0.45	0.46	0.40	0.52	0.51
Capacity (veh/h)	470	465	456	480	480	485
Control Delay (s)	16.4	15.8	15.4	13.6	16.7	15.9
Approach Delay (s)	16.4	15.8	14.6		16.3	
Approach LOS	C	C	B		C	

Intersection Summary	
Delay	15.7
HCM Level of Service	C
Intersection Capacity Utilization	51.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 28: College Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	120	70	30	130	20	60	300	20	20	420	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	130	76	33	141	22	65	326	22	22	457	76

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	261	196	228	185	250	304
Volume Left (vph)	54	33	65	0	22	0
Volume Right (vph)	76	22	0	22	0	76
Hadj (s)	-0.10	0.00	0.18	-0.05	0.08	-0.14
Departure Headway (s)	6.9	7.2	7.4	7.1	7.1	6.8
Degree Utilization, x	0.50	0.39	0.47	0.37	0.49	0.58
Capacity (veh/h)	480	455	460	480	491	501
Control Delay (s)	16.5	14.7	15.5	13.0	15.5	17.6
Approach Delay (s)	16.5	14.7	14.4		16.7	
Approach LOS	C	B	B		C	

Intersection Summary	
Delay	15.7
HCM Level of Service	C
Intersection Capacity Utilization	54.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.97	1.00
Satd. Flow (prot)	1770	3499		1770	3430			1842	1583		1810	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.71	1.00		0.58	1.00
Satd. Flow (perm)	1770	3499		1770	3430			1321	1583		1076	1583
Volume (vph)	70	860	70	60	580	150	60	200	70	250	180	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	935	76	65	630	163	65	217	76	272	196	98
RTOR Reduction (vph)	0	5	0	0	20	0	0	0	42	0	0	55
Lane Group Flow (vph)	76	1006	0	65	773	0	0	282	34	0	468	43
Turn Type	Prot		Prot		pm+pt		Perm		pm+pt		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	7.4	32.4		7.2	32.7			40.3	40.3		40.3	40.3
Effective Green, g (s)	7.1	32.6		7.4	32.9			41.0	41.0		41.0	41.0
Actuated g/C Ratio	0.08	0.35		0.08	0.35			0.44	0.44		0.44	0.44
Clearance Time (s)	3.7	4.2		4.2	4.2			4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	135	1227		141	1213			582	698		474	698
v/s Ratio Prot	c0.04	c0.29		0.04	0.23							
v/s Ratio Perm								0.21	0.02		c0.44	0.03
v/c Ratio	0.56	0.82		0.46	0.64			0.48	0.05		0.99	0.06
Uniform Delay, d1	41.5	27.5		40.9	25.1			18.5	14.9		25.7	14.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	5.3	4.5		2.4	1.1			0.6	0.0		37.7	0.0
Delay (s)	46.7	32.0		43.3	26.2			19.1	14.9		63.4	15.0
Level of Service	D	C		D	C			B	B		E	B
Approach Delay (s)		33.1			27.5			18.2			55.0	
Approach LOS		C			C			B			E	

Intersection Summary

HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

30: Laurel Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	20	20	20	10	50	10	90	20	130	160	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	22	22	22	11	54	11	98	22	141	174	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	54	87	130	326
Volume Left (vph)	11	22	11	141
Volume Right (vph)	22	54	22	11
Hadj (s)	-0.17	-0.29	-0.05	0.10
Departure Headway (s)	4.9	4.8	4.6	4.5
Degree Utilization, x	0.07	0.11	0.17	0.41
Capacity (veh/h)	655	682	746	769
Control Delay (s)	8.3	8.4	8.5	10.6
Approach Delay (s)	8.3	8.4	8.5	10.6
Approach LOS	A	A	A	B

Intersection Summary			
Delay		9.6	
HCM Level of Service		A	
Intersection Capacity Utilization	36.4%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

31: Ocean Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3514		1770	3505		1770	1863	1583	1770	1736	
Flt Permitted	0.95	1.00		0.95	1.00		0.68	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	1770	3514		1770	3505		1268	1863	1583	1331	1736	
Volume (vph)	70	1000	50	50	710	50	50	60	170	100	60	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1087	54	54	772	54	54	65	185	109	65	54
RTOR Reduction (vph)	0	4	0	0	6	0	0	0	119	0	42	0
Lane Group Flow (vph)	76	1137	0	54	820	0	54	65	66	109	77	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	5	2		1	6			8				4
Permitted Phases							8		8		4	
Actuated Green, G (s)	3.4	20.3		1.8	18.7		9.3	9.3	9.3	9.3	9.3	
Effective Green, g (s)	3.1	21.2		1.5	19.6		9.5	9.5	9.5	9.5	9.5	
Actuated g/C Ratio	0.07	0.48		0.03	0.44		0.21	0.21	0.21	0.21	0.21	
Clearance Time (s)	3.7	4.9		3.7	4.9		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	124	1685		60	1554		273	400	340	286	373	
v/s Ratio Prot	c0.04	c0.32		0.03	0.23			0.03				0.04
v/s Ratio Perm							0.04		0.04	c0.08		
v/c Ratio	0.61	0.67		0.90	0.53		0.20	0.16	0.20	0.38	0.21	
Uniform Delay, d1	20.0	8.8		21.3	8.9		14.2	14.1	14.2	14.8	14.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.2	0.9		79.8	0.1		0.4	0.2	0.3	0.9	0.3	
Delay (s)	26.1	9.7		101.1	9.1		14.6	14.3	14.5	15.7	14.5	
Level of Service	C	A		F	A		B	B	B	B	B	
Approach Delay (s)		10.7			14.7			14.5			15.1	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

32: Ocean Av & Highway 1

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↕		↖	↕	↗		↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.95	0.95	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3489		1681	1703	1583		1824	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.34	0.35	1.00		0.75	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3489		602	618	1583		1391	1583
Volume (vph)	10	500	870	110	290	30	350	50	30	110	150	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	543	946	120	315	33	380	54	33	120	163	33
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	21	0	0	24
Lane Group Flow (vph)	11	543	946	120	341	0	190	244	12	0	283	9
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	1.1	25.3	71.7	5.8	30.0		25.2	25.2	25.2		17.3	17.3
Effective Green, g (s)	1.6	27.3	71.7	6.3	32.0		26.1	26.1	26.1		19.3	19.3
Actuated g/C Ratio	0.02	0.38	1.00	0.09	0.45		0.36	0.36	0.36		0.27	0.27
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	39	709	1583	156	1557		261	267	576		374	426
v/s Ratio Prot	0.01	c0.29		0.07	0.10		0.03	0.04				
v/s Ratio Perm			c0.60				0.24	c0.30	0.01		0.20	0.01
v/c Ratio	0.28	0.77	0.60	0.77	0.22		0.73	0.91	0.02		0.76	0.02
Uniform Delay, d1	34.5	19.4	0.0	32.0	12.2		21.5	21.7	14.6		24.0	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.4	4.5	1.7	18.3	0.0		8.3	32.6	0.0		7.6	0.0
Delay (s)	35.9	23.9	1.7	50.3	12.2		29.8	54.3	14.6		31.6	19.3
Level of Service	D	C	A	D	B		C	D	B		C	B
Approach Delay (s)		10.0			22.0			41.5			30.3	
Approach LOS		A			C			D			C	

Intersection Summary

HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	71.7	Sum of lost time (s)	4.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

33: Ocean Av & N Bailey Avenue

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	110	10	70	400	10	10	10	20	10	10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	120	11	76	435	11	11	11	22	11	11	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	446			130			755	745	125	766	745	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446			130			755	745	125	766	745	440
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			95			96	97	98	96	97	98
cM capacity (veh/h)	1115			1455			296	321	926	290	321	617

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	141	522	43	33
Volume Left	11	76	11	11
Volume Right	11	11	22	11
cSH	1115	1455	463	367
Volume to Capacity	0.01	0.05	0.09	0.09
Queue Length 95th (ft)	1	4	8	7
Control Delay (s)	0.7	1.6	13.6	15.8
Lane LOS	A	A	B	C
Approach Delay (s)	0.7	1.6	13.6	15.8
Approach LOS			B	C

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 34: Central Av & N Bailey Avenue

4/15/2009

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	110	40	40	450	70	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	43	43	489	76	98
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			163		717	141
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			163		717	141
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		80	89
cM capacity (veh/h)			1416		384	907
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	163	43	489	76	98	
Volume Left	0	43	0	76	0	
Volume Right	43	0	0	0	98	
cSH	1700	1416	1700	384	907	
Volume to Capacity	0.10	0.03	0.29	0.20	0.11	
Queue Length 95th (ft)	0	2	0	18	9	
Control Delay (s)	0.0	7.6	0.0	16.7	9.5	
Lane LOS		A		C	A	
Approach Delay (s)	0.0	0.6		12.6		
Approach LOS				B		
Intersection Summary						
Average Delay			2.9			
Intersection Capacity Utilization			34.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 35: Ocean Av & Floradale Ave

4/15/2009






















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↗	↘	↘
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	50	180	230	80	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	54	196	250	87	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	446				272	196
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	446				272	196
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				88	99
cM capacity (veh/h)	1115				711	846

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	65	196	250	98
Volume Left	11	0	0	87
Volume Right	0	0	250	11
cSH	1115	1700	1700	724
Volume to Capacity	0.01	0.12	0.15	0.14
Queue Length 95th (ft)	1	0	0	12
Control Delay (s)	1.4	0.0	0.0	10.8
Lane LOS	A			B
Approach Delay (s)	1.4	0.0		10.8
Approach LOS				B

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization	24.2%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis
 36: Central Av & Floradale Ave

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.94	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1804			1842	1583	1770	1850		1770	1757	
Flt Permitted		0.86			0.92	1.00	0.70	1.00		0.61	1.00	
Satd. Flow (perm)		1571			1707	1583	1305	1850		1136	1757	
Volume (vph)	30	50	10	40	140	360	10	210	10	90	50	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	54	11	43	152	391	11	228	11	98	54	33
RTOR Reduction (vph)	0	7	0	0	0	263	0	3	0	0	21	0
Lane Group Flow (vph)	0	91	0	0	195	128	11	236	0	98	66	0
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		8.6			8.6	8.6	9.7	9.7		9.7	9.7	
Effective Green, g (s)		8.6			8.6	8.6	9.7	9.7		9.7	9.7	
Actuated g/C Ratio		0.33			0.33	0.33	0.37	0.37		0.37	0.37	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		514			558	518	481	682		419	648	
v/s Ratio Prot							c0.13				0.04	
v/s Ratio Perm		0.06			c0.11	0.08	0.01			0.09		
v/c Ratio		0.18			0.35	0.25	0.02	0.35		0.23	0.10	
Uniform Delay, d1		6.3			6.7	6.5	5.3	6.0		5.7	5.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.4	0.3	0.0	0.3		0.3	0.1	
Delay (s)		6.5			7.1	6.7	5.3	6.3		6.0	5.5	
Level of Service		A			A	A	A	A		A	A	
Approach Delay (s)		6.5			6.9			6.3			5.8	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay		6.5			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.35										
Actuated Cycle Length (s)		26.3			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		48.8%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Central Av & V St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.86			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3420		1770	1839		1770	1593			1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00			0.43	
Satd. Flow (perm)	1770	3420		1770	1839		1370	1593			765	
Volume (vph)	10	480	140	420	110	10	60	10	300	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	505	147	442	116	11	63	11	316	11	11	11
RTOR Reduction (vph)	0	32	0	0	3	0	0	267	0	0	9	0
Lane Group Flow (vph)	11	620	0	442	124	0	63	60	0	0	24	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.7	18.7		18.5	36.5		8.7	8.7			8.7	
Effective Green, g (s)	0.7	20.2		18.5	38.0		9.2	9.2			9.2	
Actuated g/C Ratio	0.01	0.34		0.31	0.63		0.15	0.15			0.15	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.5	4.5			4.5	
Vehicle Extension (s)	1.5	4.5		1.5	4.5		3.0	3.0			3.0	
Lane Grp Cap (vph)	21	1153		547	1167		210	245			117	
v/s Ratio Prot	0.01	c0.18		c0.25	0.07			0.04				
v/s Ratio Perm							c0.05				0.03	
v/c Ratio	0.52	0.54		0.81	0.11		0.30	0.24			0.20	
Uniform Delay, d1	29.4	16.1		19.1	4.3		22.5	22.3			22.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	10.4	0.8		8.1	0.1		0.8	0.5			0.9	
Delay (s)	39.9	16.8		27.2	4.4		23.3	22.8			23.0	
Level of Service	D	B		C	A		C	C			C	
Approach Delay (s)		17.2			22.1			22.9			23.0	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM Average Control Delay			20.3			HCM Level of Service					C	
HCM Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			59.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			70.1%			ICU Level of Service					C	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis
 2: North Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	70	50	180	80	40	60	300	140	50	420	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	76	54	196	87	43	65	326	152	54	457	54
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	174	326	543	565								
Volume Left (vph)	43	196	65	54								
Volume Right (vph)	54	43	152	54								
Hadj (s)	-0.10	0.07	-0.11	0.00								
Departure Headway (s)	8.8	8.1	7.3	7.5								
Degree Utilization, x	0.42	0.74	1.11	1.17								
Capacity (veh/h)	386	434	503	488								
Control Delay (s)	18.1	30.8	100.4	122.3								
Approach Delay (s)	18.1	30.8	100.4	122.3								
Approach LOS	C	D	F	F								
Intersection Summary												
Delay			85.1									
HCM Level of Service			F									
Intersection Capacity Utilization			69.0%	ICU Level of Service	C							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: Pine Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	10	20	10	40	20	420	30	50	500	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	11	11	22	11	43	22	457	33	54	543	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1223	1190	549	1190	1179	473	554			489		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1223	1190	549	1190	1179	473	554			489		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	94	98	85	94	93	98			95		
cM capacity (veh/h)	130	174	536	145	177	591	1016			1074		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	76	511	609
Volume Left	11	22	22	54
Volume Right	11	43	33	11
cSH	196	267	1016	1074
Volume to Capacity	0.17	0.28	0.02	0.05
Queue Length 95th (ft)	15	28	2	4
Control Delay (s)	26.9	23.7	0.6	1.3
Lane LOS	D	C	A	A
Approach Delay (s)	26.9	23.7	0.6	1.3
Approach LOS	D	C		

Intersection Summary			
Average Delay		3.1	
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

4: College Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	50	110	40	60	50	150	360	50	50	420	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	54	120	43	65	54	163	391	54	54	457	54

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	217	163	609	565
Volume Left (vph)	43	43	163	54
Volume Right (vph)	120	54	54	54
Hadj (s)	-0.26	-0.11	0.03	0.00
Departure Headway (s)	7.7	8.1	6.7	6.6
Degree Utilization, x	0.46	0.37	1.13	1.04
Capacity (veh/h)	448	428	543	542
Control Delay (s)	17.1	15.6	104.1	76.0
Approach Delay (s)	17.1	15.6	104.1	76.0
Approach LOS	C	C	F	F

Intersection Summary			
Delay		72.4	
HCM Level of Service		F	
Intersection Capacity Utilization	82.4%		ICU Level of Service E
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

5: Laurel Av & V St

4/15/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑			↓
Sign Control	Stop		Stop			Stop
Volume (vph)	100	210	360	80	170	390
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	228	391	87	185	424

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	337	478	609
Volume Left (vph)	109	0	185
Volume Right (vph)	228	87	0
Hadj (s)	-0.31	-0.08	0.09
Departure Headway (s)	6.4	6.0	6.1
Degree Utilization, x	0.60	0.80	1.02
Capacity (veh/h)	536	588	590
Control Delay (s)	18.7	28.6	67.6
Approach Delay (s)	18.7	28.6	67.6
Approach LOS	C	D	F

Intersection Summary			
Delay		42.9	
HCM Level of Service		E	
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)		15	

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6

Cycle (sec): 100 Critical Vol./Cap.(X): 0.762
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 26.3
Optimal Cycle: 0 Level Of Service: D

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module: PM. Table with 12 columns for traffic flows. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module. Table with 12 columns. Rows include Adjustment, Lanes, and Final Sat.

Capacity Analysis Module. Table with 12 columns. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Unsignalized Intersection Capacity Analysis

7: Ocean Av & R St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↘		↙	↑↘			↕			↕	
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Volume (veh/h)	40	500	20	80	630	90	10	40	60	30	50	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	543	22	87	685	98	11	43	65	33	54	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	1191											
pX, platoon unblocked												
vC, conflicting volume	783			565			1239	1598	283	1353	1560	391
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	783			565			1239	1598	283	1353	1560	391
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			91			82	52	91	42	44	91
cM capacity (veh/h)	831			1003			60	91	714	56	96	608

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	43	362	203	87	457	326	120	141
Volume Left	43	0	0	87	0	0	11	33
Volume Right	0	0	22	0	0	98	65	54
cSH	831	1700	1700	1003	1700	1700	160	114
Volume to Capacity	0.05	0.21	0.12	0.09	0.27	0.19	0.75	1.24
Queue Length 95th (ft)	4	0	0	7	0	0	116	229
Control Delay (s)	9.6	0.0	0.0	8.9	0.0	0.0	74.9	233.1
Lane LOS	A			A			F	F
Approach Delay (s)	0.7			0.9			74.9	233.1
Approach LOS							F	F

Intersection Summary

Average Delay	24.8	
Intersection Capacity Utilization	47.6%	ICU Level of Service A
Analysis Period (min)	15	

HCM Signalized Intersection Capacity Analysis

8: Central Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3459		1770	3500		1770	1863	1583	1770	3316	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3459		1770	3500		1770	1863	1583	1770	3316	
Volume (vph)	100	560	100	260	500	40	30	100	230	50	110	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	609	109	283	543	43	33	109	250	54	120	87
RTOR Reduction (vph)	0	18	0	0	7	0	0	0	209	0	70	0
Lane Group Flow (vph)	109	700	0	283	579	0	33	109	41	54	137	0
Turn Type	Prot		Prot		Prot		Perm		Prot			
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	4.8	18.4		12.5	26.1		1.3	10.0	10.0	2.8	11.5	
Effective Green, g (s)	4.3	18.9		12.0	26.6		0.8	9.7	9.7	2.3	11.2	
Actuated g/C Ratio	0.07	0.32		0.20	0.45		0.01	0.16	0.16	0.04	0.19	
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.7	3.7	3.5	3.7	
Vehicle Extension (s)	2.0	3.5		2.0	3.5		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	129	1110		361	1581		24	307	261	69	631	
v/s Ratio Prot	0.06	c0.20		c0.16	0.17		c0.02	c0.06		c0.03	0.04	
v/s Ratio Perm									0.03			
v/c Ratio	0.84	0.63		0.78	0.37		1.38	0.36	0.16	0.78	0.22	
Uniform Delay, d1	27.0	17.0		22.2	10.6		29.1	21.8	21.1	28.1	20.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	35.8	1.2		9.9	0.2		315.7	1.0	0.4	40.0	0.2	
Delay (s)	62.8	18.3		32.1	10.8		344.8	22.8	21.5	68.0	20.4	
Level of Service	E	B		C	B		F	C	C	E	C	
Approach Delay (s)		24.1			17.7			49.1			30.2	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	58.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 9: North Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	100	220	70	50	300	70	50	290	80	60	240	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	239	76	54	326	76	54	315	87	65	261	76

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	228	196	457	212	245	196	207
Volume Left (vph)	109	0	54	54	0	65	0
Volume Right (vph)	0	76	76	0	87	0	76
Hadj (s)	0.27	-0.24	-0.04	0.16	-0.21	0.20	-0.22
Departure Headway (s)	8.8	8.3	8.2	8.7	8.3	8.8	8.4
Degree Utilization, x	0.56	0.45	1.03	0.51	0.57	0.48	0.48
Capacity (veh/h)	401	424	434	399	417	399	409
Control Delay (s)	21.1	16.7	81.2	19.2	20.4	18.5	17.8
Approach Delay (s)	19.1		81.2	19.8		18.1	
Approach LOS	C		F	C		C	

Intersection Summary

Delay	35.4
HCM Level of Service	E
Intersection Capacity Utilization	70.0%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: Pine Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	90	20	70	120	50	30	360	70	40	330	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	98	22	76	130	54	33	391	76	43	359	22

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	152	261	500	424
Volume Left (vph)	33	76	33	43
Volume Right (vph)	22	54	76	22
Hadj (s)	-0.01	-0.03	-0.04	0.02
Departure Headway (s)	7.9	7.4	6.5	6.7
Degree Utilization, x	0.33	0.54	0.90	0.79
Capacity (veh/h)	401	454	540	513
Control Delay (s)	14.8	18.7	43.5	30.6
Approach Delay (s)	14.8	18.7	43.5	30.6
Approach LOS	B	C	E	D

Intersection Summary			
Delay		31.3	
HCM Level of Service		D	
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

11: College Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↑	↔	↔	↔	↔
Sign Control	Stop		Stop				Stop		Stop			Stop
Volume (vph)	50	150	20	100	150	100	30	320	80	70	290	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	163	22	109	163	109	33	348	87	76	315	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	54	185	109	272	380	87	76	359
Volume Left (vph)	54	0	109	0	33	0	76	0
Volume Right (vph)	0	22	0	109	0	87	0	43
Hadj (s)	0.53	-0.05	0.53	-0.25	0.08	-0.67	0.53	-0.05
Departure Headway (s)	8.6	8.0	8.3	7.5	7.5	6.8	8.0	7.4
Degree Utilization, x	0.13	0.41	0.25	0.57	0.80	0.16	0.17	0.74
Capacity (veh/h)	389	411	411	449	468	509	430	468
Control Delay (s)	11.7	15.4	12.9	18.9	32.6	9.9	11.5	27.7
Approach Delay (s)	14.5		17.2		28.4		24.9	
Approach LOS	B		C		D		C	

Intersection Summary	
Delay	22.4
HCM Level of Service	C
Intersection Capacity Utilization	66.9%
ICU Level of Service	C
Analysis Period (min)	15

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12

Cycle (sec): 100 Critical Vol./Cap.(X): 0.746
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 20.0
Optimal Cycle: 0 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, and Lanes.

Volume Module: PM. Table with 12 columns for volume metrics: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module. Table with 12 columns for saturation metrics: Adjustment, Lanes, Final Sat.
























Capacity Analysis Module. Table with 12 columns for capacity metrics: Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

HCM Signalized Intersection Capacity Analysis

13: Ocean Av & O St
























4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3509		1770	3408		1770	1802		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.67	1.00		0.64	1.00	1.00
Satd. Flow (perm)	1770	3509		1770	3408		1255	1802		1196	1863	1583
Volume (vph)	50	500	30	60	730	240	80	110	30	180	120	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	543	33	65	793	261	87	120	33	196	130	98
RTOR Reduction (vph)	0	6	0	0	40	0	0	18	0	0	0	75
Lane Group Flow (vph)	54	570	0	65	1014	0	87	135	0	196	130	23
Turn Type	Prot		Prot			Perm			Perm		Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Actuated Green, G (s)	1.2	29.9		1.2	29.9		13.9	13.9		13.9	13.9	13.9
Effective Green, g (s)	5.2	30.1		5.2	30.1		14.6	14.6		14.6	14.6	14.6
Actuated g/C Ratio	0.08	0.49		0.08	0.49		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	8.0	4.2		8.0	4.2		4.7	4.7		4.7	4.7	4.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	149	1706		149	1657		296	425		282	439	373
v/s Ratio Prot	0.03	0.16		c0.04	c0.30			0.07			0.07	
v/s Ratio Perm							0.07			c0.16		0.01
v/c Ratio	0.36	0.33		0.44	0.61		0.29	0.32		0.70	0.30	0.06
Uniform Delay, d1	26.8	9.8		27.0	11.6		19.4	19.5		21.6	19.4	18.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.0		0.7	0.5		0.6	0.4		7.2	0.4	0.1
Delay (s)	27.3	9.8		27.7	12.1		20.0	20.0		28.9	19.8	18.4
Level of Service	C	A		C	B		B	B		C	B	B
Approach Delay (s)		11.3			13.0			20.0			23.7	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM Average Control Delay			15.1	HCM Level of Service				B				
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			61.9	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			62.1%	ICU Level of Service				B				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

14: Ocean Av & I St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3531		1770	3502		1770	1664		1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3531		1770	3502		1774	1664		1774	1770	
Volume (vph)	20	650	10	50	940	70	20	20	50	10	20	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	707	11	54	1022	76	22	22	54	11	22	11
RTOR Reduction (vph)	0	1	0	0	4	0	0	50	0	0	10	0
Lane Group Flow (vph)	22	717	0	54	1094	0	22	26	0	11	23	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	5	2		1	6			8				4
Permitted Phases							8					4
Actuated Green, G (s)	0.8	37.8		2.3	39.3		4.0	4.0		4.0	4.0	
Effective Green, g (s)	0.5	38.3		2.0	39.8		4.2	4.2		4.2	4.2	
Actuated g/C Ratio	0.01	0.68		0.04	0.70		0.07	0.07		0.07	0.07	
Clearance Time (s)	3.7	4.5		3.7	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	16	2394		63	2467		132	124		132	132	
v/s Ratio Prot	0.01	0.20		c0.03	c0.31			c0.02			0.01	
v/s Ratio Perm							0.01			0.01		
v/c Ratio	1.38	0.30		0.86	0.44		0.17	0.21		0.08	0.17	
Uniform Delay, d1	28.0	3.7		27.1	3.6		24.5	24.6		24.4	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	361.4	0.0		63.1	0.0		0.6	0.8		0.3	0.6	
Delay (s)	389.4	3.7		90.2	3.6		25.1	25.4		24.6	25.1	
Level of Service	F	A		F	A		C	C		C	C	
Approach Delay (s)		15.2			7.7			25.4			25.0	
Approach LOS		B			A			C			C	
Intersection Summary												
HCM Average Control Delay			11.6	HCM Level of Service				B				
HCM Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			56.5	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			49.3%	ICU Level of Service				A				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 15: Olive Av & I St

4/15/2009






























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	100	20	10	120	20	30	110	30	10	70	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	21	104	21	10	125	21	31	115	31	10	73	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	146	156	177	104
Volume Left (vph)	21	10	31	10
Volume Right (vph)	21	21	31	21
Hadj (s)	-0.02	-0.03	-0.04	-0.07
Departure Headway (s)	4.8	4.8	4.7	4.8
Degree Utilization, x	0.19	0.21	0.23	0.14
Capacity (veh/h)	698	704	711	688
Control Delay (s)	8.9	9.0	9.2	8.6
Approach Delay (s)	8.9	9.0	9.2	8.6
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.0	
HCM Level of Service		A	
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis
 16: Highway 1 & Harris Grade Rd

4/15/2009




























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.91	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3470		1610	3328	1583	1770	3539	1583
Flt Permitted	1.00	1.00	1.00	1.00	1.00		0.95	0.98	1.00	0.30	1.00	1.00
Satd. Flow (perm)	1863	3539	1583	1863	3470		1610	3328	1583	555	3539	1583
Volume (vph)	50	330	650	310	400	60	720	530	230	50	460	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	300%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	163	359	707	337	435	65	783	576	250	54	500	22
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	163	359	707	337	488	0	438	921	250	54	500	22
Turn Type	pm+pt		Free	pm+pt			Split		Free custom			Free
Protected Phases	7	4		3	8		2	2				
Permitted Phases	4		Free	8					Free	6	6	Free
Actuated Green, G (s)	14.2	14.2	96.9	17.7	17.7		28.3	28.3	96.9	15.4	15.4	96.9
Effective Green, g (s)	16.2	16.2	96.9	19.7	19.7		30.3	30.3	96.9	17.4	17.4	96.9
Actuated g/C Ratio	0.17	0.17	1.00	0.20	0.20		0.31	0.31	1.00	0.18	0.18	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	311	592	1583	379	705		503	1041	1583	100	635	1583
v/s Ratio Prot	0.07	c0.10		0.16	0.14		0.27	c0.28				
v/s Ratio Perm	0.02		c0.45	c0.03					0.16	0.10	c0.14	0.01
v/c Ratio	0.52	0.61	0.45	0.89	0.69		0.87	0.88	0.16	0.54	0.79	0.01
Uniform Delay, d1	36.2	37.4	0.0	38.1	35.8		31.5	31.6	0.0	36.1	38.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	1.8	0.9	21.5	2.9		15.2	9.1	0.2	5.8	6.4	0.0
Delay (s)	37.8	39.2	0.9	59.6	38.7		46.6	40.8	0.2	42.0	44.4	0.0
Level of Service	D	D	A	E	D		D	D	A	D	D	A
Approach Delay (s)		17.0			47.2			36.1			42.5	
Approach LOS		B			D			D			D	
Intersection Summary												
HCM Average Control Delay			33.6			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			96.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			76.1%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3399		1770	3539	1583	1770	3469		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3399		1770	3539	1583	1770	3469		1770	3539	1583
Volume (vph)	430	390	140	150	300	230	200	720	110	280	660	340
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	457	415	149	160	319	245	213	766	117	298	702	362
RTOR Reduction (vph)	0	44	0	0	0	194	0	14	0	0	0	248
Lane Group Flow (vph)	457	520	0	160	319	51	213	869	0	298	702	114
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	11.4	17.6		9.2	15.4	15.4	11.7	22.3		14.4	25.0	25.0
Effective Green, g (s)	11.1	18.9		8.9	16.7	16.7	11.4	22.8		14.1	25.5	25.5
Actuated g/C Ratio	0.14	0.23		0.11	0.21	0.21	0.14	0.28		0.17	0.32	0.32
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	472	796		195	732	328	250	980		309	1118	500
v/s Ratio Prot	c0.13	c0.15		0.09	0.09		0.12	c0.25		c0.17	c0.20	
v/s Ratio Perm						0.03						0.07
v/c Ratio	0.97	0.65		0.82	0.44	0.15	0.85	0.89		0.96	0.63	0.23
Uniform Delay, d1	34.6	27.9		35.1	27.9	26.2	33.8	27.7		33.1	23.6	20.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	32.8	1.9		22.3	0.4	0.2	22.6	9.5		41.1	0.8	0.1
Delay (s)	67.4	29.9		57.5	28.3	26.4	56.4	37.2		74.1	24.4	20.4
Level of Service	E	C		E	C	C	E	D		E	C	C
Approach Delay (s)		46.7			34.1			41.0			34.2	
Approach LOS		D			C			D			C	
Intersection Summary												
HCM Average Control Delay			39.0				HCM Level of Service				D	
HCM Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			80.7				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			75.8%				ICU Level of Service				D	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

18: Barton Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔		↖	↕		↖	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1817	1583		1758		1770	3520		1770	3539	1583
Flt Permitted		0.82	1.00		0.91		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1528	1583		1616		1770	3520		1770	3539	1583
Volume (vph)	60	60	60	20	40	30	100	1080	40	40	1200	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	65	65	22	43	33	109	1174	43	43	1304	98
RTOR Reduction (vph)	0	0	55	0	28	0	0	3	0	0	0	41
Lane Group Flow (vph)	0	130	10	0	70	0	109	1214	0	43	1304	57
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)		9.9	9.9		9.9		5.7	41.8		1.8	37.9	37.9
Effective Green, g (s)		10.1	10.1		10.1		5.4	42.3		1.5	38.4	38.4
Actuated g/C Ratio		0.15	0.15		0.15		0.08	0.64		0.02	0.58	0.58
Clearance Time (s)		4.2	4.2		4.2		3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		234	243		248		145	2259		40	2062	922
v/s Ratio Prot							c0.06	c0.34		0.02	c0.37	
v/s Ratio Perm		c0.09	0.01		0.04							0.04
v/c Ratio		0.56	0.04		0.28		0.75	0.54		1.07	0.63	0.06
Uniform Delay, d1		25.8	23.8		24.7		29.6	6.5		32.2	9.1	6.0
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.8	0.1		0.6		19.5	0.2		165.4	0.6	0.0
Delay (s)		28.7	23.8		25.3		49.1	6.7		197.6	9.7	6.0
Level of Service		C	C		C		D	A		F	A	A
Approach Delay (s)		27.1			25.3			10.2			15.1	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	65.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

19: North Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3504		1770	3485	
Flt Permitted	0.38	1.00	1.00	0.38	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	703	1863	1583	713	1863	1583	1770	3504		1770	3485	
Volume (vph)	130	240	80	110	260	130	70	850	60	120	800	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	261	87	120	283	141	76	924	65	130	870	98
RTOR Reduction (vph)	0	0	71	0	0	115	0	7	0	0	11	0
Lane Group Flow (vph)	141	261	16	120	283	26	76	982	0	130	957	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	12.9	10.1	10.1	12.9	10.1	10.1	3.0	22.2		4.4	23.6	
Effective Green, g (s)	13.9	10.6	10.6	13.9	10.6	10.6	2.7	22.7		4.1	24.1	
Actuated g/C Ratio	0.25	0.19	0.19	0.25	0.19	0.19	0.05	0.40		0.07	0.43	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	234	348	296	236	348	296	84	1403		128	1481	
v/s Ratio Prot	c0.04	0.14		0.03	c0.15		0.04	c0.28		c0.07	0.27	
v/s Ratio Perm	0.11		0.01	0.09		0.02						
v/c Ratio	0.60	0.75	0.05	0.51	0.81	0.09	0.90	0.70		1.02	0.65	
Uniform Delay, d1	18.2	21.8	18.9	17.5	22.1	19.1	26.9	14.2		26.3	12.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	8.4	0.1	1.3	13.2	0.1	65.8	1.3		83.8	0.7	
Delay (s)	21.9	30.2	19.0	18.7	35.3	19.2	92.7	15.4		110.1	13.7	
Level of Service	C	C	B	B	D	B	F	B		F	B	
Approach Delay (s)		25.8			27.5			20.9			25.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			24.2				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			56.7				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			66.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pine Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↗		↖	↑↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1775		1770	3505		1770	3478	
Flt Permitted	0.48	1.00	1.00	0.67	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	888	1863	1583	1255	1775		1770	3505		1770	3478	
Volume (vph)	170	120	50	100	130	60	80	880	60	70	770	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	130	54	109	141	65	87	957	65	76	837	109
RTOR Reduction (vph)	0	0	45	0	32	0	0	7	0	0	14	0
Lane Group Flow (vph)	185	130	9	109	174	0	87	1015	0	76	932	0
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	12.1	8.9	8.9	12.1	8.9		4.3	24.9		3.5	24.1	
Effective Green, g (s)	12.5	9.1	9.1	12.5	9.1		4.0	25.4		3.2	24.6	
Actuated g/C Ratio	0.22	0.16	0.16	0.22	0.16		0.07	0.44		0.06	0.43	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	247	297	252	305	283		124	1559		99	1498	
v/s Ratio Prot	c0.04	0.07		0.02	0.10		c0.05	c0.29		0.04	0.27	
v/s Ratio Perm	c0.12		0.01	0.06								
v/c Ratio	0.75	0.44	0.03	0.36	0.62		0.70	0.65		0.77	0.62	
Uniform Delay, d1	20.4	21.7	20.3	18.6	22.4		26.0	12.4		26.6	12.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.2	0.8	0.0	0.5	3.4		13.6	0.8		26.8	0.6	
Delay (s)	31.5	22.4	20.3	19.1	25.7		39.6	13.1		53.4	13.2	
Level of Service	C	C	C	B	C		D	B		D	B	
Approach Delay (s)		26.7			23.4			15.2			16.2	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

21: College Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↗		↖	↑↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3507		1770	3441	
Flt Permitted	0.28	1.00	1.00	0.64	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	524	1863	1583	1194	1863	1583	1770	3507		1770	3441	
Volume (vph)	190	170	60	60	210	50	80	770	50	70	660	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	185	65	65	228	54	87	837	54	76	717	163
RTOR Reduction (vph)	0	0	47	0	0	45	0	5	0	0	21	0
Lane Group Flow (vph)	207	185	18	65	228	9	87	886	0	76	859	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	24.2	18.0	18.0	12.7	10.7	10.7	4.5	26.3		3.8	25.6	
Effective Green, g (s)	24.4	18.2	18.2	13.1	10.9	10.9	4.2	26.8		3.5	26.1	
Actuated g/C Ratio	0.37	0.27	0.27	0.20	0.16	0.16	0.06	0.40		0.05	0.39	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.7	4.5		3.7	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)	369	508	432	254	304	259	111	1409		93	1346	
v/s Ratio Prot	c0.08	0.10		0.01	c0.12		c0.05	c0.25		0.04	0.25	
v/s Ratio Perm	0.13		0.01	0.04		0.01						
v/c Ratio	0.56	0.36	0.04	0.26	0.75	0.03	0.78	0.63		0.82	0.64	
Uniform Delay, d1	15.8	19.6	17.8	22.4	26.6	23.5	30.8	16.0		31.3	16.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	0.3	0.0	0.4	9.5	0.0	27.5	0.6		38.7	0.7	
Delay (s)	17.4	19.9	17.9	22.7	36.1	23.5	58.3	16.6		70.0	17.2	
Level of Service	B	B	B	C	D	C	E	B		E	B	
Approach Delay (s)		18.5			31.6			20.3			21.4	
Approach LOS		B			C			C			C	

Intersection Summary

HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

22: Laurel Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1752			1756		1770	3534		1770	3492	
Flt Permitted		0.85			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1518			1635		1770	3534		1770	3492	
Volume (vph)	50	40	40	20	50	40	80	930	10	30	720	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	43	43	22	54	43	87	1011	11	33	783	76
RTOR Reduction (vph)	0	34	0	0	37	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	106	0	0	82	0	87	1021	0	33	852	0
Turn Type	pm+pt			pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		6.9			6.9		3.9	33.9		1.5	31.5	
Effective Green, g (s)		7.1			7.1		3.6	34.4		1.2	32.0	
Actuated g/C Ratio		0.13			0.13		0.07	0.63		0.02	0.59	
Clearance Time (s)		4.2			4.2		3.7	4.5		3.7	4.5	
Vehicle Extension (s)		2.5			2.5		2.0	1.5		2.0	1.5	
Lane Grp Cap (vph)		197			212		116	2222		39	2043	
v/s Ratio Prot							c0.05	c0.29		0.02	0.24	
v/s Ratio Perm		c0.07			0.05							
v/c Ratio		0.54			0.38		0.75	0.46		0.85	0.42	
Uniform Delay, d1		22.3			21.8		25.1	5.3		26.7	6.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.2			0.8		21.2	0.1		82.5	0.1	
Delay (s)		24.5			22.6		46.3	5.4		109.1	6.3	
Level of Service		C			C		D	A		F	A	
Approach Delay (s)		24.5			22.6			8.6			10.1	
Approach LOS		C			C			A			B	

Intersection Summary

HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

23: Ocean Av & H St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	1770	3518		1770	3539	1583	1770	1838		1681	1734	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.57	1.00		0.41	0.57	1.00
Satd. Flow (perm)	1770	3518		1770	3539	1583	1066	1838		728	1016	1583
Volume (vph)	180	490	20	20	830	310	20	210	20	260	160	190
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	533	22	22	902	337	22	228	22	283	174	207
RTOR Reduction (vph)	0	3	0	0	0	227	0	5	0	0	0	150
Lane Group Flow (vph)	196	552	0	22	902	110	22	245	0	163	294	57
Turn Type	Prot			Prot		Perm pm+pt			pm+pt		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	9.7	30.2		1.3	21.8	21.8	17.8	16.5		21.2	21.2	18.2
Effective Green, g (s)	9.4	30.4		1.0	22.0	22.0	18.2	16.7		21.6	21.6	18.4
Actuated g/C Ratio	0.14	0.45		0.01	0.33	0.33	0.27	0.25		0.32	0.32	0.27
Clearance Time (s)	3.7	4.2		3.7	4.2	4.2	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	247	1589		26	1157	517	304	456		279	360	433
v/s Ratio Prot	c0.11	0.16		0.01	c0.25		0.00	0.13		0.03	c0.04	
v/s Ratio Perm						0.07	0.02			0.16	c0.22	0.04
v/c Ratio	0.79	0.35		0.85	0.78	0.21	0.07	0.54		0.58	0.82	0.13
Uniform Delay, d1	28.0	12.0		33.1	20.5	16.4	18.1	21.9		19.3	21.0	18.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.0		106.7	3.1	0.1	0.1	1.2		3.1	13.3	0.1
Delay (s)	43.0	12.0		139.8	23.6	16.5	18.2	23.2		22.4	34.4	18.6
Level of Service	D	B		F	C	B	B	C		C	C	B
Approach Delay (s)		20.1			23.7			22.8			26.5	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	67.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	280	60	30	340	90	60	130	30	90	120	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	304	65	33	370	98	65	141	33	98	130	43

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	413	500	239	272
Volume Left (vph)	43	33	65	98
Volume Right (vph)	65	98	33	43
Hadj (s)	-0.04	-0.07	0.01	0.01
Departure Headway (s)	7.5	7.3	8.3	8.2
Degree Utilization, x	0.86	1.02	0.55	0.62
Capacity (veh/h)	413	487	403	411
Control Delay (s)	40.8	72.5	21.1	23.4
Approach Delay (s)	40.8	72.5	21.1	23.4
Approach LOS	E	F	C	C

Intersection Summary			
Delay		45.3	
HCM Level of Service		E	
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 25: Central Av & A St

4/15/2009



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	60	400	380	60	40	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	435	413	65	43	33
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total (vph)	65	435	413	65	76	
Volume Left (vph)	65	0	413	0	0	
Volume Right (vph)	0	435	0	0	33	
Hadj (s)	0.53	-0.67	0.53	0.03	-0.22	
Departure Headway (s)	6.7	5.5	6.6	6.1	6.3	
Degree Utilization, x	0.12	0.67	0.76	0.11	0.13	
Capacity (veh/h)	508	623	533	565	523	
Control Delay (s)	9.5	17.8	25.9	8.6	10.3	
Approach Delay (s)	16.7		23.6		10.3	
Approach LOS	C		C		B	
Intersection Summary						
Delay			19.3			
HCM Level of Service			C			
Intersection Capacity Utilization			37.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↔			↕↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	160	140	30	210	60	150	250	30	60	260	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	174	152	33	228	65	163	272	33	65	283	54

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	380	326	299	168	207	196
Volume Left (vph)	54	33	163	0	65	0
Volume Right (vph)	152	65	0	33	0	54
Hadj (s)	-0.18	-0.07	0.31	-0.10	0.19	-0.16
Departure Headway (s)	7.7	8.0	8.8	8.3	8.8	8.5
Degree Utilization, x	0.81	0.73	0.73	0.39	0.51	0.46
Capacity (veh/h)	449	424	394	414	377	392
Control Delay (s)	36.5	29.4	30.7	15.4	19.4	17.3
Approach Delay (s)	36.5	29.4	25.2		18.3	
Approach LOS	E	D	D		C	

Intersection Summary	
Delay	27.0
HCM Level of Service	D
Intersection Capacity Utilization	62.1%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

27: Pine Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	120	40	30	110	30	20	310	20	30	300	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	130	43	33	120	33	22	337	22	33	326	33

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	207	185	190	190	196	196
Volume Left (vph)	33	33	22	0	33	0
Volume Right (vph)	43	33	0	22	0	33
Hadj (s)	-0.06	-0.04	0.09	-0.05	0.12	-0.08
Departure Headway (s)	6.2	6.3	6.5	6.4	6.5	6.3
Degree Utilization, x	0.36	0.32	0.34	0.34	0.35	0.34
Capacity (veh/h)	527	516	524	534	522	539
Control Delay (s)	12.7	12.3	11.7	11.4	11.9	11.4
Approach Delay (s)	12.7	12.3	11.5		11.6	
Approach LOS	B	B	B		B	

Intersection Summary	
Delay	11.9
HCM Level of Service	B
Intersection Capacity Utilization	43.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 28: College Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	100	50	40	170	40	140	320	40	50	320	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	109	54	43	185	43	152	348	43	54	348	43

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	196	272	326	217	228	217
Volume Left (vph)	33	43	152	0	54	0
Volume Right (vph)	54	43	0	43	0	43
Hadj (s)	-0.10	-0.03	0.27	-0.11	0.15	-0.11
Departure Headway (s)	7.3	7.1	7.4	7.0	7.5	7.2
Degree Utilization, x	0.40	0.53	0.67	0.42	0.47	0.43
Capacity (veh/h)	441	474	469	495	451	468
Control Delay (s)	15.0	17.9	23.1	13.9	15.8	14.4
Approach Delay (s)	15.0	17.9	19.4		15.1	
Approach LOS	B	C	C		C	

Intersection Summary	
Delay	17.2
HCM Level of Service	C
Intersection Capacity Utilization	53.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.97	1.00
Satd. Flow (prot)	1770	3503		1770	3432			1833	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.48	1.00		0.51	1.00
Satd. Flow (perm)	1770	3503		1770	3432			890	1583		950	1583
Volume (vph)	110	680	50	50	1100	280	80	170	60	210	160	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	739	54	54	1196	304	87	185	65	228	174	109
RTOR Reduction (vph)	0	4	0	0	21	0	0	0	44	0	0	75
Lane Group Flow (vph)	120	789	0	54	1479	0	0	272	21	0	402	34
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	7.7	44.6		7.2	44.6			29.0	29.0		29.0	29.0
Effective Green, g (s)	7.4	44.8		7.4	44.8			29.7	29.7		29.7	29.7
Actuated g/C Ratio	0.08	0.48		0.08	0.48			0.32	0.32		0.32	0.32
Clearance Time (s)	3.7	4.2		4.2	4.2			4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	139	1671		139	1637			282	501		300	501
v/s Ratio Prot	c0.07	0.23		0.03	c0.43							
v/s Ratio Perm								0.31	0.01		c0.42	0.02
v/c Ratio	0.86	0.47		0.39	0.90			0.96	0.04		1.34	0.07
Uniform Delay, d1	42.8	16.6		41.1	22.6			31.6	22.2		32.1	22.4
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	38.9	0.2		1.8	7.4			43.6	0.0		173.8	0.1
Delay (s)	81.6	16.8		42.9	30.0			75.1	22.3		205.9	22.5
Level of Service	F	B		D	C			E	C		F	C
Approach Delay (s)		25.3			30.4			64.9			166.8	
Approach LOS		C			C			E			F	

Intersection Summary

HCM Average Control Delay	53.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	93.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

30: Laurel Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	20	10	30	80	280	20	180	30	60	110	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	22	11	33	87	304	22	196	33	65	120	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	43	424	250	196
Volume Left (vph)	11	33	22	65
Volume Right (vph)	11	304	33	11
Hadj (s)	-0.07	-0.38	-0.03	0.07
Departure Headway (s)	5.8	4.8	5.4	5.6
Degree Utilization, x	0.07	0.57	0.38	0.30
Capacity (veh/h)	533	705	609	588
Control Delay (s)	9.2	14.0	11.7	11.0
Approach Delay (s)	9.2	14.0	11.7	11.0
Approach LOS	A	B	B	B

Intersection Summary			
Delay		12.5	
HCM Level of Service		B	
Intersection Capacity Utilization	56.0%		ICU Level of Service B
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

31: Ocean Av & 7th St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3494		1770	3500		1770	1863	1583	1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.67	1.00	1.00	0.70	1.00	
Satd. Flow (perm)	1770	3494		1770	3500		1239	1863	1583	1305	1770	
Volume (vph)	60	760	70	300	1380	110	40	80	70	70	80	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	826	76	326	1500	120	43	87	76	76	87	43
RTOR Reduction (vph)	0	7	0	0	5	0	0	0	65	0	26	0
Lane Group Flow (vph)	65	895	0	326	1615	0	43	87	11	76	104	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	5	2		1	6			8				4
Permitted Phases							8		8		4	
Actuated Green, G (s)	3.3	24.1		16.2	37.0		9.2	9.2	9.2	9.2	9.2	
Effective Green, g (s)	3.0	25.0		15.9	37.9		9.4	9.4	9.4	9.4	9.4	
Actuated g/C Ratio	0.05	0.40		0.26	0.61		0.15	0.15	0.15	0.15	0.15	
Clearance Time (s)	3.7	4.9		3.7	4.9		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	85	1402		452	2129		187	281	239	197	267	
v/s Ratio Prot	0.04	0.26		c0.18	c0.46			0.05				c0.06
v/s Ratio Perm							0.03		0.01	0.06		
v/c Ratio	0.76	0.64		0.72	0.76		0.23	0.31	0.05	0.39	0.39	
Uniform Delay, d1	29.3	15.0		21.2	8.9		23.3	23.6	22.6	23.8	23.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	30.0	0.7		4.8	1.4		0.6	0.6	0.1	1.3	0.9	
Delay (s)	59.3	15.7		25.9	10.3		23.9	24.2	22.7	25.1	24.8	
Level of Service	E	B		C	B		C	C	C	C	C	
Approach Delay (s)		18.7			12.9			23.6			24.9	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

32: Ocean Av & Highway 1

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↕		↖	↕	↗		↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.95	0.95	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3452		1681	1721	1583		1812	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.58	0.64	1.00		0.47	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3452		1020	1133	1583		870	1583
Volume (vph)	10	400	440	30	660	130	1040	320	100	50	40	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	435	478	33	717	141	1130	348	109	54	43	11
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	35	0	0	9
Lane Group Flow (vph)	11	435	478	33	847	0	677	801	74	0	97	2
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	1.2	35.3	117.6	3.9	38.0		63.0	63.0	63.0		24.6	24.6
Effective Green, g (s)	1.7	37.3	117.6	4.4	40.0		63.9	63.9	63.9		26.6	26.6
Actuated g/C Ratio	0.01	0.32	1.00	0.04	0.34		0.54	0.54	0.54		0.23	0.23
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	26	591	1583	66	1174		741	782	860		197	358
v/s Ratio Prot	0.01	0.23		0.02	c0.25		0.26	c0.29				
v/s Ratio Perm			c0.30				0.24	c0.27	0.05		0.11	0.00
v/c Ratio	0.42	0.74	0.30	0.50	0.72		0.91	1.02	0.09		0.49	0.01
Uniform Delay, d1	57.5	35.8	0.0	55.5	33.9		21.2	26.8	12.9		39.6	35.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.0	4.1	0.5	2.2	1.9		15.4	38.5	0.0		0.7	0.0
Delay (s)	61.5	39.9	0.5	57.7	35.8		36.7	65.3	12.9		40.3	35.3
Level of Service	E	D	A	E	D		D	E	B		D	D
Approach Delay (s)		19.8			36.6			49.5			39.8	
Approach LOS		B			D			D			D	

Intersection Summary

HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	117.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

33: Ocean Av & N Bailey Ave

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	410	30	30	120	10	10	10	50	10	10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	446	33	33	130	11	11	11	54	11	11	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	141			478			701	690	462	745	701	136
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			478			701	690	462	745	701	136
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			97	97	91	96	97	99
cM capacity (veh/h)	1442			1084			331	354	600	285	349	913

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	489	174	76	33
Volume Left	11	33	11	11
Volume Right	33	11	54	11
cSH	1442	1084	494	402
Volume to Capacity	0.01	0.03	0.15	0.08
Queue Length 95th (ft)	1	2	14	7
Control Delay (s)	0.2	1.8	13.6	14.8
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	1.8	13.6	14.8
Approach LOS			B	B

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 34: Central Av & N Bailey Ave

4/15/2009

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↖	↖	↖
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	550	100	80	130	40	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	598	109	87	141	43	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			707		967	652
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			707		967	652
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		83	88
cM capacity (veh/h)			892		254	468
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	707	87	141	43	54	
Volume Left	0	87	0	43	0	
Volume Right	109	0	0	0	54	
cSH	1700	892	1700	254	468	
Volume to Capacity	0.42	0.10	0.08	0.17	0.12	
Queue Length 95th (ft)	0	8	0	15	10	
Control Delay (s)	0.0	9.5	0.0	22.0	13.7	
Lane LOS		A		C	B	
Approach Delay (s)	0.0	3.6		17.4		
Approach LOS				C		
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			52.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 35: Ocean Av & Floradale Ave

4/15/2009



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↗	↘	↘
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	190	50	80	250	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	207	54	87	272	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	141				283	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	141				283	54
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				61	99
cM capacity (veh/h)	1442				702	1013

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	217	54	87	283
Volume Left	11	0	0	272
Volume Right	0	0	87	11
cSH	1442	1700	1700	711
Volume to Capacity	0.01	0.03	0.05	0.40
Queue Length 95th (ft)	1	0	0	48
Control Delay (s)	0.4	0.0	0.0	13.4
Lane LOS	A			B
Approach Delay (s)	0.4	0.0		13.4
Approach LOS				B

Intersection Summary			
Average Delay		6.0	
Intersection Capacity Utilization	38.3%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

36: Central Av & Floradale Ave

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1829			1839	1583	1770	1831		1770	1829	
Flt Permitted		0.94			0.91	1.00	0.59	1.00		0.69	1.00	
Satd. Flow (perm)		1739			1702	1583	1103	1831		1292	1829	
Volume (vph)	40	200	20	20	60	110	10	80	10	450	220	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	217	22	22	65	120	11	87	11	489	239	33
RTOR Reduction (vph)	0	6	0	0	0	89	0	5	0	0	7	0
Lane Group Flow (vph)	0	276	0	0	87	31	11	93	0	489	265	0
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		11.6			11.6	11.6	24.7	24.7		24.7	24.7	
Effective Green, g (s)		11.6			11.6	11.6	24.7	24.7		24.7	24.7	
Actuated g/C Ratio		0.26			0.26	0.26	0.56	0.56		0.56	0.56	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		455			446	415	615	1021		720	1020	
v/s Ratio Prot								0.05			0.14	
v/s Ratio Perm		c0.16			0.05	0.02	0.01			c0.38		
v/c Ratio		0.61			0.20	0.08	0.02	0.09		0.68	0.26	
Uniform Delay, d1		14.3			12.7	12.3	4.4	4.6		7.0	5.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3			0.2	0.1	0.0	0.0		2.6	0.1	
Delay (s)		16.6			12.9	12.4	4.4	4.6		9.5	5.2	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.6			12.6			4.6			8.0	
Approach LOS		B			B			A			A	

Intersection Summary

HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection LOS Calculations
Cumulative with Updated General Plan Mitigated
Conditions

HCM Signalized Intersection Capacity Analysis

2: North Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.96		1.00	0.98	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1778			1776		1770	1783		1770	1826	
Flt Permitted		0.89			0.73		0.53	1.00		0.27	1.00	
Satd. Flow (perm)		1604			1335		994	1783		494	1826	
Volume (vph)	40	80	40	110	60	30	50	430	170	60	260	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	87	43	120	65	33	54	467	185	65	283	43
RTOR Reduction (vph)	0	22	0	0	12	0	0	21	0	0	8	0
Lane Group Flow (vph)	0	151	0	0	206	0	54	631	0	65	318	0
Turn Type	Perm		Perm			pm+pt		pm+pt				
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		10.6			10.6		29.6	27.5		29.6	27.5	
Effective Green, g (s)		10.6			10.6		29.6	27.5		29.6	27.5	
Actuated g/C Ratio		0.20			0.20		0.57	0.53		0.57	0.53	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		326			271		595	939		331	962	
v/s Ratio Prot							0.00	c0.35		c0.01	0.17	
v/s Ratio Perm		0.09			c0.15		0.05			0.10		
v/c Ratio		0.46			0.76		0.09	0.67		0.20	0.33	
Uniform Delay, d1		18.3			19.6		5.1	9.0		6.1	7.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			11.8		0.1	1.9		0.3	0.2	
Delay (s)		19.4			31.4		5.1	10.9		6.4	7.3	
Level of Service		B			C		A	B		A	A	
Approach Delay (s)		19.4			31.4			10.5			7.1	
Approach LOS		B			C			B			A	

Intersection Summary

HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: College Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.98		1.00	0.99		1.00	0.96	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1734			1802		1770	1843		1770	1788	
Flt Permitted		0.91			0.91		0.34	1.00		0.34	1.00	
Satd. Flow (perm)		1594			1653		632	1843		638	1788	
Volume (vph)	70	140	170	30	110	30	100	410	30	30	300	110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	152	185	33	120	33	109	446	33	33	326	120
RTOR Reduction (vph)	0	51	0	0	14	0	0	4	0	0	22	0
Lane Group Flow (vph)	0	362	0	0	172	0	109	475	0	33	424	0
Turn Type		Perm		Perm			pm+pt			pm+pt		
Protected Phases		4		8			5	2		1	6	
Permitted Phases		4		8			2			6		
Actuated Green, G (s)		14.5		14.5			20.4	18.5		19.0	17.8	
Effective Green, g (s)		14.5		14.5			20.4	18.5		19.0	17.8	
Actuated g/C Ratio		0.31		0.31			0.44	0.40		0.41	0.39	
Clearance Time (s)		4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		500		519			326	738		292	689	
v/s Ratio Prot							c0.01	c0.26		0.00	0.24	
v/s Ratio Perm		c0.23		0.10			0.13			0.04		
v/c Ratio		0.72		0.33			0.33	0.64		0.11	0.62	
Uniform Delay, d1		14.1		12.1			8.1	11.2		8.5	11.4	
Progression Factor		1.00		1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.1		0.4			0.6	1.9		0.2	1.6	
Delay (s)		19.2		12.5			8.7	13.1		8.7	13.1	
Level of Service		B		B			A	B		A	B	
Approach Delay (s)		19.2		12.5			12.3			12.8		
Approach LOS		B		B			B			B		

Intersection Summary

HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	46.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

5: Laurel Av & V St

4/15/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.91		0.97			1.00
Flt Protected	0.98		1.00			0.98
Satd. Flow (prot)	1670		1800			1824
Flt Permitted	0.98		1.00			0.59
Satd. Flow (perm)	1670		1800			1091
Volume (vph)	70	130	420	140	200	270
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	141	457	152	217	293
RTOR Reduction (vph)	114	0	15	0	0	0
Lane Group Flow (vph)	103	0	594	0	0	510
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	8.7		38.1			38.1
Effective Green, g (s)	8.7		38.1			38.1
Actuated g/C Ratio	0.16		0.70			0.70
Clearance Time (s)	4.0		4.0			4.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	265		1251			759
v/s Ratio Prot	c0.06		0.33			
v/s Ratio Perm						c0.47
v/c Ratio	0.39		0.47			0.67
Uniform Delay, d1	20.7		3.8			4.8
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.9		0.3			2.4
Delay (s)	21.6		4.1			7.1
Level of Service	C		A			A
Approach Delay (s)	21.6		4.1			7.1
Approach LOS	C		A			A

Intersection Summary

HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

6: Ocean Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.97			0.94			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	1.00
Satd. Flow (prot)	1770	3509		1770	3437			1745			1817	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.56	1.00
Satd. Flow (perm)	1770	3509		1770	3437			1690			1036	1583
Volume (vph)	120	330	20	110	380	90	30	210	190	120	120	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	359	22	120	413	98	33	228	207	130	130	109
RTOR Reduction (vph)	0	7	0	0	35	0	0	51	0	0	0	72
Lane Group Flow (vph)	130	374	0	120	476	0	0	417	0	0	260	37
Turn Type	Prot		Prot		Perm			Perm		Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Actuated Green, G (s)	5.6	14.5		4.0	12.9			15.8			15.8	15.8
Effective Green, g (s)	5.6	14.5		4.0	12.9			15.8			15.8	15.8
Actuated g/C Ratio	0.12	0.31		0.09	0.28			0.34			0.34	0.34
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	214	1099		153	958			577			354	540
v/s Ratio Prot	c0.07	0.11		0.07	c0.14							
v/s Ratio Perm								0.25			c0.25	0.02
v/c Ratio	0.61	0.34		0.78	0.50			0.72			0.73	0.07
Uniform Delay, d1	19.3	12.2		20.7	14.0			13.3			13.4	10.3
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	4.8	0.2		22.6	0.4			4.5			7.7	0.1
Delay (s)	24.1	12.4		43.3	14.4			17.8			21.1	10.3
Level of Service	C	B		D	B			B			C	B
Approach Delay (s)		15.4			19.9			17.8			17.9	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	46.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 9: North Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	240	60	40	180	50	50	210	60	40	210	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	261	65	43	196	54	54	228	65	43	228	65

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	217	196	239	54	168	179	158	179
Volume Left (vph)	87	0	43	0	54	0	43	0
Volume Right (vph)	0	65	0	54	0	65	0	65
Hadj (s)	0.23	-0.20	0.12	-0.67	0.20	-0.22	0.17	-0.22
Departure Headway (s)	7.3	6.9	7.4	6.6	7.4	7.0	7.4	7.0
Degree Utilization, x	0.44	0.37	0.49	0.10	0.35	0.35	0.33	0.35
Capacity (veh/h)	471	500	466	512	453	489	461	487
Control Delay (s)	14.8	12.8	16.1	9.1	13.1	12.5	12.8	12.6
Approach Delay (s)	13.9		14.9		12.8		12.7	
Approach LOS	B		B		B		B	





















Intersection Summary

Delay	13.5
HCM Level of Service	B
Intersection Capacity Utilization	53.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: Pine Av & O St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	30	90	20	50	80	40	30	250	60	30	240	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	98	22	54	87	43	33	272	65	33	261	22
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	130	22	141	43	304	65	293	22				
Volume Left (vph)	33	0	54	0	33	0	33	0				
Volume Right (vph)	0	22	0	43	0	65	0	22				
Hadj (s)	0.16	-0.67	0.23	-0.67	0.09	-0.67	0.09	-0.67				
Departure Headway (s)	6.8	6.0	6.8	5.9	6.1	5.3	6.1	5.4				
Degree Utilization, x	0.25	0.04	0.27	0.07	0.51	0.10	0.50	0.03				
Capacity (veh/h)	486	545	488	554	565	642	564	632				
Control Delay (s)	10.8	8.0	11.1	8.2	14.1	7.7	13.9	7.4				
Approach Delay (s)	10.4		10.4		13.0		13.5					
Approach LOS	B		B		B		B					
Intersection Summary												
Delay			12.3									
HCM Level of Service			B									
Intersection Capacity Utilization			52.7%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St

4/15/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	0.95	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3257		1770	3539	1583	1770	3436		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3257		1770	3539	1583	1770	3436		3433	3539	1583
Volume (vph)	430	150	170	120	160	270	100	500	120	280	740	260
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	457	160	181	128	170	287	106	532	128	298	787	277
RTOR Reduction (vph)	0	138	0	0	0	168	0	28	0	0	0	193
Lane Group Flow (vph)	457	203	0	128	170	119	106	632	0	298	787	84
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	9.6	12.5		7.0	9.9	9.9	4.4	15.0		6.5	17.1	17.1
Effective Green, g (s)	9.3	13.8		6.7	11.2	11.2	4.1	15.5		6.2	17.6	17.6
Actuated g/C Ratio	0.16	0.24		0.12	0.19	0.19	0.07	0.27		0.11	0.30	0.30
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	549	772		204	681	305	125	915		366	1070	479
v/s Ratio Prot	c0.13	c0.06		0.07	0.05		0.06	0.18		c0.09	c0.22	
v/s Ratio Perm						c0.08						0.05
v/c Ratio	0.83	0.26		0.63	0.25	0.39	0.85	0.69		0.81	0.74	0.17
Uniform Delay, d1	23.7	18.1		24.6	19.9	20.5	26.7	19.2		25.4	18.2	15.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.0	0.2		4.3	0.2	0.8	37.1	1.8		12.4	2.3	0.1
Delay (s)	33.7	18.2		28.8	20.1	21.3	63.8	21.0		37.8	20.5	15.0
Level of Service	C	B		C	C	C	E	C		D	C	B
Approach Delay (s)		27.1			22.6			27.0			23.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			24.8				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			58.2				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			56.6%				ICU Level of Service			B		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↖	↗		↖	↗
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	240	70	40	260	100	40	120	30	70	110	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	261	76	43	283	109	43	130	33	76	120	33

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	293	76	326	109	174	33	196	33
Volume Left (vph)	33	0	43	0	43	0	76	0
Volume Right (vph)	0	76	0	109	0	33	0	33
Hadj (s)	0.09	-0.67	0.10	-0.67	0.16	-0.67	0.23	-0.67
Departure Headway (s)	6.7	5.9	6.6	5.9	7.3	6.5	7.3	6.4
Degree Utilization, x	0.55	0.13	0.60	0.18	0.35	0.06	0.40	0.06
Capacity (veh/h)	514	570	524	582	453	509	460	515
Control Delay (s)	16.3	8.6	17.9	8.9	13.0	8.7	13.9	8.6
Approach Delay (s)	14.7		15.6		12.3		13.1	
Approach LOS	B		C		B		B	

Intersection Summary

Delay	14.3
HCM Level of Service	B
Intersection Capacity Utilization	56.5%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	110	120	40	130	60	120	220	20	50	330	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	120	130	43	141	65	130	239	22	54	359	87

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	196	130	250	250	141	234	266
Volume Left (vph)	76	0	43	130	0	54	0
Volume Right (vph)	0	130	65	0	22	0	87
Hadj (s)	0.23	-0.67	-0.09	0.29	-0.07	0.15	-0.19
Departure Headway (s)	8.1	7.1	7.7	7.9	7.5	7.6	7.2
Degree Utilization, x	0.44	0.26	0.53	0.55	0.29	0.49	0.53
Capacity (veh/h)	412	471	445	435	457	458	473
Control Delay (s)	16.0	11.4	19.0	18.8	12.4	16.5	17.0
Approach Delay (s)	14.2		19.0	16.5		16.8	
Approach LOS	B		C	C		C	

Intersection Summary	
Delay	16.5
HCM Level of Service	C
Intersection Capacity Utilization	52.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/15/2009

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↖	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00		0.97	1.00
Satd. Flow (prot)	1770	3499		1770	3539	1583		1842	1583		1810	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.71	1.00		0.58	1.00
Satd. Flow (perm)	1770	3499		1770	3539	1583		1320	1583		1075	1583
Volume (vph)	70	860	70	60	580	150	60	200	70	250	180	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	935	76	65	630	163	65	217	76	272	196	98
RTOR Reduction (vph)	0	5	0	0	0	105	0	0	42	0	0	55
Lane Group Flow (vph)	76	1006	0	65	630	58	0	282	34	0	468	43
Turn Type	Prot		Prot		Perm pm+pt		Perm pm+pt		Perm		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8		8	4		4
Actuated Green, G (s)	7.4	32.7		7.2	33.0	33.0		40.6	40.6		40.6	40.6
Effective Green, g (s)	7.1	32.9		7.4	33.2	33.2		41.3	41.3		41.3	41.3
Actuated g/C Ratio	0.08	0.35		0.08	0.35	0.35		0.44	0.44		0.44	0.44
Clearance Time (s)	3.7	4.2		4.2	4.2	4.2		4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	134	1230		140	1255	561		582	698		474	698
v/s Ratio Prot	c0.04	c0.29		0.04	0.18							
v/s Ratio Perm						0.04		0.21	0.02		c0.44	0.03
v/c Ratio	0.57	0.82		0.46	0.50	0.10		0.48	0.05		0.99	0.06
Uniform Delay, d1	41.8	27.6		41.2	23.7	20.2		18.6	14.9		25.9	15.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	5.4	4.4		2.4	0.3	0.1		0.6	0.0		37.7	0.0
Delay (s)	47.2	32.0		43.6	24.0	20.3		19.2	15.0		63.6	15.1
Level of Service	D	C		D	C	C		B	B		E	B
Approach Delay (s)		33.0			24.8			18.3			55.2	
Approach LOS		C			C			B			E	

Intersection Summary

HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	93.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
32: Ocean Av & Highway 1

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3489		3433	1863	1583		1824	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.32	1.00	1.00		0.84	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3489		1163	1863	1583		1560	1583
Volume (vph)	10	500	870	110	290	30	350	50	30	110	150	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	543	946	120	315	33	380	54	33	120	163	33
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	20	0	0	25
Lane Group Flow (vph)	11	543	946	120	341	0	380	54	13	0	283	8
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	1.2	24.1	71.5	5.4	28.3		26.6	26.6	26.6		16.1	16.1
Effective Green, g (s)	1.7	26.1	71.5	5.9	30.3		27.5	27.5	27.5		18.1	18.1
Actuated g/C Ratio	0.02	0.37	1.00	0.08	0.42		0.38	0.38	0.38		0.25	0.25
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	42	680	1583	146	1479		619	717	609		395	401
v/s Ratio Prot	0.01	c0.29		0.07	0.10		0.05	0.03				
v/s Ratio Perm			c0.60				0.19		0.01		0.18	0.01
v/c Ratio	0.26	0.80	0.60	0.82	0.23		0.61	0.08	0.02		0.72	0.02
Uniform Delay, d1	34.3	20.3	0.0	32.3	13.2		16.2	13.9	13.6		24.4	20.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	6.1	1.7	28.4	0.0		1.3	0.0	0.0		5.1	0.0
Delay (s)	35.5	26.4	1.7	60.7	13.2		17.4	14.0	13.7		29.5	20.1
Level of Service	D	C	A	E	B		B	B	B		C	C
Approach Delay (s)		10.9			25.4			16.8			28.5	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM Average Control Delay			16.4				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			71.5				Sum of lost time (s)				4.0	
Intersection Capacity Utilization			69.7%				ICU Level of Service				C	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: North Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.98		1.00	0.95		1.00	0.98	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762			1776		1770	1774		1770	1833	
Flt Permitted		0.89			0.75		0.29	1.00		0.33	1.00	
Satd. Flow (perm)		1587			1376		549	1774		613	1833	
Volume (vph)	40	70	50	180	80	40	60	300	140	50	420	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	76	54	196	87	43	65	326	152	54	457	54
RTOR Reduction (vph)	0	31	0	0	10	0	0	29	0	0	8	0
Lane Group Flow (vph)	0	142	0	0	316	0	65	449	0	54	503	0
Turn Type		Perm		Perm			pm+pt			pm+pt		
Protected Phases		4		8			5	2		1	6	
Permitted Phases		4		8			2			6		
Actuated Green, G (s)		14.4		14.4			21.1	19.1		21.1	19.1	
Effective Green, g (s)		14.4		14.4			21.1	19.1		21.1	19.1	
Actuated g/C Ratio		0.30		0.30			0.44	0.40		0.44	0.40	
Clearance Time (s)		4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		481		417			295	713		321	737	
v/s Ratio Prot							c0.01	0.25		0.01	c0.27	
v/s Ratio Perm		0.09		c0.23			0.09			0.07		
v/c Ratio		0.30		0.76			0.22	0.63		0.17	0.68	
Uniform Delay, d1		12.7		15.0			8.2	11.4		8.0	11.7	
Progression Factor		1.00		1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		7.7			0.4	1.7		0.2	2.6	
Delay (s)		13.0		22.6			8.6	13.1		8.3	14.3	
Level of Service		B		C			A	B		A	B	
Approach Delay (s)		13.0		22.6			12.6			13.7		
Approach LOS		B		C			B			B		

Intersection Summary

HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	47.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: College Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.95		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1707			1756		1770	1829		1770	1833	
Flt Permitted		0.91			0.80		0.33	1.00		0.50	1.00	
Satd. Flow (perm)		1561			1427		622	1829		925	1833	
Volume (vph)	40	50	110	40	60	50	150	360	50	50	420	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	54	120	43	65	54	163	391	54	54	457	54
RTOR Reduction (vph)	0	95	0	0	38	0	0	7	0	0	6	0
Lane Group Flow (vph)	0	122	0	0	124	0	163	438	0	54	505	0
Turn Type	Perm		Perm		pm+pt		pm+pt					
Protected Phases	4		8		5		2		1		6	
Permitted Phases	4		8		2		6					
Actuated Green, G (s)	8.2		8.2		32.3		28.1		26.9		25.4	
Effective Green, g (s)	8.2		8.2		32.3		28.1		26.9		25.4	
Actuated g/C Ratio	0.16		0.16		0.65		0.56		0.54		0.51	
Clearance Time (s)	4.0		4.0		4.0		4.0		4.0		4.0	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	257		235		500		1032		525		935	
v/s Ratio Prot					c0.03		0.24		0.00		c0.28	
v/s Ratio Perm	0.08		c0.09		0.18				0.05			
v/c Ratio	0.47		0.53		0.33		0.42		0.10		0.54	
Uniform Delay, d1	18.8		19.0		4.2		6.2		5.4		8.2	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	1.4		2.1		0.4		0.3		0.1		0.6	
Delay (s)	20.2		21.1		4.6		6.5		5.5		8.9	
Level of Service	C		C		A		A		A		A	
Approach Delay (s)	20.2		21.1		6.0		8.5					
Approach LOS	C		C		A		A					

Intersection Summary

HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

5: Laurel Av & V St

4/15/2009



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶		↷			↷
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.91		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1666		1817			1835
Flt Permitted	0.98		1.00			0.74
Satd. Flow (perm)	1666		1817			1381
Volume (vph)	100	210	360	80	170	390
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	228	391	87	185	424
RTOR Reduction (vph)	133	0	13	0	0	0
Lane Group Flow (vph)	204	0	465	0	0	609
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	10.3		28.1			28.1
Effective Green, g (s)	10.3		28.1			28.1
Actuated g/C Ratio	0.22		0.61			0.61
Clearance Time (s)	4.0		4.0			4.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	370		1100			836
v/s Ratio Prot	c0.12		0.26			
v/s Ratio Perm						c0.44
v/c Ratio	0.55		0.42			0.73
Uniform Delay, d1	16.0		4.9			6.5
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.8		0.3			3.2
Delay (s)	17.8		5.1			9.7
Level of Service	B		A			A
Approach Delay (s)	17.8		5.1			9.7
Approach LOS	B		A			A

Intersection Summary

HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

6: Ocean Av & V St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.95			0.94			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	1.00
Satd. Flow (prot)	1770	3502		1770	3370			1749			1825	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.96			0.72	1.00
Satd. Flow (perm)	1770	3502		1770	3370			1693			1340	1583
Volume (vph)	90	400	30	190	300	140	20	140	120	110	160	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	435	33	207	326	152	22	152	130	120	174	98
RTOR Reduction (vph)	0	11	0	0	99	0	0	49	0	0	0	68
Lane Group Flow (vph)	98	457	0	207	379	0	0	255	0	0	294	30
Turn Type	Prot		Prot		Perm			Perm		Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Actuated Green, G (s)	3.7	13.3		6.5	16.1			14.2			14.2	14.2
Effective Green, g (s)	3.7	13.3		6.5	16.1			14.2			14.2	14.2
Actuated g/C Ratio	0.08	0.29		0.14	0.35			0.31			0.31	0.31
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	142	1013		250	1180			523			414	489
v/s Ratio Prot	0.06	c0.13		c0.12	c0.11							
v/s Ratio Perm								0.15			c0.22	0.02
v/c Ratio	0.69	0.45		0.83	0.32			0.49			0.71	0.06
Uniform Delay, d1	20.6	13.4		19.2	10.9			12.9			14.1	11.2
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	13.5	0.3		19.7	0.2			0.7			5.7	0.1
Delay (s)	34.1	13.7		38.9	11.1			13.7			19.7	11.3
Level of Service	C	B		D	B			B			B	B
Approach Delay (s)		17.2			19.5			13.7			17.6	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	46.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 9: North Av & O St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	100	220	70	50	300	70	50	290	80	60	240	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	239	76	54	326	76	54	315	87	65	261	76





















Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	228	196	380	76	212	245	196	207
Volume Left (vph)	109	0	54	0	54	0	65	0
Volume Right (vph)	0	76	0	76	0	87	0	76
Hadj (s)	0.27	-0.24	0.11	-0.67	0.16	-0.21	0.20	-0.22
Departure Headway (s)	8.5	8.0	8.2	7.4	8.4	8.0	8.5	8.1
Degree Utilization, x	0.54	0.43	0.86	0.16	0.49	0.54	0.46	0.46
Capacity (veh/h)	411	426	430	468	410	429	408	421
Control Delay (s)	19.7	15.7	43.3	10.6	18.0	18.8	17.4	16.6
Approach Delay (s)	17.8		37.9		18.5		17.0	
Approach LOS	C		E		C		C	

Intersection Summary	
Delay	23.1
HCM Level of Service	C
Intersection Capacity Utilization	65.7%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: Pine Av & O St






























4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	30	90	20	70	120	50	30	360	70	40	330	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	98	22	76	130	54	33	391	76	43	359	22
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	130	22	207	54	424	76	43	380				
Volume Left (vph)	33	0	76	0	33	0	43	0				
Volume Right (vph)	0	22	0	54	0	76	0	22				
Hadj (s)	0.16	-0.67	0.22	-0.67	0.07	-0.67	0.53	-0.01				
Departure Headway (s)	7.9	7.0	7.6	6.8	6.7	6.0	7.3	6.7				
Degree Utilization, x	0.28	0.04	0.44	0.10	0.79	0.13	0.09	0.71				
Capacity (veh/h)	411	460	441	493	524	576	472	515				
Control Delay (s)	12.8	9.1	15.3	9.3	29.5	8.7	9.8	23.6				
Approach Delay (s)	12.2		14.0		26.3		22.2					
Approach LOS	B		B		D		C					
Intersection Summary												
Delay			21.0									
HCM Level of Service			C									
Intersection Capacity Utilization			66.0%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

17: Central Av & H St





















4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 		 	 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	0.95	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3399		1770	3539	1583	1770	3469		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3399		1770	3539	1583	1770	3469		3433	3539	1583
Volume (vph)	430	390	140	150	300	230	200	720	110	280	660	340
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	457	415	149	160	319	245	213	766	117	298	702	362
RTOR Reduction (vph)	0	44	0	0	0	196	0	14	0	0	0	266
Lane Group Flow (vph)	457	520	0	160	319	49	213	869	0	298	702	96
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	12.6	16.8		9.2	13.4	13.4	11.6	21.8		8.9	19.1	19.1
Effective Green, g (s)	12.3	18.1		8.9	14.7	14.7	11.3	22.3		8.6	19.6	19.6
Actuated g/C Ratio	0.17	0.24		0.12	0.20	0.20	0.15	0.30		0.12	0.27	0.27
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	3.7	4.5		3.7	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	1.5		2.0	1.5	1.5
Lane Grp Cap (vph)	571	833		213	704	315	271	1047		400	939	420
v/s Ratio Prot	c0.13	c0.15		0.09	0.09		c0.12	c0.25		0.09	0.20	
v/s Ratio Perm						0.03						0.06
v/c Ratio	0.80	0.62		0.75	0.45	0.15	0.79	0.83		0.74	0.75	0.23
Uniform Delay, d1	29.6	24.9		31.4	26.1	24.5	30.1	24.0		31.6	24.9	21.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.5	1.5		12.4	0.5	0.2	12.9	5.4		6.5	2.9	0.1
Delay (s)	37.1	26.3		43.8	26.5	24.7	43.0	29.5		38.1	27.8	21.3
Level of Service	D	C		D	C	C	D	C		D	C	C
Approach Delay (s)		31.1			29.7			32.1			28.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			30.2				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			73.9				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			68.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis

24: North Av & D St

4/15/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	280	60	30	340	90	60	130	30	90	120	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	304	65	33	370	98	65	141	33	98	130	43
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	348	65	402	98	207	33	228	43				
Volume Left (vph)	43	0	33	0	65	0	98	0				
Volume Right (vph)	0	65	0	98	0	33	0	43				
Hadj (s)	0.10	-0.67	0.07	-0.67	0.19	-0.67	0.25	-0.67				
Departure Headway (s)	7.3	6.6	7.2	6.4	8.0	7.2	8.0	7.1				
Degree Utilization, x	0.71	0.12	0.80	0.18	0.46	0.06	0.51	0.09				
Capacity (veh/h)	477	521	484	536	417	463	425	472				
Control Delay (s)	25.1	9.3	32.2	9.6	16.4	9.4	17.7	9.5				
Approach Delay (s)	22.6		27.8		15.5		16.4					
Approach LOS	C		D		C		C					
Intersection Summary												
Delay			22.0									
HCM Level of Service			C									
Intersection Capacity Utilization			71.3%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

26: North Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔			↖↗			↖↗	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	160	140	30	210	60	150	250	30	60	260	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	174	152	33	228	65	163	272	33	65	283	54

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	228	152	326	299	168	207	196
Volume Left (vph)	54	0	33	163	0	65	0
Volume Right (vph)	0	152	65	0	33	0	54
Hadj (s)	0.15	-0.67	-0.07	0.31	-0.10	0.19	-0.16
Departure Headway (s)	8.4	7.6	8.0	8.4	8.0	8.4	8.1
Degree Utilization, x	0.53	0.32	0.72	0.70	0.37	0.48	0.44
Capacity (veh/h)	398	448	429	414	434	398	416
Control Delay (s)	19.4	12.9	29.1	27.2	14.4	17.9	16.0
Approach Delay (s)	16.8		29.1	22.6		17.0	
Approach LOS	C		D	C		C	

Intersection Summary	
Delay	21.1
HCM Level of Service	C
Intersection Capacity Utilization	63.6%
ICU Level of Service	B
Analysis Period (min)	15

HCM Signalized Intersection Capacity Analysis

29: Ocean Av & A St

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↖	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00		0.97	1.00
Satd. Flow (prot)	1770	3503		1770	3539	1583		1833	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.57	1.00		0.55	1.00
Satd. Flow (perm)	1770	3503		1770	3539	1583		1070	1583		1029	1583
Volume (vph)	110	680	50	50	1100	280	80	170	60	210	160	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	739	54	54	1196	304	87	185	65	228	174	109
RTOR Reduction (vph)	0	4	0	0	0	175	0	0	42	0	0	71
Lane Group Flow (vph)	120	789	0	54	1196	129	0	272	23	0	402	38
Turn Type	Prot		Prot		Perm pm+pt		Perm pm+pt		Perm		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6	8		8	4		4
Actuated Green, G (s)	6.5	35.2		5.0	34.2	34.2		27.8	27.8		27.8	27.8
Effective Green, g (s)	6.2	35.4		5.2	34.4	34.4		28.5	28.5		28.5	28.5
Actuated g/C Ratio	0.08	0.44		0.06	0.42	0.42		0.35	0.35		0.35	0.35
Clearance Time (s)	3.7	4.2		4.2	4.2	4.2		4.7	4.7		4.7	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	135	1529		113	1501	671		376	556		362	556
v/s Ratio Prot	c0.07	0.23		0.03	c0.34							
v/s Ratio Perm						0.08		0.25	0.01		c0.39	0.02
v/c Ratio	0.89	0.52		0.48	0.80	0.19		0.72	0.04		1.11	0.07
Uniform Delay, d1	37.1	16.6		36.6	20.3	14.6		22.9	17.3		26.3	17.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	45.2	0.3		3.2	3.0	0.1		6.7	0.0		80.6	0.1
Delay (s)	82.4	16.9		39.8	23.3	14.8		29.6	17.3		106.9	17.5
Level of Service	F	B		D	C	B		C	B		F	B
Approach Delay (s)		25.5			22.2			27.2			87.8	
Approach LOS		C			C			C			F	

Intersection Summary

HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	81.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

32: Ocean Av & Highway 1

4/15/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↕		↖	↑	↗		↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3452		3433	1863	1583		1812	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.52	1.00	1.00		0.65	1.00
Satd. Flow (perm)	1770	1863	1583	1770	3452		1861	1863	1583		1207	1583
Volume (vph)	10	400	440	30	660	130	1040	320	100	50	40	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	435	478	33	717	141	1130	348	109	54	43	11
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	63	0	0	9
Lane Group Flow (vph)	11	435	478	33	843	0	1130	348	46	0	97	2
Turn Type	Prot		Free	Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1		6
Permitted Phases			Free				2		2	6		6
Actuated Green, G (s)	1.0	23.9	69.7	2.2	25.1		28.2	28.2	28.2		9.5	9.5
Effective Green, g (s)	1.5	25.9	69.7	2.7	27.1		29.1	29.1	29.1		11.5	11.5
Actuated g/C Ratio	0.02	0.37	1.00	0.04	0.39		0.42	0.42	0.42		0.16	0.16
Clearance Time (s)	4.5	6.0		4.5	6.0		4.0	4.9	4.9		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	38	692	1583	69	1342		1084	778	661		199	261
v/s Ratio Prot	0.01	0.23		0.02	c0.24		c0.20	0.19				
v/s Ratio Perm			c0.30				c0.23		0.03		0.08	0.00
v/c Ratio	0.29	0.63	0.30	0.48	0.63		1.04	0.45	0.07		0.49	0.01
Uniform Delay, d1	33.6	18.0	0.0	32.8	17.2		18.9	14.5	12.2		26.4	24.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5	1.3	0.5	1.9	0.7		39.0	0.1	0.0		0.7	0.0
Delay (s)	35.1	19.2	0.5	34.7	17.9		57.9	14.7	12.2		27.1	24.3
Level of Service	D	B	A	C	B		E	B	B		C	C
Approach Delay (s)		9.7			18.5			45.3			26.8	
Approach LOS		A			B			D			C	

Intersection Summary

HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	4.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Roadway Segment LOS Calculations

HCS+: Two-Lane Highways Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____Two-Way Two-Lane Highway Segment
 Analysis_____

Analyst Kim Fox
 Agency/Co. F & P
 Date Performed 9/2/2009
 Analysis Time Period AM Peak
 Highway Floradale Avenue
 From/To Central Avenue to Ocean Avenue
 Jurisdiction _____
 Analysis Year Cumulative
 Description Lompoc General Plan

_____Input
 Data_____

Highway class	Class 2			
Shoulder width	3.0	ft	Peak-hour factor, PHF	0.92
Lane width	11.0	ft	% Trucks and buses	2
%				
Segment length	0.9	mi	% Recreational vehicles	1
%				
Terrain type	Level		% No-passing zones	0
%				
Grade: Length		mi	Access points/mi	8
/mi				
Up/down		%		
Two-way hourly volume, V	255	veh/h		
Directional split	70 / 30	%		

_____Average Travel
 Speed_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate, (note-1) vp	281	pc/h
Highest directional split proportion (note-2)	197	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h

Adj. for lane and shoulder width, fLS	3.0	mi/h
Adj. for access points, fA	2.0	mi/h
Free-flow speed, FFS	40.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	37.8	mi/h

_____Percent Time-Spent-
Following_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate, (note-1) vp pc/h	278	
Highest directional split proportion (note-2)	195	
Base percent time-spent-following, BPTSF	21.7	%
Adj.for directional distribution and no-passing zones, fd/np	1.9	
Percent time-spent-following, PTSF	23.6	%

_____Level of Service and Other Performance
Measures_____

Level of service, LOS	A
Volume to capacity ratio, v/c	0.09
Peak 15-min vehicle-miles of travel, VMT15 veh-mi	62
Peak-hour vehicle-miles of travel, VMT60 veh-mi	229
Peak 15-min total travel time, TT15 veh-h	1.6

Notes:

1. If $vp \geq 3200$ pc/h, terminate analysis-the LOS is F.
2. If highest directional split $vp \geq 1700$ pc/h, terminate analysis-the LOS is F.

HCS+: Two-Lane Highways Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____Two-Way Two-Lane Highway Segment
 Analysis_____

Analyst Kim Fox
 Agency/Co. F & P
 Date Performed 9/2/2009
 Analysis Time Period PM Peak
 Highway Floradale Avenue
 From/To Central Avenue to Ocean Avenue
 Jurisdiction _____
 Analysis Year Cumulative
 Description Lompoc General Plan

_____Input
 Data_____

Highway class	Class 2			
Shoulder width	3.0	ft	Peak-hour factor, PHF	0.92
Lane width	11.0	ft	% Trucks and buses	2
%				
Segment length	0.9	mi	% Recreational vehicles	1
%				
Terrain type	Level		% No-passing zones	0
%				
Grade: Length		mi	Access points/mi	8
/mi				
Up/down		%		
Two-way hourly volume, V	280	veh/h		
Directional split	70 / 30	%		

_____Average Travel
 Speed_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate, (note-1) vp	309	pc/h
Highest directional split proportion (note-2)	216	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h

Adj. for lane and shoulder width, fLS	3.0	mi/h
Adj. for access points, fA	2.0	mi/h
Free-flow speed, FFS	40.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	37.6	mi/h

_____Percent Time-Spent-
Following_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate, (note-1) vp	305	
pc/h		
Highest directional split proportion (note-2)	214	
Base percent time-spent-following, BPTSF	23.5	%
Adj.for directional distribution and no-passing zones, fd/np	1.6	
Percent time-spent-following, PTSF	25.1	%

_____Level of Service and Other Performance
Measures_____

Level of service, LOS	A
Volume to capacity ratio, v/c	0.10
Peak 15-min vehicle-miles of travel, VMT15	68
veh-mi	
Peak-hour vehicle-miles of travel, VMT60	252
veh-mi	
Peak 15-min total travel time, TT15	1.8
veh-h	

Notes:

1. If $vp \geq 3200$ pc/h, terminate analysis-the LOS is F.
2. If highest directional split $vp \geq 1700$ pc/h, terminate analysis-the LOS is F.

HCS+: Two-Lane Highways Release 5.3

Phone: Fax:
 E-Mail:

_____Two-Way Two-Lane Highway Segment
 Analysis_____

Analyst Kim Fox
 Agency/Co. F & P
 Date Performed 9/2/2009
 Analysis Time Period AM Peak
 Highway Floradale Avenue
 From/To Central Avenue to Ocean Avenue
 Jurisdiction
 Analysis Year Cumulative Plus General Plan
 Description Lompoc General Plan

_____Input
 Data_____

Highway class	Class 2			
Shoulder width	3.0	ft	Peak-hour factor, PHF	0.92
Lane width	11.0	ft	% Trucks and buses	2
%				
Segment length	0.9	mi	% Recreational vehicles	1
%				
Terrain type	Level		% No-passing zones	0
%				
Grade: Length		mi	Access points/mi	8
/mi				
Up/down		%		
Two-way hourly volume, V	330	veh/h		
Directional split	65 / 35	%		

_____Average Travel
 Speed_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate, (note-1) vp	364	pc/h
Highest directional split proportion (note-2)	237	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h

Adj. for lane and shoulder width, fLS	3.0	mi/h
Adj. for access points, fA	2.0	mi/h
Free-flow speed, FFS	40.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	37.2	mi/h

_____Percent Time-Spent-
Following_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate, (note-1) vp	359	
pc/h		
Highest directional split proportion (note-2)	233	
Base percent time-spent-following, BPTSF	27.1	%
Adj.for directional distribution and no-passing zones, fd/np	0.8	
Percent time-spent-following, PTSF	27.9	%

_____Level of Service and Other Performance
Measures_____

Level of service, LOS	A
Volume to capacity ratio, v/c	0.11
Peak 15-min vehicle-miles of travel, VMT15	81
veh-mi	
Peak-hour vehicle-miles of travel, VMT60	297
veh-mi	
Peak 15-min total travel time, TT15	2.2
veh-h	

Notes:

1. If $vp \geq 3200$ pc/h, terminate analysis-the LOS is F.
2. If highest directional split $vp \geq 1700$ pc/h, terminate analysis-the LOS is F.

HCS+: Two-Lane Highways Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____Two-Way Two-Lane Highway Segment
 Analysis_____

Analyst Kim Fox
 Agency/Co. F & P
 Date Performed 9/2/2009
 Analysis Time Period PM Peak
 Highway Floradale Avenue
 From/To Central Avenue to Ocean Avenue
 Jurisdiction _____
 Analysis Year Cumulative Plus General Plan
 Description Lompoc General Plan

_____Input
 Data_____

Highway class	Class 2			
Shoulder width	3.0	ft	Peak-hour factor, PHF	0.92
Lane width	11.0	ft	% Trucks and buses	2
%				
Segment length	0.9	mi	% Recreational vehicles	1
%				
Terrain type	Level		% No-passing zones	0
%				
Grade: Length		mi	Access points/mi	8
/mi				
Up/down		%		
Two-way hourly volume, V	350	veh/h		
Directional split	65 / 35	%		

_____Average Travel
 Speed_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate, (note-1) vp	386	pc/h
Highest directional split proportion (note-2)	251	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	45.0	mi/h

Adj. for lane and shoulder width, fLS	3.0	mi/h
Adj. for access points, fA	2.0	mi/h
Free-flow speed, FFS	40.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	37.0	mi/h

_____Percent Time-Spent-
Following_____

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate, (note-1) vp	381	
pc/h		
Highest directional split proportion (note-2)	248	
Base percent time-spent-following, BPTSF	28.5	%
Adj.for directional distribution and no-passing zones, fd/np	0.7	
Percent time-spent-following, PTSF	29.1	%

_____Level of Service and Other Performance
Measures_____

Level of service, LOS	A
Volume to capacity ratio, v/c	0.12
Peak 15-min vehicle-miles of travel, VMT15	86
veh-mi	
Peak-hour vehicle-miles of travel, VMT60	315
veh-mi	
Peak 15-min total travel time, TT15	2.3
veh-h	

Notes:

1. If $vp \geq 3200$ pc/h, terminate analysis-the LOS is F.
2. If highest directional split $vp \geq 1700$ pc/h, terminate analysis-the LOS is F.

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Central Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	V Street					
1	O Street	0.50	2	45	44.0	1
2	H Street	0.50	2	45	44.0	2
3						
4						
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_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	75.0	0.300	0.360	600		4	1.000	0.0	0	22.0	0.0
C											
2	90.0	0.180	0.400	600		4	0.941	0.0	0	36.6	0.0
D											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	44.0	22.0	0.0	66.0	0.50	27.3	C
2	44.0	36.6	0.0	80.6	0.50	22.3	C
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x) = 146.6 sec
Total length (y) = 1.00 miles
Total travel speed, $S_a = 3600 \times (y)/(x) = 24.6$ mph
Total urban street LOS (Exhibit 15-2) = C

_____Intersection Files in the
Analysis_____

1:
2:
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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak
 Urban Street: Central Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	V Street					
1	O Street	0.50	2	45	44.0	1
2	H Street	0.50	2	45	44.0	2
3						
4						
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14						
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_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	75.0	0.300	0.630	600		4	1.000*0.0	0	19.5*	0.0	
B											
2	90.0	0.240	0.690	600		4	0.769*0.0	0	33.4*	0.0	
C											
3											
4											
5											
6											
7											
8											
9											
10											
11											
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14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	44.0	19.5*	0.0	63.5	0.50	28.3	B
2	44.0	33.4*	0.0	77.4	0.50	23.3	C
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x) = 140.9 sec
Total length (y) = 1.00 miles
Total travel speed, $S_a = 3600 \times (y)/(x) = 25.6$ mph
Total urban street LOS (Exhibit 15-2) = C

_____Intersection Files in the
Analysis_____

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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Central Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	O Street	0.50	2	45	44.0	2
2	V Street	0.50	2	45	44.0	1
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
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14						
15						

_____ Intersection Delay
 Estimates _____

Total travel time (x)	=	105.6	sec
Total length (y)	=	1.00	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	34.1	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak
 Urban Street: Central Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	O Street	0.50	2	45	44.0	2
2	V Street	0.50	2	45	44.0	1
3						
4						
5						
6						
7						
8						
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11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Total travel time (x)	=	104.4	sec
Total length (y)	=	1.00	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	34.5	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

- 1:
- 2:
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- 4:
- 5:
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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Central Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	V Street					
1	O Street	0.50	2	45	44.0	1
2	H Street	0.50	2	45	44.0	2
3						
4						
5						
6						
7						
8						
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12						
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14						
15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	75.0	0.340	0.480	600		4	1.000	0.0	0	21.4	0.0
C											
2	90.0	0.230	0.390	600		4	0.873	0.0	0	32.0	0.0
C											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	44.0	21.4	0.0	65.4	0.50	27.5	C
2	44.0	32.0	0.0	76.0	0.50	23.7	C
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	141.4	sec
Total length (y)	=	1.00	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	25.5	mph
Total urban street LOS (Exhibit 15-2)	=	C	

_____Intersection Files in the
Analysis_____

- 1:
- 2:
- 3:
- 4:
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- 7:
- 8:
- 9:
- 10:
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- 12:
- 13:
- 14:
- 15:

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak
 Urban Street: Central Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	V Street					
1	O Street	0.50	2	45	44.0	1
2	H Street	0.50	2	45	44.0	2
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	75.0	0.310	0.670	600		4	1.000	0.0	0	28.1	0.0
C											
2	90.0	0.230	0.670	600		4	0.689	0.0	0	36.8	0.0
D											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	44.0	28.1	0.0	72.1	0.50	25.0	C
2	44.0	36.8	0.0	80.8	0.50	22.3	C
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	152.9	sec
Total length (y)	=	1.00	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	23.5	mph
Total urban street LOS (Exhibit 15-2)	=	C	

_____Intersection Files in the
Analysis_____

- 1:
- 2:
- 3:
- 4:
- 5:
- 6:
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- 10:
- 11:
- 12:
- 13:
- 14:
- 15:

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Central Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	O Street	0.50	2	45	44.0	2
2	V Street	0.50	2	45	44.0	1
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Total travel time (x)	=	114.7	sec
Total length (y)	=	1.00	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	31.4	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

- 1:
- 2:
- 3:
- 4:
- 5:
- 6:
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- 8:
- 9:
- 10:
- 11:
- 12:
- 13:
- 14:
- 15:

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak
 Urban Street: Central Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	O Street	0.50	2	45	44.0	2
2	V Street	0.50	2	45	44.0	1
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Total travel time (x)	=	101.3	sec
Total length (y)	=	1.00	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	35.5	mph
Total urban street LOS (Exhibit 15-2)	=	A	

_____Intersection Files in the
Analysis_____

- 1:
- 2:
- 3:
- 4:
- 5:
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- 9:
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- 11:
- 12:
- 13:
- 14:
- 15:

HCS+: Multilane Highways Release 5.3

Phone: Fax:
E-mail:

OPERATIONAL
ANALYSIS

Analyst: Kim Fox
Agency/Co: F & P
Date: 9/2/2009
Analysis Period: AM Peak
Highway: H Street
From/To: North of Central Avenue
Jurisdiction:
Analysis Year: Cumulative Plus GP
Project ID: Lompoc General Plan

FREE-FLOW
SPEED

	Direction	1		2	
Lane width		12.0	ft	12.0	ft
Lateral clearance:					
Right edge		3.0	ft	3.0	ft
Left edge		1.0	ft	1.0	ft
Total lateral clearance		4.0	ft	4.0	ft
Access points per mile		5		5	
Median type		Divided		Divided	
Free-flow speed:		Base		Base	
FFS or BFFS		55.0	mph	55.0	mph
Lane width adjustment, FLW		0.0	mph	0.0	mph
Lateral clearance adjustment, FLC		1.8	mph	1.8	mph
Median type adjustment, FM		0.0	mph	0.0	mph
Access points adjustment, FA		1.3	mph	1.3	mph
Free-flow speed		52.0	mph	52.0	mph

VOLUME

	Direction	1		2	
Volume, V		1280	vph	1200	vph
Peak-hour factor, PHF		0.92		0.92	
Peak 15-minute volume, v15		348		326	
Trucks and buses		2	%	2	%
Recreational vehicles		1	%	1	%
Terrain type		Level		Level	
Grade		0.00	%	0.00	%
Segment length		0.00	mi	0.00	mi
Number of lanes		2		2	

Driver population adjustment, fP	1.00		1.00
Trucks and buses PCE, ET	1.5		1.5
Recreational vehicles PCE, ER	1.2		1.2
Heavy vehicle adjustment, fHV	0.988		0.988
Flow rate, vp	703	pcphpl	659
pcphpl			

RESULTS

	Direction	1		2	
Flow rate, vp		703	pcphpl	659	
pcphpl					
Free-flow speed, FFS		52.0	mph	52.0	mph
Avg. passenger-car travel speed, S		52.0	mph	52.0	mph
Level of service, LOS		B		B	
Density, D		13.5	pc/mi/ln	12.7	
pc/mi/ln					

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.3

Phone: Fax:
 E-mail:

OPERATIONAL
 ANALYSIS

Analyst: Kim Fox
 Agency/Co: F & P
 Date: 9/2/2009
 Analysis Period: PM Peak
 Highway: H Street
 From/To: North of Central Avenue
 Jurisdiction:
 Analysis Year: Cumulative Plus GP
 Project ID: Lompoc General Plan

FREE-FLOW
 SPEED

	Direction	1		2	
Lane width		12.0	ft	12.0	ft
Lateral clearance:					
Right edge		3.0	ft	3.0	ft
Left edge		1.0	ft	1.0	ft
Total lateral clearance		4.0	ft	4.0	ft
Access points per mile		5		5	
Median type		Divided		Divided	
Free-flow speed:		Base		Base	
FFS or BFFS		55.0	mph	55.0	mph
Lane width adjustment, FLW		0.0	mph	0.0	mph
Lateral clearance adjustment, FLC		1.8	mph	1.8	mph
Median type adjustment, FM		0.0	mph	0.0	mph
Access points adjustment, FA		1.3	mph	1.3	mph
Free-flow speed		52.0	mph	52.0	mph

VOLUME

	Direction	1		2	
Volume, V		1280	vph	1380	vph
Peak-hour factor, PHF		0.92		0.92	
Peak 15-minute volume, v15		348		375	
Trucks and buses		2	%	2	%
Recreational vehicles		1	%	1	%
Terrain type		Level		Level	
Grade		0.00	%	0.00	%
Segment length		0.00	mi	0.00	mi
Number of lanes		2		2	

Driver population adjustment, fP	1.00		1.00
Trucks and buses PCE, ET	1.5		1.5
Recreational vehicles PCE, ER	1.2		1.2
Heavy vehicle adjustment, fHV	0.988		0.988
Flow rate, vp	703	pcphpl	758
pcphpl			

RESULTS

	Direction	1		2	
Flow rate, vp		703	pcphpl	758	
pcphpl					
Free-flow speed, FFS		52.0	mph	52.0	mph
Avg. passenger-car travel speed, S		52.0	mph	52.0	mph
Level of service, LOS		B		B	
Density, D		13.5	pc/mi/ln	14.6	
pc/mi/ln					

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Ocean Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	O Street					
1	I Street	0.45	3	35	46.3	1
2	H Street	0.05	3	35	7.8	2
3						
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_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.600	0.400	600		4	1.000	0.0	0	5.6	0.0
A											
2	70.0	0.410	0.510	600		4	0.922	0.0	0	16.5	0.0
B											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	46.3	5.6	0.0	52.0	0.45	31.2	A
2	7.8	16.5	0.0	24.2	0.05	7.4	F
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	76.2	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	23.6	mph
Total urban street LOS (Exhibit 15-2)	=	C	

_____Intersection Files in the
Analysis_____

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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak
 Urban Street: Ocean Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	O Street					
1	I Street	0.45	3	35	46.3	1
2	H Street	0.05	3	35	7.8	2
3						
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15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.770	0.270	600		4	1.000	0.0	0	1.1	0.0
A											
2	75.0	0.500	0.320	600		4	0.973	0.0	0	9.9	0.0
A											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	46.3	1.1	0.0	47.5	0.45	34.1	A
2	7.8	9.9	0.0	17.7	0.05	10.2	E
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	65.1	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	27.6	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Ocean Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	I Street	0.05	3	35	7.8	2
2	O Street	0.45	3	35	46.3	1
3						
4						
5						
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15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.820	0.210	600		4	1.000	0.0	0	0.8	0.0
A											
2	65.0	0.470	0.340	600		4	0.986	0.0	0	10.3	0.0
B											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	2	7.8	0.8	8.5	0.05	21.1	C
2	1	46.3	10.3	56.7	0.45	28.6	B
3							
4							
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11							
12							
13							
14							
15							

Total travel time (x)	=	65.2	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	27.6	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak
 Urban Street: Ocean Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	I Street	0.05	3	35	7.8	2
2	O Street	0.45	3	35	46.3	1
3						
4						
5						
6						
7						
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15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.810	0.380	600		4	1.000	0.0	0	1.8	0.0
A											
2	65.0	0.520	0.590	600		4	0.932	0.0	0	11.9	0.0
B											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	2	7.8	1.8	9.6	0.05	18.8	C
2	1	46.3	11.9	58.3	0.45	27.8	B
3							
4							
5							
6							
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8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	67.9	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	26.5	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____

Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 10/7/2009
 Analysis Time Period: AM Peak
 Urban Street: V St
 Direction of Travel: North-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP w Mitigation
 Project ID: Lompoc General Plan

_____ Description of

Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	Ocean Avenue					
1	Laurel Avenue	0.33	2	35	35.8	1
2	College Avenue	0.22	2	35	27.0	2
3	North Avenue	0.44	2	35	45.8	3
4	Central Avenue	0.50	2	40	46.5	4
5						
6						
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15						

_____ Intersection Delay

Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	65.0	0.690	0.480	600		4	1.000	0.0	0	4.2	0.0
A											
2	60.0	0.420	0.620	600		4	0.873	0.0	0	16.2	0.0
B											
3	60.0	0.570	0.630	600		4	0.747	0.0	0	9.4	0.0
A											
4	65.0	0.260	0.630	600		4	0.736	0.0	0	25.4	0.0
C											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	35.8	4.2	0.0	40.0	0.33	29.7	B
2	27.0	16.2	0.0	43.1	0.22	18.4	D
3	45.8	9.4	0.0	55.2	0.44	28.7	B
4	46.5	25.4	0.0	71.9	0.50	25.1	C
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x) = 210.1 sec
Total length (y) = 1.49 miles
Total travel speed, $S_a = 3600 \times (y)/(x) = 25.5$ mph
Total urban street LOS (Exhibit 15-2) = C

_____Intersection Files in the
Analysis_____

- 1:
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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 10/7/2009
 Analysis Time Period: PM Peak
 Urban Street: V St
 Direction of Travel: North-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP w Mitigation
 Project ID: Lompoc General Plan

_____ Description of

Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	Ocean Avenue					
1	Laurel Avenue	0.33	2	35	35.8	1
2	College Avenue	0.22	2	35	27.0	2
3	North Avenue	0.44	2	35	45.8	3
4	Central Avenue	0.50	2	40	46.5	4
5						
6						
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15						

_____ Intersection Delay

Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.600	0.430	600		4	1.000	0.0	0	6.0	0.0
A											
2	55.0	0.620	0.390	600		4	0.905	0.0	0	4.5	0.0
A											
3	55.0	0.410	0.630	600		4	0.747	0.0	0	15.2	0.0
B											
4	75.0	0.160	0.630	600		4	0.736	0.0	0	35.4	0.0
D											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	35.8	6.0	0.0	41.8	0.33	28.4	B
2	27.0	4.5	0.0	31.5	0.22	25.2	C
3	45.8	15.2	0.0	61.1	0.44	25.9	C
4	46.5	35.4	0.0	81.9	0.50	22.0	D
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x) = 216.2 sec
Total length (y) = 1.49 miles
Total travel speed, $S_a = 3600 \times (y)/(x) = 24.8$ mph
Total urban street LOS (Exhibit 15-2) = C

_____Intersection Files in the
Analysis_____

- 1:
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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____

Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 10/7/2009
 Analysis Time Period: AM Peak
 Urban Street: V St
 Direction of Travel: South-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP w Mitigation
 Project ID: Lompoc General Plan

_____ Description of

Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	Central Avenue					
1	North Avenue	0.50	2	40	46.5	4
2	College Avenue	0.44	2	35	45.8	3
3	Laurel Avenue	0.22	2	35	27.0	2
4	Ocean Avenue	0.33	2	35	35.8	1
5						
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14						
15						

_____ Intersection Delay

Estimates _____

Total travel time (x) = 209.3 sec
Total length (y) = 1.49 miles
Total travel speed, $S_a = 3600 \times (y)/(x) = 25.6$ mph
Total urban street LOS (Exhibit 15-2) = C

_____Intersection Files in the
Analysis_____

- 1:
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HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____

Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 10/7/2009
 Analysis Time Period: PM Peak
 Urban Street: V St
 Direction of Travel: South-bound
 Jurisdiction:
 Analysis Year: Cumulative + GP w Mitigation
 Project ID: Lompoc General Plan

_____ Description of

Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	Central Avenue					
1	North Avenue	0.50	2	40	46.5	4
2	College Avenue	0.44	2	35	45.8	3
3	Laurel Avenue	0.22	2	35	27.0	2
4	Ocean Avenue	0.33	2	35	35.8	1
5						
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9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay

Estimates _____

Total travel time (x) = 217.1 sec
Total length (y) = 1.49 miles
Total travel speed, $S_a = 3600 \times (y)/(x) = 24.7$ mph
Total urban street LOS (Exhibit 15-2) = C

_____Intersection Files in the
Analysis_____

- 1:
- 2:
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- 13:
- 14:
- 15:

HCS+: Multilane Highways Release 5.3

Phone: Fax:
 E-mail:

OPERATIONAL
 ANALYSIS

Analyst: Kim Fox
 Agency/Co: F & P
 Date: 9/2/2009
 Analysis Period: AM Peak
 Highway: H Street
 From/To: North of Central Avenue
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

FREE-FLOW
 SPEED

	Direction	1		2	
Lane width		12.0	ft	12.0	ft
Lateral clearance:					
Right edge		3.0	ft	3.0	ft
Left edge		1.0	ft	1.0	ft
Total lateral clearance		4.0	ft	4.0	ft
Access points per mile		5		5	
Median type		Divided		Divided	
Free-flow speed:		Base		Base	
FFS or BFFS		55.0	mph	55.0	mph
Lane width adjustment, FLW		0.0	mph	0.0	mph
Lateral clearance adjustment, FLC		1.8	mph	1.8	mph
Median type adjustment, FM		0.0	mph	0.0	mph
Access points adjustment, FA		1.3	mph	1.3	mph
Free-flow speed		52.0	mph	52.0	mph

VOLUME

	Direction	1		2	
Volume, V		1250	vph	1050	vph
Peak-hour factor, PHF		0.92		0.92	
Peak 15-minute volume, v15		340		285	
Trucks and buses		2	%	2	%
Recreational vehicles		1	%	1	%
Terrain type		Level		Level	
Grade		0.00	%	0.00	%
Segment length		0.00	mi	0.00	mi
Number of lanes		2		2	

Driver population adjustment, fP	1.00		1.00
Trucks and buses PCE, ET	1.5		1.5
Recreational vehicles PCE, ER	1.2		1.2
Heavy vehicle adjustment, fHV	0.988		0.988
Flow rate, vp	687	pcphpl	577
pcphpl			

RESULTS

	Direction	1		2	
Flow rate, vp		687	pcphpl	577	
pcphpl					
Free-flow speed, FFS		52.0	mph	52.0	mph
Avg. passenger-car travel speed, S		52.0	mph	52.0	mph
Level of service, LOS		B		B	
Density, D		13.2	pc/mi/ln	11.1	
pc/mi/ln					

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.3

Phone: Fax:
 E-mail:

OPERATIONAL
 ANALYSIS

Analyst: Kim Fox
 Agency/Co: F & P
 Date: 9/2/2009
 Analysis Period: PM Peak
 Highway: H Street
 From/To: North of Central Avenue
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

FREE-FLOW
 SPEED

	Direction	1		2	
Lane width		12.0	ft	12.0	ft
Lateral clearance:					
Right edge		3.0	ft	3.0	ft
Left edge		1.0	ft	1.0	ft
Total lateral clearance		4.0	ft	4.0	ft
Access points per mile		5		5	
Median type		Divided		Divided	
Free-flow speed:		Base		Base	
FFS or BFFS		55.0	mph	55.0	mph
Lane width adjustment, FLW		0.0	mph	0.0	mph
Lateral clearance adjustment, FLC		1.8	mph	1.8	mph
Median type adjustment, FM		0.0	mph	0.0	mph
Access points adjustment, FA		1.3	mph	1.3	mph
Free-flow speed		52.0	mph	52.0	mph

VOLUME

	Direction	1		2	
Volume, V		1130	vph	1350	vph
Peak-hour factor, PHF		0.92		0.92	
Peak 15-minute volume, v15		307		367	
Trucks and buses		2	%	2	%
Recreational vehicles		1	%	1	%
Terrain type		Level		Level	
Grade		0.00	%	0.00	%
Segment length		0.00	mi	0.00	mi
Number of lanes		2		2	

Driver population adjustment, fP	1.00		1.00
Trucks and buses PCE, ET	1.5		1.5
Recreational vehicles PCE, ER	1.2		1.2
Heavy vehicle adjustment, fHV	0.988		0.988
Flow rate, vp	621	pcphpl	742
pcphpl			

RESULTS

	Direction	1		2	
Flow rate, vp		621	pcphpl	742	
pcphpl					
Free-flow speed, FFS		52.0	mph	52.0	mph
Avg. passenger-car travel speed, S		52.0	mph	52.0	mph
Level of service, LOS		B		B	
Density, D		12.0	pc/mi/ln	14.3	
pc/mi/ln					

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Ocean Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	O Street					
1	I Street	0.45	3	35	46.3	1
2	H Street	0.05	3	35	7.8	2
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.730	0.200	600		4	1.000	0.0	0	1.0	0.0
A											
2	70.0	0.470	0.280	600		4	0.988	0.0	0	10.3	0.0
B											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	46.3	1.0	0.0	47.4	0.45	34.2	A
2	7.8	10.3	0.0	18.1	0.05	10.0	F
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	65.5	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	27.5	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

- 1:
- 2:
- 3:
- 4:
- 5:
- 6:
- 7:
- 8:
- 9:
- 10:
- 11:
- 12:
- 13:
- 14:
- 15:

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak Hour
 Urban Street: Ocean Avenue
 Direction of Travel: East-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	O Street					
1	I Street	0.45	3	35	46.3	1
2	H Street	0.05	3	35	7.8	2
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.750	0.210	600		4	1.000	0.0	0	0.8	0.0
A											
2	75.0	0.560	0.200	600		4	0.986	0.0	0	6.2	0.0
A											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	46.3	0.8	0.0	47.1	0.45	34.4	A
2	7.8	6.2	0.0	13.9	0.05	12.9	E
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	61.1	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	29.5	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

1:
2:
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9:
10:
11:
12:
13:
14:
15:

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL

ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: AM Peak
 Urban Street: Ocean Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	I Street	0.05	3	35	7.8	2
2	O Street	0.45	3	35	46.3	1
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Seg Inter.	Cycle length	Green ratio	v/c ratio	Lane cap.	PVG if	Arr. type	I fac-	Unit ext.	Init. queue	Cntrl. delay	Other delay
LOS	C	g/C	X	c	Input	AT	tor	(sec)	(veh)	(sec)	(sec)
1	60.0	0.790	0.170	600		4	1.000	0.0	0	0.6	0.0
A											
2	65.0	0.420	0.270	600		4	0.992	0.0	0	11.9	0.0
B											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Arterial Level of Service

Arterial by Seg. section	Running time (sec)	Inter. control. delay (sec)	Other delay (sec)	Sum of time by section (sec)	Sum of length by section (mi)	Arterial speed (mph)	LOS
1	2	7.8	0.6	8.4	0.05	21.5	C
2	1	46.3	11.9	58.2	0.45	27.8	B
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Total travel time (x)	=	66.6	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	27.0	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

- 1:
- 2:
- 3:
- 4:
- 5:
- 6:
- 7:
- 8:
- 9:
- 10:
- 11:
- 12:
- 13:
- 14:
- 15:

HCS+: Urban Streets Release 5.3

Phone: _____ Fax: _____
 E-Mail: _____

_____ OPERATIONAL
 ANALYSIS _____
 Analyst: Rob Hananouchi
 Agency/Co.: F & P
 Date Performed: 9/15/2009
 Analysis Time Period: PM Peak
 Urban Street: Ocean Avenue
 Direction of Travel: West-bound
 Jurisdiction:
 Analysis Year: Cumulative
 Project ID: Lompoc General Plan

_____ Description of
 Arterial _____

Analysis period length 1.00 hr

Seg. Section	Cross street name	Length of segment (mi)	Urban street class	Free flow speed (mph)	Running time (sec)	
0	H Street					
1	I Street	0.05	3	35	7.8	2
2	O Street	0.45	3	35	46.3	1
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

_____ Intersection Delay
 Estimates _____

Total travel time (x)	=	66.8	sec
Total length (y)	=	0.50	miles
Total travel speed, $S_a = 3600 \times (y)/(x)$	=	27.0	mph
Total urban street LOS (Exhibit 15-2)	=	B	

_____Intersection Files in the
Analysis_____

1:
2:
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15:

HCS+: Multilane Highways Release 5.3

Phone: Fax:
 E-mail:

OPERATIONAL
 ANALYSIS

Analyst: Kim Fox
 Agency/Co: F & P
 Date: 9/2/2009
 Analysis Period: AM Peak
 Highway: H Street
 From/To: North of Central Avenue
 Jurisdiction:
 Analysis Year: Existing
 Project ID: Lompoc General Plan

FREE-FLOW
 SPEED

	Direction	1		2	
Lane width		12.0	ft	12.0	ft
Lateral clearance:					
Right edge		3.0	ft	3.0	ft
Left edge		1.0	ft	1.0	ft
Total lateral clearance		4.0	ft	4.0	ft
Access points per mile		5		5	
Median type		Divided		Divided	
Free-flow speed:		Base		Base	
FFS or BFFS		55.0	mph	55.0	mph
Lane width adjustment, FLW		0.0	mph	0.0	mph
Lateral clearance adjustment, FLC		1.8	mph	1.8	mph
Median type adjustment, FM		0.0	mph	0.0	mph
Access points adjustment, FA		1.3	mph	1.3	mph
Free-flow speed		52.0	mph	52.0	mph

VOLUME

	Direction	1		2	
Volume, V		1166	vph	1020	vph
Peak-hour factor, PHF		0.92		0.92	
Peak 15-minute volume, v15		317		277	
Trucks and buses		2	%	2	%
Recreational vehicles		1	%	1	%
Terrain type		Level		Level	
Grade		0.00	%	0.00	%
Segment length		0.00	mi	0.00	mi
Number of lanes		2		2	

Driver population adjustment, fP	1.00		1.00
Trucks and buses PCE, ET	1.5		1.5
Recreational vehicles PCE, ER	1.2		1.2
Heavy vehicle adjustment, fHV	0.988		0.988
Flow rate, vp	641	pcphpl	560
pcphpl			

RESULTS

	Direction	1		2	
Flow rate, vp		641	pcphpl	560	
pcphpl					
Free-flow speed, FFS		52.0	mph	52.0	mph
Avg. passenger-car travel speed, S		52.0	mph	52.0	mph
Level of service, LOS		B		A	
Density, D		12.3	pc/mi/ln	10.8	
pc/mi/ln					

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.3

Phone: Fax:
 E-mail:

OPERATIONAL
 ANALYSIS

Analyst: Kim Fox
 Agency/Co: F & P
 Date: 9/2/2009
 Analysis Period: PM Peak
 Highway: H Street
 From/To: North of Central Avenue
 Jurisdiction:
 Analysis Year: Existing
 Project ID: Lompoc General Plan

FREE-FLOW
 SPEED

	Direction	1		2	
Lane width		12.0	ft	12.0	ft
Lateral clearance:					
Right edge		3.0	ft	3.0	ft
Left edge		1.0	ft	1.0	ft
Total lateral clearance		4.0	ft	4.0	ft
Access points per mile		5		5	
Median type		Divided		Divided	
Free-flow speed:		Base		Base	
FFS or BFFS		55.0	mph	55.0	mph
Lane width adjustment, FLW		0.0	mph	0.0	mph
Lateral clearance adjustment, FLC		1.8	mph	1.8	mph
Median type adjustment, FM		0.0	mph	0.0	mph
Access points adjustment, FA		1.3	mph	1.3	mph
Free-flow speed		52.0	mph	52.0	mph

VOLUME

	Direction	1		2	
Volume, V		1064	vph	1304	vph
Peak-hour factor, PHF		0.92		0.92	
Peak 15-minute volume, v15		289		354	
Trucks and buses		2	%	2	%
Recreational vehicles		1	%	1	%
Terrain type		Level		Level	
Grade		0.00	%	0.00	%
Segment length		0.00	mi	0.00	mi
Number of lanes		2		2	

Driver population adjustment, fP	1.00		1.00
Trucks and buses PCE, ET	1.5		1.5
Recreational vehicles PCE, ER	1.2		1.2
Heavy vehicle adjustment, fHV	0.988		0.988
Flow rate, vp	585	pcphpl	717
pcphpl			

RESULTS

	Direction	1		2	
Flow rate, vp		585	pcphpl	717	
pcphpl					
Free-flow speed, FFS		52.0	mph	52.0	mph
Avg. passenger-car travel speed, S		52.0	mph	52.0	mph
Level of service, LOS		B		B	
Density, D		11.3	pc/mi/ln	13.8	
pc/mi/ln					

Overall results are not computed when free-flow speed is less than 45 mph.

Model Development Memorandum



MEMORANDUM

Date: September 11, 2009

To: William Yim, SBCAG
Richard Daulton, Rincon Consultants

From: Jeff Clark and Chris Breiland, Fehr & Peers

Subject: *Lompoc General Plan Model Development*

LA07-2223

As part of the City of Lompoc 2030 General Plan update, Fehr & Peers developed a new travel demand forecasting (TDF) model to assist in the preparation of the environmental impact report. The TDF model, which was built using the TransCAD software package, is also expected to be used to prepare traffic impact studies for development projects within the City of Lompoc. This memorandum summarizes the model development process, the results of the model validation tests, and the assumptions incorporated into the 2030 version of the Lompoc TDF model.

MODEL DEVELOPMENT PROCESS

The development of the Lompoc TDF model began by requesting the following data from the City and SBCAG:

- Land use parcel GIS files (City)
- Roadway centerline GIS files (City)
- Base year SBCAG TDF model roadway network files (SBCAG)
- Base year SBCAG TDF model land use files (SBCAG)
- Base year SBCAG TDF model traffic analysis zone (TAZ) GIS file (SBCAG)
- Base year SBCAG TDF model daily trip tables (SBCAG)

Roadway Network and TAZ File Development

Using the data above, the Lompoc TDF model roadway network and TAZ structure was developed. The roadway network was developed using the roadway centerline GIS file from the City. Since the City's roadway file contained data for the entire county, it was trimmed to an area that included the City of Lompoc, Vandenberg Village, and the Mission Hills area (see Figure 1).

The City's roadway centerline file contains a high level of detail, including alleys. Since the Lompoc TDF model is not intended to forecast traffic on alleys, these features were removed. In addition, some roadway network detail was removed from Vandenberg Village since this unincorporated area is outside the City and the Lompoc TDF model is not expected to be used to analyze project impacts in this location.

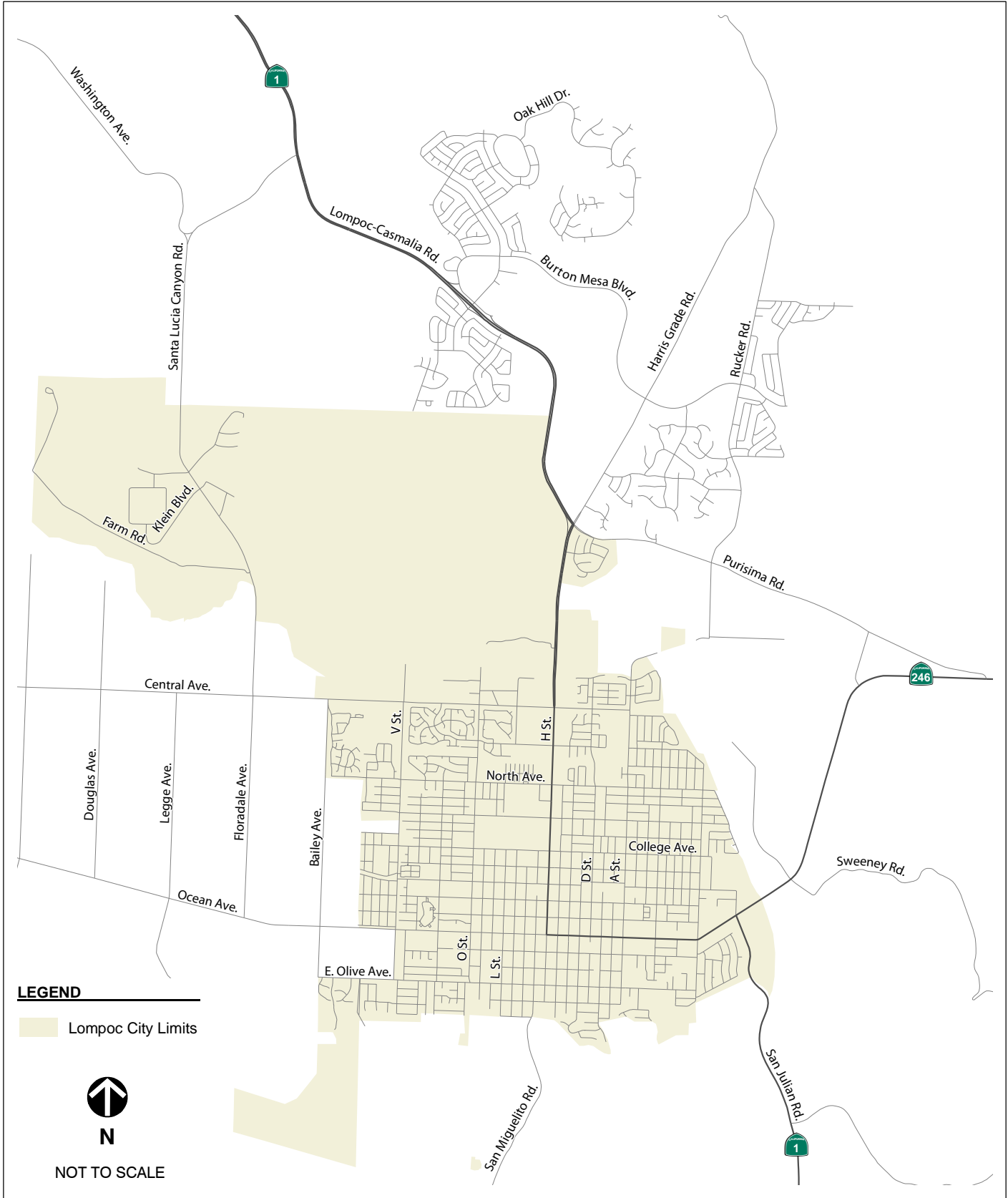


Figure 2, compares the Lompoc TDF model roadway network to the SBCAG TDF model network. Both networks include the same principal roadways; however, the Lompoc TDF model contains much more local road detail within the Lompoc City Limits.

Figure 3 shows the Lompoc TDF model TAZ structure juxtaposed with the SBCAG model TAZs. The Lompoc model TAZs were developed by splitting the SBCAG TAZs to create multiple TAZs, providing a finer level of detail in the Lompoc area.

Land Use File Development

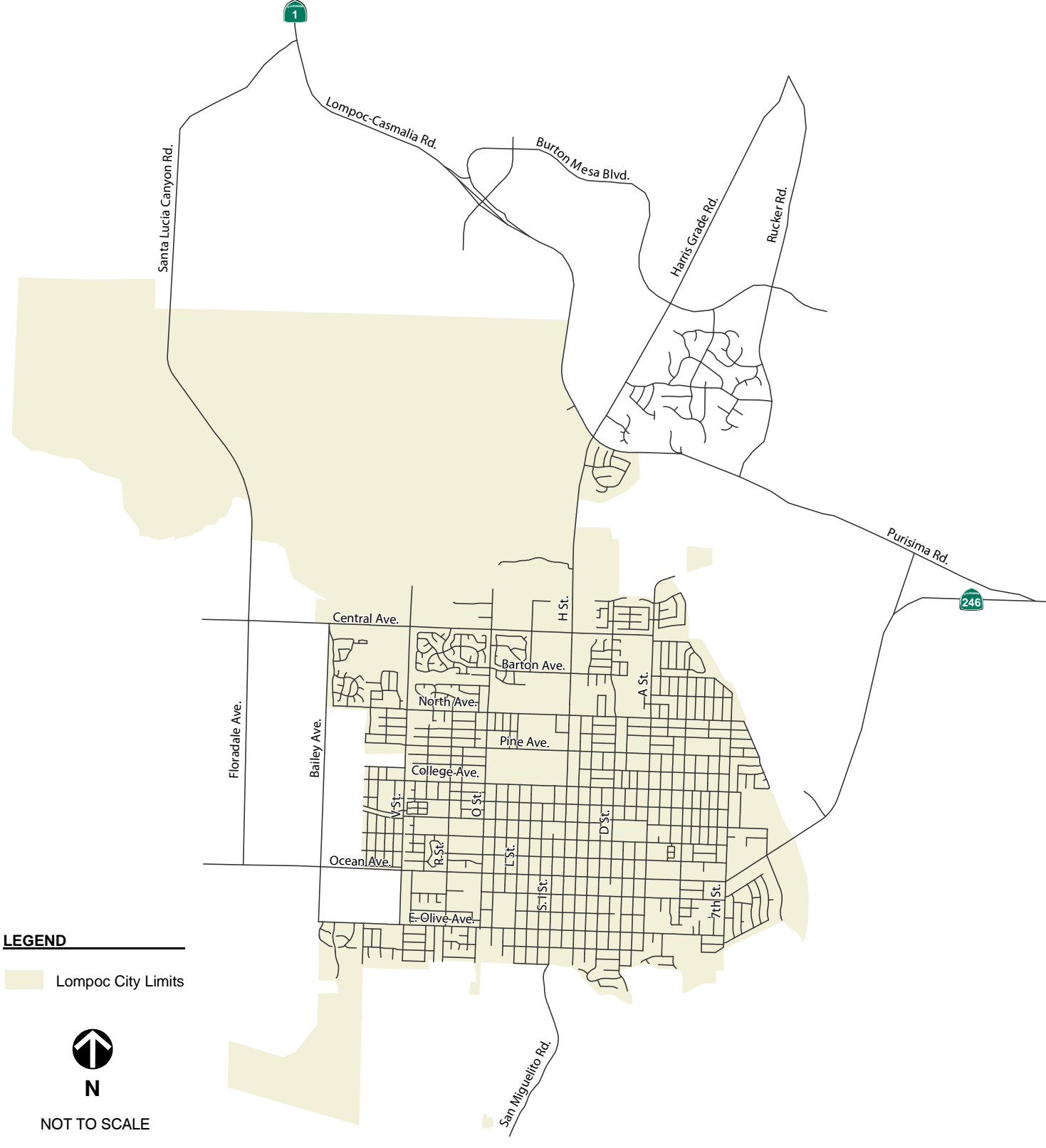
With the roadway network and TAZ structure defined, Fehr & Peers worked with Rincon Consultants and the City of Lompoc to develop base year land use estimates for each TAZ. Land use estimates were developed from the City's land use parcel database for each of the categories listed below:

- Single family dwelling units
- Multi-family dwelling units
- Hotel (1,000 square feet)
- Personal services (1,000 square feet)
- Restaurant (1,000 square feet)
- Auto related uses (1,000 square feet)
- Office uses (1,000 square feet)
- Light industrial (1,000 square feet)
- Heavy industrial (1,000 square feet)
- Institutional uses (1,000 square feet)
- Safety uses (1,000 square feet)
- Parks (acres)
- Medical uses (1,000 square feet)
- Airport (aircraft)
- Elementary school (students)
- High school (students)
- College (students)
- Church (1,000 square feet)
- Prison (employees)
- Regional retail (1,000 square feet)

The land use estimates generated from the parcel data were spot checked against aerial photos, school websites, and field visits.

As a separate land use verification test, residential data from the Lompoc TDF model was compared against similar data from the 2002 version of the SBCAG TDF model and the Census Bureau's 2005-2007 American Community Survey. The review focused on residential data, since Census Bureau data for non-residential uses are not as robust. Table 1 below summarizes the residential land use totals within the Lompoc City Limits from the Lompoc TDF model, the American Community Survey, and the SBCAG TDF model. The results in Table 1 indicate similar results for all three data sources.

LOMPOC TDF MODEL



LEGEND

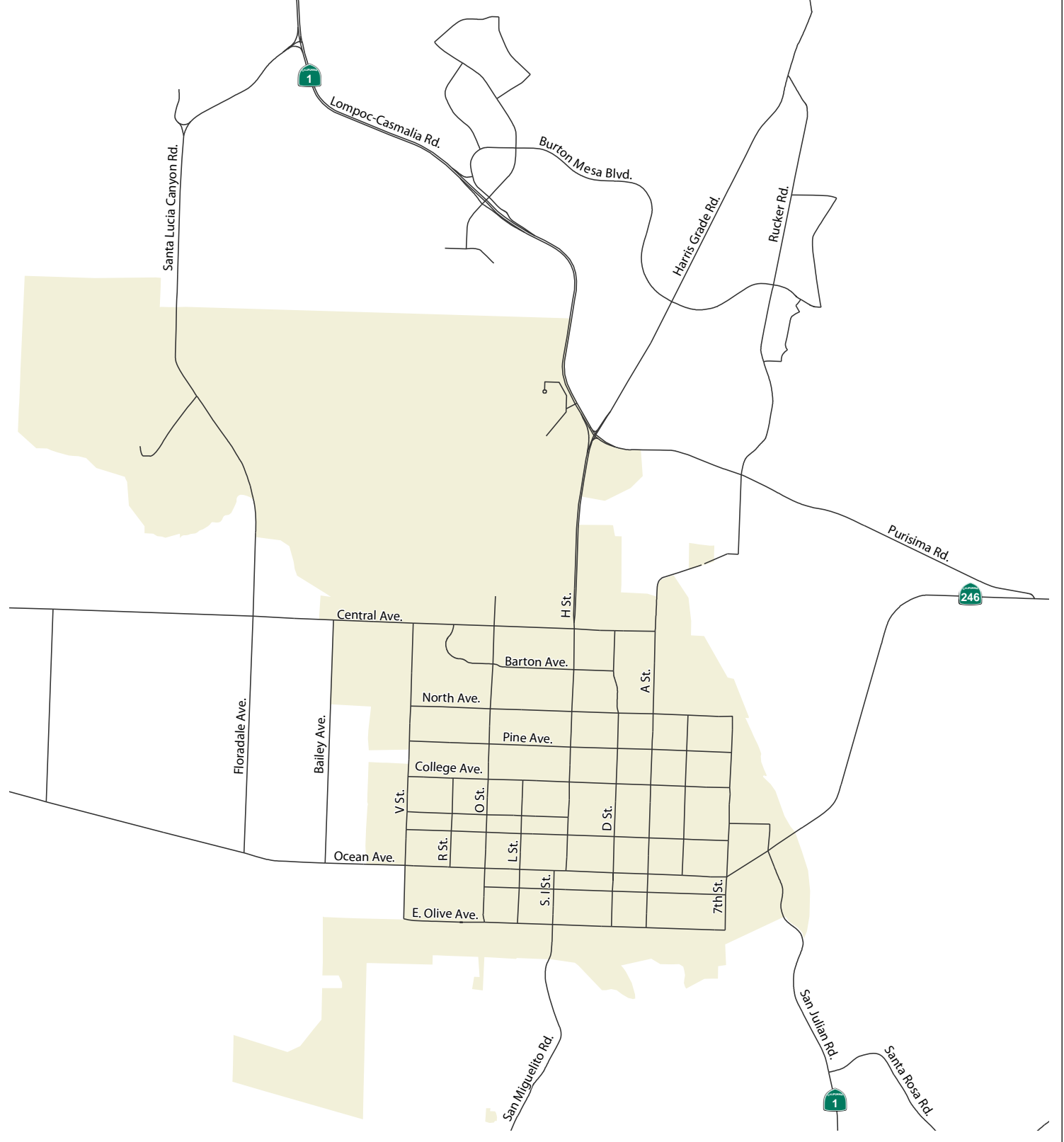
Light Green Box: Lompoc City Limits



N

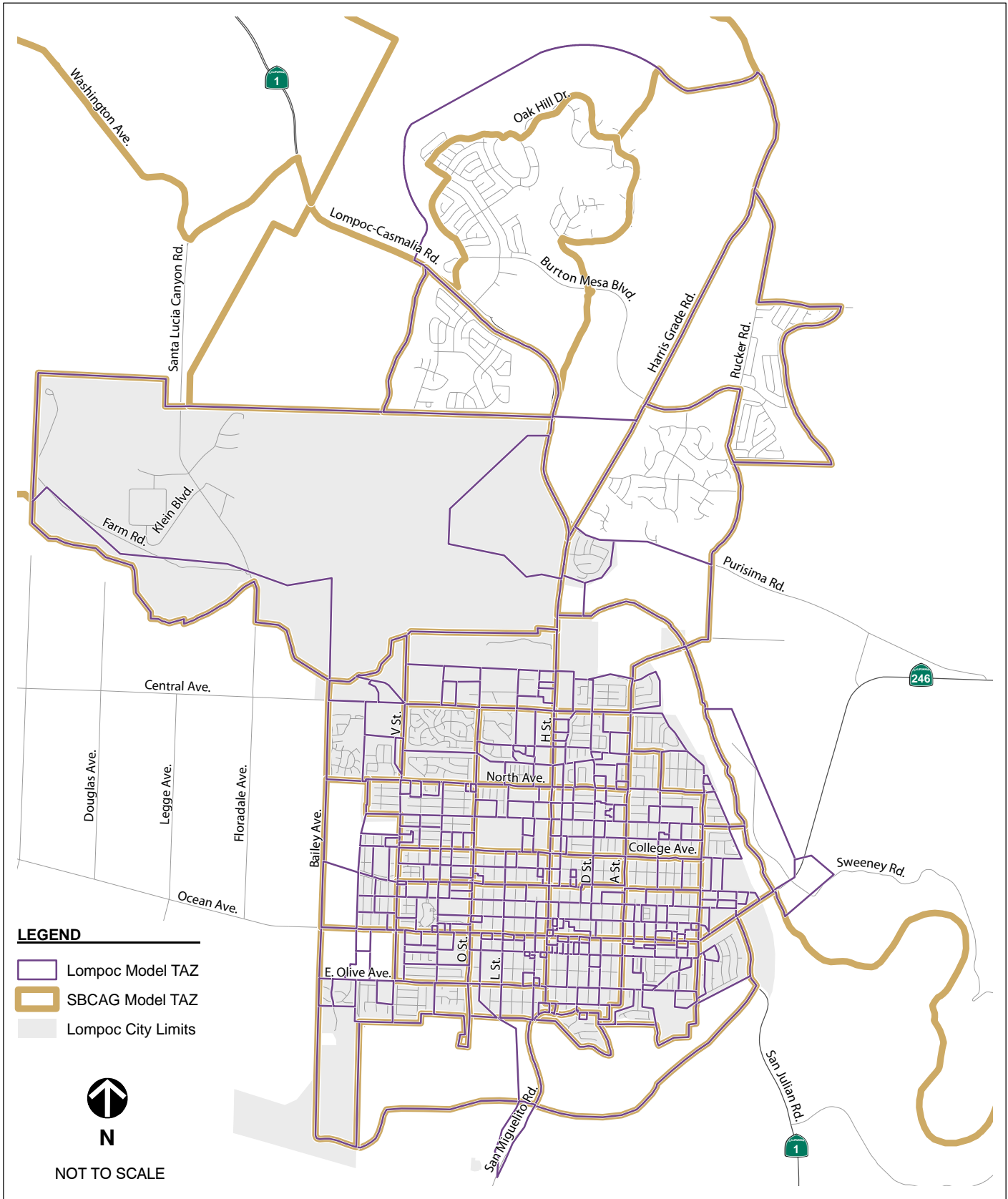
NOT TO SCALE

SBCAG TDF MODEL



FEHR & PEERS
TRANSPORTATION CONSULTANTS

N:\2007Projects\LA_Projects\LA07-2223_Lompoc_GPI\Graphics\MXD\May09\RdNet_Compare.mxd



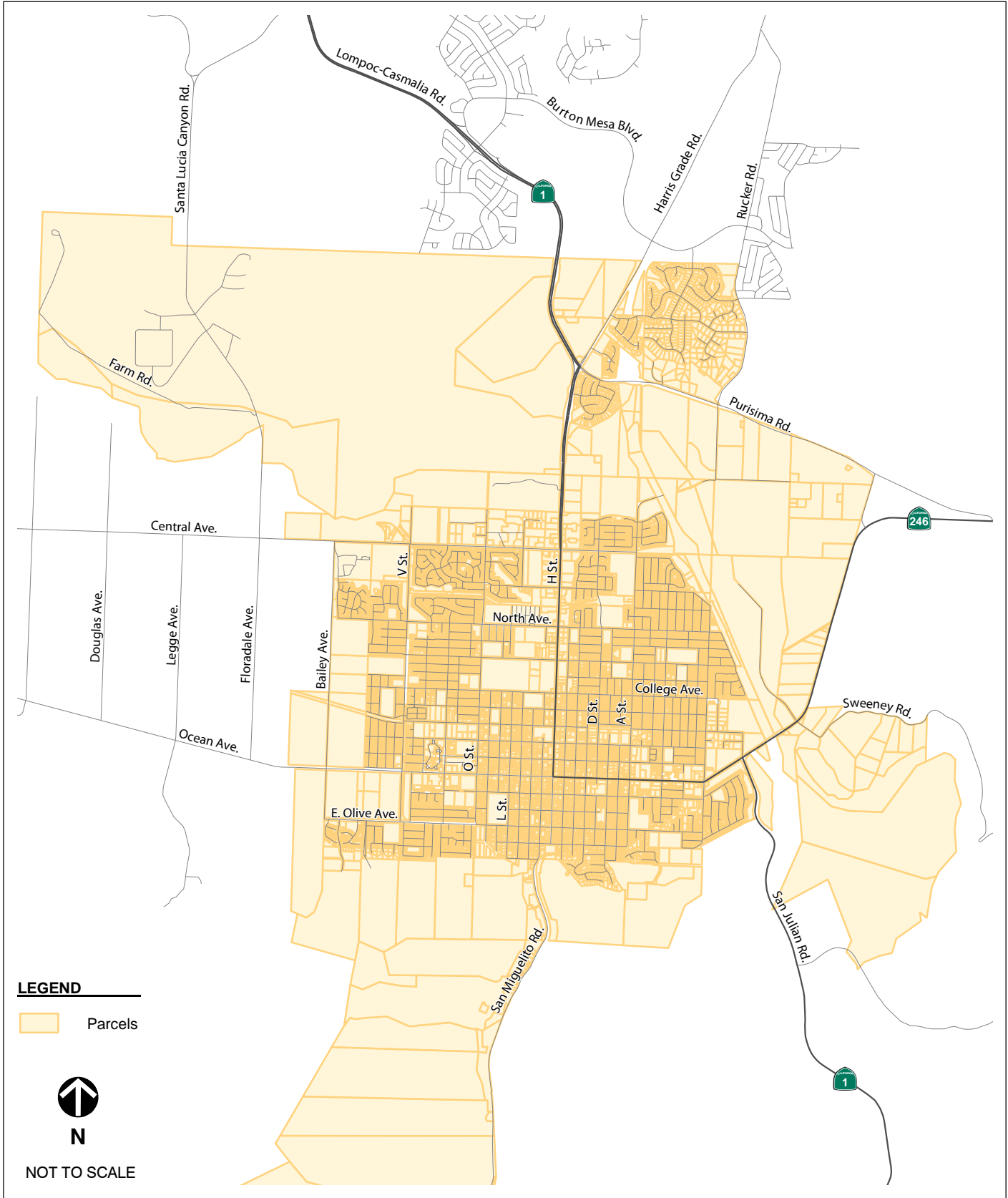


TABLE 1 RESIDENTIAL DWELLING UNIT COMPARISON		
2008 Lompoc TDF Model	2005-2007 American Community Survey	2002 SBCAG TDF Model
13,875	13,878	13,413 ¹
Notes: ¹ The SBCAG TDF Model TAZ structure does not exactly follow the Lompoc City Limits and this total includes households in the Mission Hills unincorporated area. Source: Fehr & Peers, 2009.		

The City's parcel database contained information for areas within the Lompoc City Limit, the Mission Hills unincorporated area, and other rural/open space parcels surrounding the City. Figure 4 presents a map of the City of Lompoc Parcel File. To estimate land uses in areas that are not covered by the parcel database (principally the Vandenberg Village area), a rooftop count was conducted from Google Earth aerial photos (which were taken in late 2006). The aerial photo survey also included identification of schools and non-residential uses. Land uses outside of the Lompoc TDF model area were accounted for using trip table data from the SBCAG TDF regional model.

For special generator land uses (Lompoc Federal Penitentiary, airport, schools, Alan Hancock College), the City and Rincon provided land use data in the form of employees, aircraft, and students, respectively. These data were verified against other sources (e.g., school district website, college website, and penitentiary website), where available. Appendix A presents a TAZ map for the TDF model and the base year (2008) land use file.

Trip Generation Rates

With the land use data verified against several other sources, the model trip generation rates were set. The trip generation rates were initially set based on rates from other Fehr & Peers TDF models that have been validated to local conditions. For some uses the initial trip generation rate was verified and adjusted to match information from the SBCAG TDF model and *Trip Generation* (8th Edition, Institute of Transportation Engineers, 2008). During the model calibration process, most of the trip generation rates were adjusted to better match trip productions and attractions and to account for variations in vacancy rates and underutilized parcels. Table 2 summarizes the final set of Lompoc TDF model trip generation rates.

TABLE 2 TRIP GENERATION RATES		
Land Use Category	Unit	Daily Trip Rate
Single Family Home	Dwelling unit	9.50
Multi-Family Home	Dwelling unit	6.18
Hotel	1,000 square feet	8.55
Retail	1,000 square feet	38.00
Personal Services	1,000 square feet	57.00
Restaurant	1,000 square feet	85.00
Auto Related Uses	1,000 square feet	95.00

Office	1,000 square feet	14.25
Light Industrial	1,000 square feet	0.95
Heavy Industrial	1,000 square feet	0.95
Institutional	1,000 square feet	33.25
Safety Uses	1,000 square feet	9.66
Parks	Acres	1.51
Medical	1,000 square feet	9.50
Airport	Aircraft	4.75
Elementary School	Student	1.23
High School	Student	1.62
College	Student	1.14
Church	1,000 square feet	4.75
Prison	Employees	6.00
Regional Retail	1,000 square feet	28.50
Source: Fehr & Peers, 2009.		

Internal-External Travel and Through Trips

In addition to trips between model uses (such as a school and a residence within Lompoc), the TDF model also considers trips that have at least one end outside of the model area. These trips are either internal-external (or vice versa) or through trips. Internal-external trips have an origin or destination outside of the model area (e.g., a resident who lives in Lompoc and works at Vandenberg Air Force Base, or a patron at a shopping center in Lompoc who lives outside the area). Through trips involve travelers that are merely passing through the model area (this includes mainly motorists on State Routes 1 and 246).

The internal-external travel characteristics were set using a combination of data from the Census Bureau, the SBCAG TDF model, and results from the model validation process. Through trips were set using data from the SBCAG TDF model and the results of the model validation process.

Transit

A review of US Census Bureau data indicates that less than five percent of work trips are made by transit in the Lompoc area. Given the relatively small proportion of trips made by transit, combined with the large effort required to estimate the number of transit trips made in a TDF model, the Lompoc TDF model was designed to account for vehicle trips only and does not include direct modeling of transit trips.

While transit trips are not a major component of travel in the Lompoc area, data from SBCAG indicate that there are approximately 250 daily round-trips made on the Clean Air Express transit service between Lompoc and Goleta/Santa Barbara. While, the Lompoc TDF model does not directly account for these transit trips, the TDF model was validated against traffic counts on City streets and state highways. Traffic counts do reflect the transit mode share. The presence of transit service reduces the traffic volumes since, if the transit service was not available, there would be an increased number of vehicle trips reflected in the traffic counts.

Given that the Lompoc TDF model met standard model validation guidelines (as described in the next section), the model does take into account transit trips so much as they are reflected in lower

traffic counts. However, it should be noted that since the number of transit trips is so low, the total transit passenger volumes are generally within the range of acceptable error for the model validation guidelines.

Under 2030 conditions, there were no changes made to account for transit service. Since the trip generation rates were not adjusted, this would imply that transit service increases at a rate commensurate with population growth.

Special Trip Purposes

The Lompoc area has several unique tourist attractions such as wineries and flower farms. While most of these attractions are outside the Lompoc TDF model area, tourists stay in area hotels and patronize area businesses. The Lompoc TDF model does not explicitly model these types of regional tourist trips; however, the model does have land use categories related to hotels, restaurants, and retail. These uses attract trips from outside the model area based on the internal-external travel characteristics described above. For the purposes of analyzing the General Plan, this level of detail was deemed to be sufficient.

MODEL CALIBRATION AND VALIDATION

The previous section described how the basic model inputs were developed. Once these inputs were developed, the model parameters were calibrated until the output was deemed to be reasonable based on validation guidelines published by Caltrans and Fehr & Peers. This section describes the model calibration procedure and the results of the model validation tests.

Model Calibration

Model calibration is an iterative process. After a run of the model, the link volumes and congestion patterns were checked for reasonableness. On links where model results varied substantially from the observed counts or congestion patterns, the characteristics of those links were reviewed to ensure that the link attributes reflected local operating conditions. In some cases, link characteristics such as speeds and capacity were calibrated to better reflect observed traffic patterns. Land use totals and trip generation rates were also calibrated by observing link and screenline (a collection of links) volumes. This process is repeated until the model meets all the validation criteria described below.

Validation – Two Types of Tests

Fehr & Peers' standard model validation procedure involves two types of tests:

- Static validation
- Dynamic validation

Static validation is the most common type of validation test and measures the ability of a TDF model to replicate observed traffic conditions. Dynamic validation, while less common, was also applied since TDF models are not developed to replicate existing data, but rather to test how changes in land use or the transportation network influence travel patterns. Below, we describe the results of the static and dynamic validation tests.

Static Validation

Caltrans has established guidelines for TDF model performance in *Travel Forecasting Guidelines* (California Department of Transportation, November 1992). The Lompoc model was statically validated to daily, AM peak hour, and PM peak hour conditions. Model volumes were compared to existing traffic counts at 50 individual count sites for the daily validation, 121 count sites for the AM peak hour validation and 124 counts sites for the PM peak hour validation.

Validation Criteria

The Lompoc TransCAD model was validated against the following four criteria:

- The volume-to-count ratio is computed by dividing the volume assigned by the model at the selected locations by the actual traffic count data collected at each of these locations (roadways or intersections).
- The maximum deviation is the difference between the model volume and the actual count divided by the actual count.
- The correlation coefficient estimates the correlation between the actual traffic counts and the estimated traffic volumes from the model.
- The percent root mean square error (RMSE) is the square root of the model volume minus the actual count squared divided by the number of counts. It is a measure similar to standard deviation in that it assesses the accuracy of the model.

Model-Wide Validation Guidelines

For a TDF model to be considered accurate and appropriate for use in traffic forecasting, it must replicate actual conditions with a certain level of accuracy. As described in *Travel Forecasting Guidelines*, Caltrans has developed several validation standards for TDF models, which are summarized below:

- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 15 to 60 percent depending on total volume (the larger the volume, the less deviation is permitted).
- All of the roadway screenlines should be within the maximum desirable deviation, which ranges from approximately 15 to 64 percent depending on total volume.
- The two-way sum of the model's estimated volumes on all roadway links for which counts are available should be within 10 percent of the actual counts.
- The correlation coefficient between the actual ground counts and the estimated traffic volumes should be greater than 88 percent.
- The RMSE should not exceed 40 percent.

The static validation results are presented in Tables 3 through 5, and detailed validation sheets are provided in Appendix B.

TABLE 3 RESULTS OF DAILY MODEL VALIDATION		
Validation Item	Criterion for Acceptance	Model Results
Count Locations	N/A	50
% of Links Within Caltrans Standard Deviations	At Least 75%	98%
% of Screenlines Within Caltrans Standard Deviations	100%	100%
2-way Sum of All Links Counted	Within $\pm 10\%$	+5%
Correlation Coefficient	Greater than 0.88	0.98
RMSE	40% or less	21%
Source: Fehr & Peers, 2009.		

TABLE 4 RESULTS OF AM PEAK HOUR MODEL VALIDATION		
Validation Item	Criterion for Acceptance	Model Results
Count Locations	N/A	121
% of Links Within Caltrans Standard Deviations	At Least 75%	93%
% of Screenlines Within Caltrans Standard Deviations	100%	100%
2-way Sum of All Links Counted	Within $\pm 10\%$	0%
Correlation Coefficient	Greater than 0.88	0.96
RMSE	40% or less	26%
Source: Fehr & Peers, 2009.		

TABLE 5 RESULTS OF PM PEAK HOUR MODEL VALIDATION		
Validation Item	Criterion for Acceptance	Model Results
Count Locations	N/A	124
% of Links Within Caltrans Standard Deviations	At Least 75%	89%
% of Screenlines Within Caltrans Standard Deviations	100%	100%
2-way Sum of All Links Counted	Within $\pm 10\%$	-4%
Correlation Coefficient	Greater than 0.88	0.95
RMSE	40% or less	25%
Source: Fehr & Peers, 2009.		

As shown in the tables above, the Lompoc TDF model met Caltrans' static validation standards under daily, AM peak hour, and PM peak hour conditions.

Functional Class Validation Guidelines

Caltrans' *Travel Forecasting Guidelines* also recommends that travel demand models be validated to model-to-count ratio and percent RMSE guidelines set for different roadway functional classes. In general, the guidelines become more stringent with higher-volume functional classes. For the Lompoc TDF model evaluation, the Highways and Major Arterials, and the Collectors and Local Road categories were combined since there were too few count locations on Highways and Local Roads to make a meaningful comparison to the Caltrans guidelines. Tables 6 through 8 present the results of the link flow comparison by functional class for daily, AM peak hour, and PM peak hour, respectively.

TABLE 6 DAILY LINK FLOW COMPARISON BY FUNCTIONAL CLASS					
Functional Classification	Segments	Model Volume-to-Count Ratio		RMSE	
		Criterion	Model Results	Criterion	Model Results
Highways/Major Arterials	15	± 10%	8%	≤ 40%	17%
Minor Arterials	16	± 20%	7%	≤ 50%	20%
Collectors/Local Roads	20	± 25%	-7%	≤ 60%	31%

Source: Fehr & Peers, 2009.

TABLE 7 AM PEAK HOUR LINK FLOW COMPARISON BY FUNCTIONAL CLASS					
Functional Classification	Segments	Model Volume-to-Count Ratio		RMSE	
		Criterion	Model Results	Criterion	Model Results
Highways/Major Arterials	41	± 10%	5%	≤ 40%	21%
Minor Arterials	44	± 20%	1%	≤ 50%	25%
Collectors/Local Roads	37	± 25%	-24%	≤ 60%	43%

Source: Fehr & Peers, 2009.

TABLE 8 PM PEAK HOUR LINK FLOW COMPARISON BY FUNCTIONAL CLASS					
Functional Classification	Segments	Model Volume-to-Count Ratio		RMSE	
		Criterion	Model Results	Criterion	Model Results
Highways/Major Arterials	42	± 10%	0%	≤ 40%	19%
Minor Arterials	43	± 20%	-2%	≤ 50%	29%
Collectors/Local Roads	39	± 25%	-25%	≤ 60%	43%

Source: Fehr & Peers, 2009.

As shown above, the Lompoc TDF model meets Caltrans recommended guidelines for all applicable functional classifications within the model area.

Dynamic Validation

This section describes the results of the dynamic validation tests.

Land Use Changes

The first dynamic test performed was to vary the amounts of a particular land use type and compare the magnitude and direction of change from the original forecast. The following charts show two particular metrics:

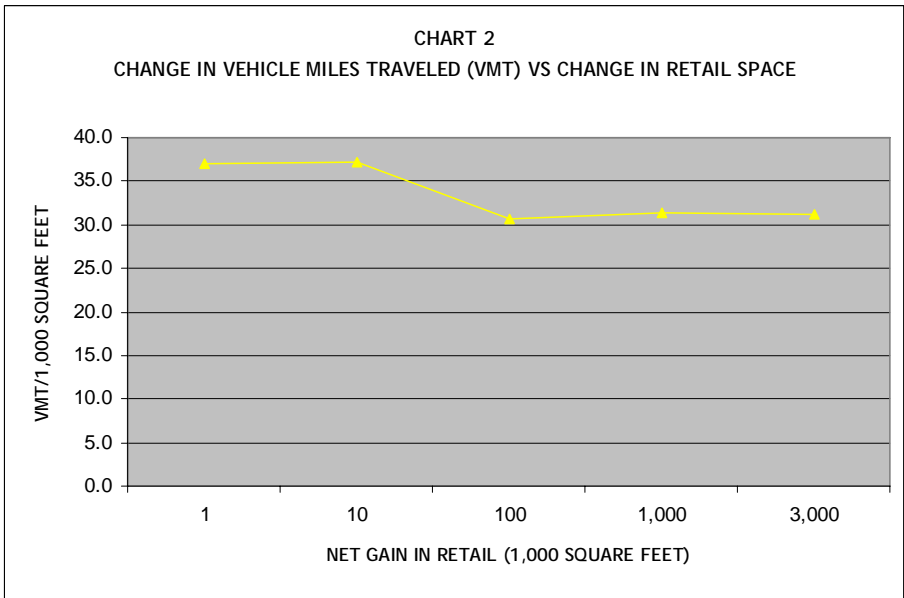
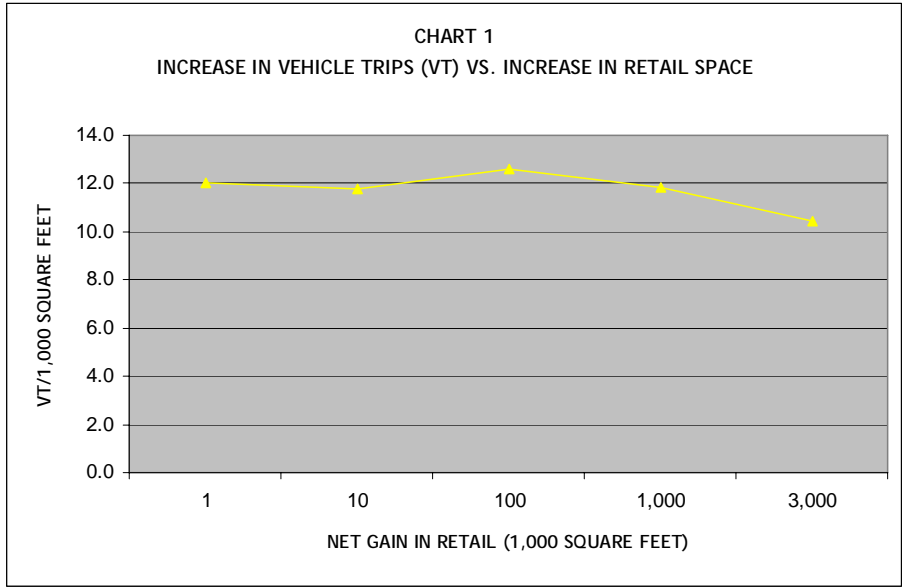
- Change in model-wide vehicle trips (VT) per land use unit change (dwelling unit or 1,000 square feet of retail space)
- Change in model-wide vehicle miles traveled (VMT) per land use unit change (dwelling unit or 1,000 square feet of retail space)

These changes were applied to TAZs on or near Ocean Avenue and in the Bailey Specific Plan area. The Ocean Avenue TAZs were selected since they are representative of a typical Lompoc neighborhood in terms of land use mix, land use density, and transportation accessibility. The Bailey Avenue Specific Plan TAZs were selected since they represent areas that are likely to experience growth in the future.

Charts 1 and 2 show the results of adding retail uses to a TAZ along Ocean Avenue. The changes for the TAZs in the Bailey Specific Plan area were nearly identical.

The results in Charts 1 and 2 are consistent with expectations and show a stable increase in VT and VMT as retail uses are added to a TAZ.

In addition to evaluating the model-wide impacts of adding retail uses to a TAZ, the trip generation of the retail uses was verified at the TAZ-level by examining the change in trips leaving the centroid connector (the link that connects the TAZ to the roadway network). Figure 5 shows the trip generation of a TAZ before and after adding 1,000 square feet of additional retail. Similarly, Figure 6 shows the trip generation of a TAZ before and after adding 10,000 square feet of retail.



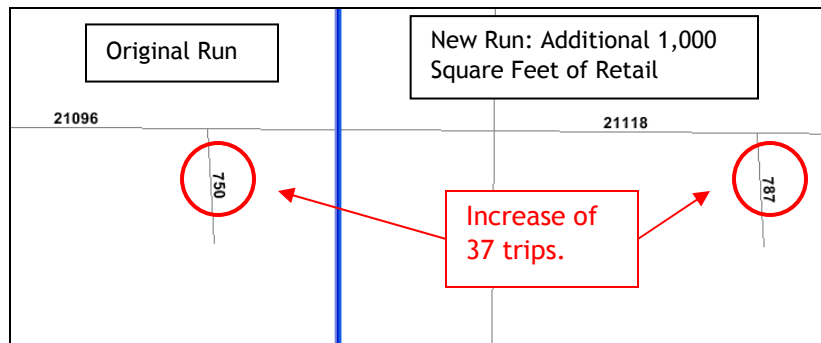


Figure 5 - Change in TAZ Trip Generation with 1,000 Square Feet of Additional Retail

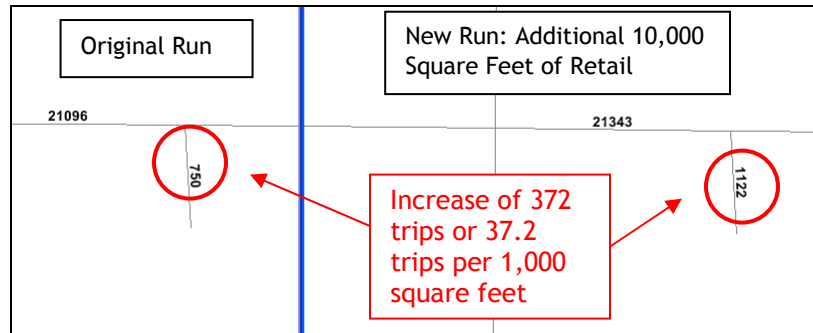
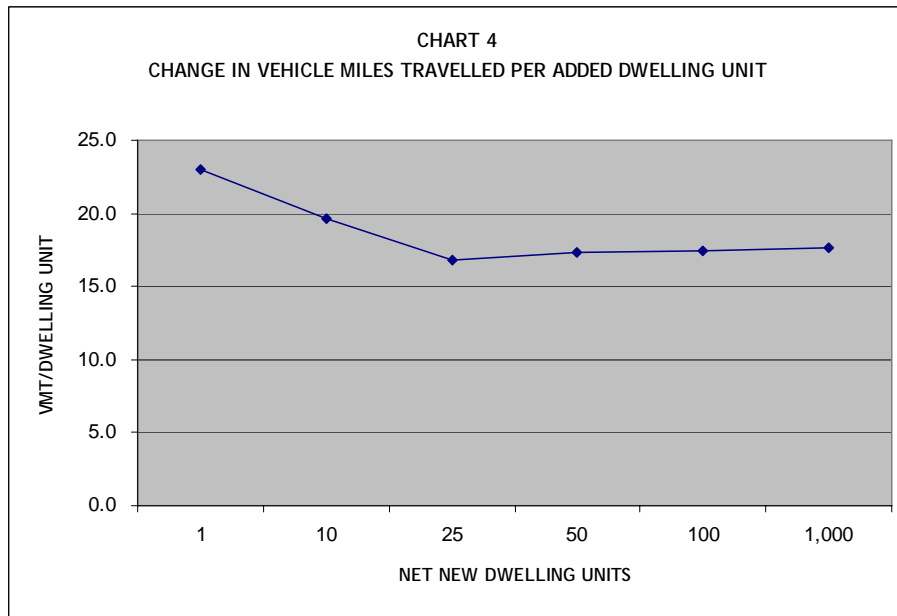
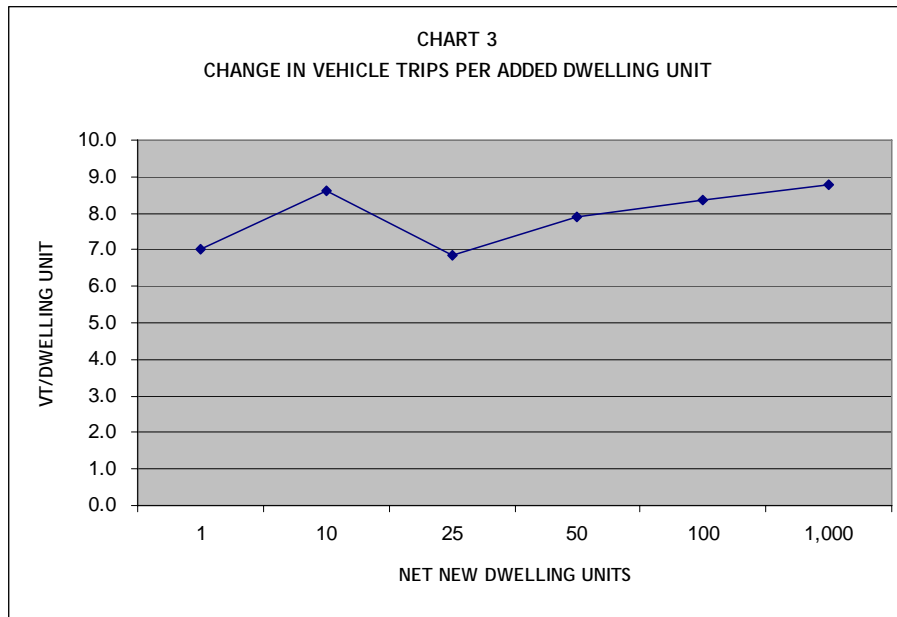


Figure 6 - Change in TAZ Trip Generation with 10,000 Square Feet of Additional Retail

The results presented in Figures 5 and 6 are consistent with expectations. Moreover, the TAZ-level trip generation rates are similar to the TDF model's documented trip generation rates presented in Table 2.

The Lompoc model was also tested against changes in residential land use. Chart 3 illustrates the model-wide vehicle trips added per dwelling unit for single family residential land use. Chart 4 illustrates the change in VMT per added dwelling unit.

The results in Chart 3 are consistent with expectations and show a fairly stable increase in VT as residential units are added to a TAZ. Chart 4 shows a slight trend in decreasing VMT per dwelling unit when adding between one and ten single family homes; however, the trend stabilizes as more homes are added. This result is not a concern since the difference in VMT per dwelling unit is relatively small and the TAZ-level trip generation results presented below match expectations.



Figures 7 and 8 present the results of the TAZ-level trip generation analysis when adding one and ten single family dwelling units, respectively. The results when adding more than ten dwelling units were similar.

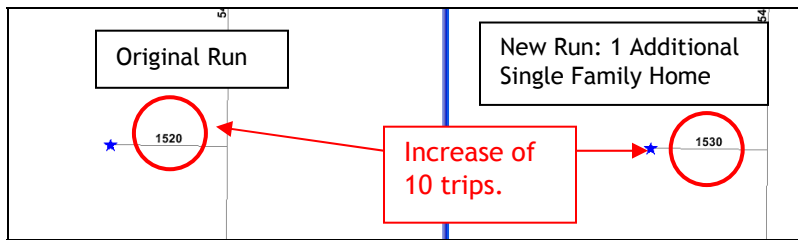


Figure 7 - Change in TAZ Trip Generation with 1 Additional Single Family Home

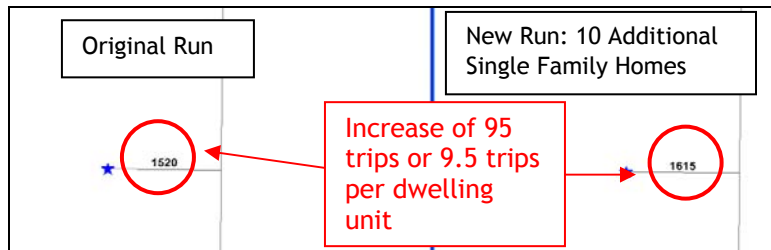


Figure 8 - Change in TAZ Trip Generation with 10 Additional Single Family Homes

As shown above, the trip generation rate observed is similar to the TDF model's documented trip generation rate for single family dwelling units, as presented in Table 2.

Roadway Network Changes

The next set of dynamic tests evaluate how well the model responds to changes in the roadway network. The reasonableness of the results are judged in terms of direction and magnitude of change. The following roadway network tests were performed:

- Add lanes to a link
- Add a new link
- Remove a link

Adding Lanes to a Link

For this test, one eastbound and westbound lane was added to H Street between Central Avenue and Ocean Avenue. The results in Table 9 present the two-way daily traffic volumes at a screenline just north of North Avenue.

The results shown in Table 9 indicate that traffic volumes change in the direction that is expected (e.g., traffic increases on H Street with the new lanes and decreases on the other links). However, the magnitude of change was less than anticipated. A review of the model run indicated that the volume-to-capacity ratios on this segment of H Street are relatively low (less than 0.5). Given the low levels of congestion occurring on these roadways, it makes sense that additional capacity should not lead to a significant change in travel patterns.

**TABLE 9
DYNAMIC VALIDATION - RESULTS OF ADDING A LANES TO A LINK**

Roadway	Two-way Daily Traffic without Additional Lanes on H Street	Two-way Daily Traffic with Additional Lanes on H Street	Difference
V Street	4,636	4,633	-3 (-0.06%)
O Street	10,415	10,387	-28 (-0.27%)
H Street	24,470	24,555	85 (0.35%)
D Street	2,312	2,298	-14 (-0.61%)
A Street	8,425	8,407	-18 (-0.21%)
Total	50,258	50,280	22 (0.04%)

Source: Fehr & Peers, 2009.

Adding a New Link

For this test, Rucker Road was extended south so that it connects Purisima Road to State Route 246. The results in Table 10 present the two-way daily traffic volumes on a screenline north of the Santa Ynez River.

**TABLE 10
DYNAMIC VALIDATION - RESULTS OF ADDING A NEW LINK**

Roadway	Two-way Daily Traffic without Rucker Road Extension	Two-way Daily Traffic with Rucker Road Extension	Difference
Santa Lucia Canyon Road south of State Route 1	6,546	6,428	-118 (-1.80%)
H Street Across the Santa Ynez River	36,950	36,279	-671 (-1.82%)
Rucker Road between Purisima Road and State Route 246	-	3,070	-
Purisima Road east of Rucker Road	9,006	6,949	-2,057 (-22.84%)
Total	52,502	52,726	224 (0.43%)

Source: Fehr & Peers, 2009.

The results presented in Table 10 are consistent with expectations. The new segment of Rucker Road attracts traffic from all the other routes, and has the greatest impact on the segment of Purisima Road east of Rucker Road. Overall, the increase in roadway capacity leads to a slight increase in traffic volumes across the screenline.

Removing a New Link

For this test, a segment of College Avenue was removed between A Street and 1st. The results in Table 11 present two-way daily traffic volumes on a screenline between A Street and 1st Street.

TABLE 11 DYNAMIC VALIDATION - RESULTS OF REMOVING A LINK			
Roadway	Two-way Daily Traffic without College Avenue Removal	Two-way Daily Traffic with College Avenue Removal	Difference
Pine Avenue	1,845	2,392	547 (29.65%)
Airport Avenue	540	911	371 (68.70%)
College Avenue	2,237	-	-
Maple Avenue	1,321	2,102	781 (59.12%)
Laurel Avenue	621	971	350 (56.36%)
Total	6,564	6,376	-188 (-2.86%)
Source: Fehr & Peers, 2009.			

The results presented in Table 11 are consistent with expectations. The removal of College Avenue increases traffic on all the parallel routes, while the overall screenline traffic volume is down slightly.

Validation – Results Summary

The results presented above indicate that the Lompoc TDF model meets all of Caltrans static validation standards and can reasonably replicate existing traffic patterns. In addition, the dynamic validation tests indicate that the TDF model responds reasonably to changes in land use and roadway network inputs.

2030 LOMPOC TDF MODEL DEVELOPMENT

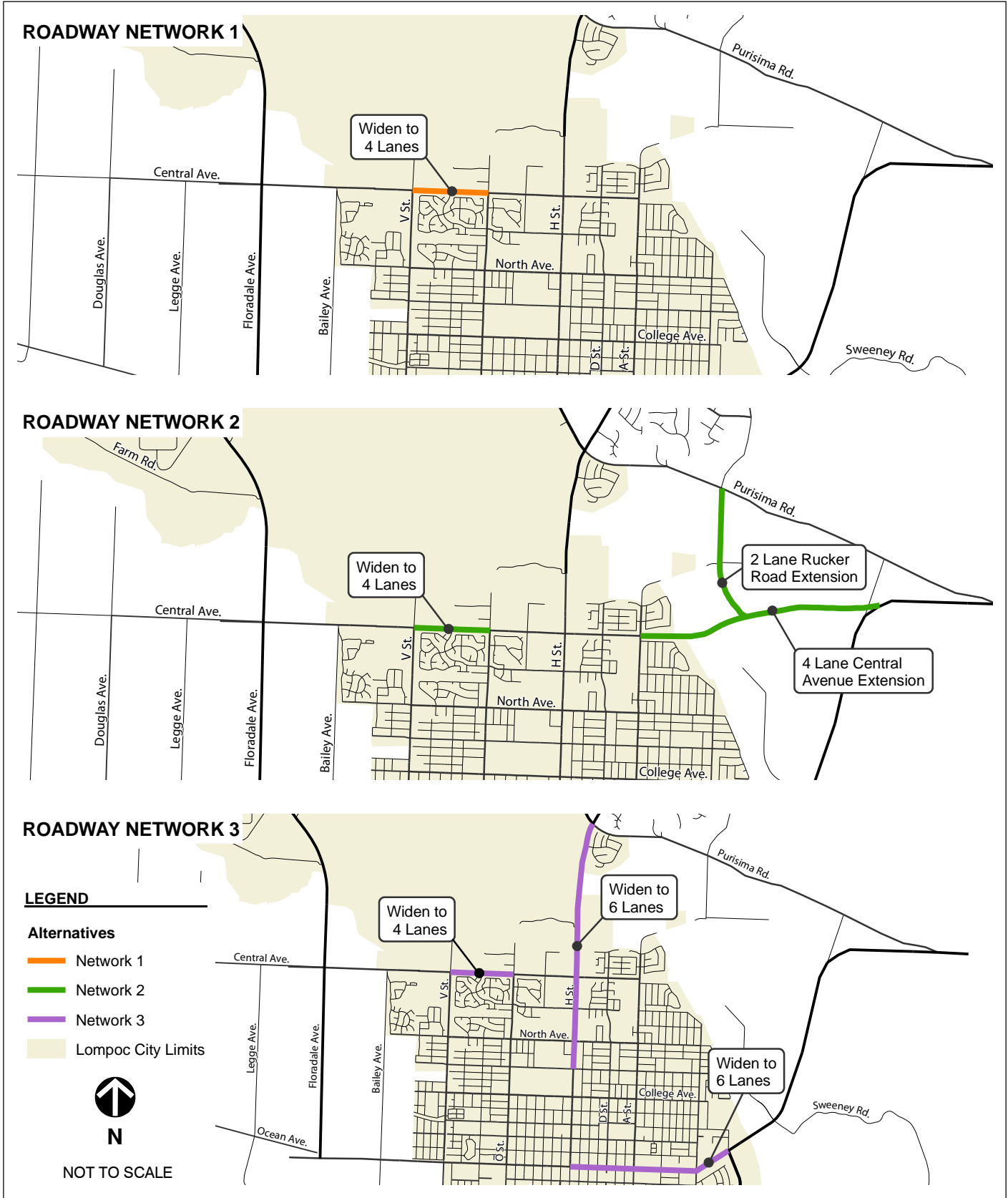
As described at the beginning of this memorandum, the primary intent behind the development of the 2030 Lompoc TDF model was to assess the environmental impacts related to the 2030 Lompoc General Plan Update. Therefore, the development of the 2030 Lompoc TDF model was based on the anticipated land use and roadway network changes assumed in the Draft General Plan. This section describes the assumptions that were incorporated into the future year model.

Roadway Network Updates

As part of the General Plan Update analysis, three 2030 roadway network files were developed, which are also shown on Figure 9:

- Network 1 – The only roadway improvement included in this network is the widening of Central Avenue to four lanes between V Street and O Street.
- Network 2 – This network includes the following improvements:
 - Central Avenue Widening – Four-lane widening between V Street and O Street, described as part of the Network 1 alternative.
 - Central Avenue Bridge – A new four-lane roadway between A Street and State Route 246.
 - Rucker Road Extension – A new two-lane extension of Rucker Road between Purisima Road and the Central Avenue Extension described above.

- Network 3 – This network includes the following improvements:
 - Central Avenue Widening – Four-lane widening between V Street and O Street, described as part of the Network 1 alternative.
 - State Route 1/H Street Improvements – Widening between Purisima Road and Pine Avenue.
 - Ocean Avenue Improvements – Widening between H Street and State Route 1.



Land Use File Updates

The land use file was updated by Rincon Consultants in conjunction with City staff as part of the 2030 Lompoc General Plan update process. Figure 10 shows the anticipated growth in residential (dwelling units) and non-residential (1,000 square feet) land use between 2008 and 2030 conditions. See Appendix A for a TAZ map, the detailed 2030 land use file, and the growth in land use per TAZ between the 2008 and 2030 versions of the TDF model.

In total, approximately 5,200 residential units and 940,000 square feet of non-residential development is anticipated to occur in the Lompoc area. A large portion of this growth (2,700 dwelling units and 130,000 square feet of commercial uses) is expected to be accommodated in the proposed Bailey Avenue Specific Plan area on the west side of the City.

In addition, land use changes at special generators like the Lompoc Federal Penitentiary, the airport, and Alan Hancock College were taken into consideration. The following list summarizes the planned land use changes at these special generators:

- The City and Rincon Consultants determined that while there were plans to modify the penitentiary to accommodate maximum security prisoners, this plan has been scrapped and there are currently no plans to expand or modify the penitentiary. The number of penitentiary employees in the TDF model was left unchanged at 514.
- The ongoing Airport Master Plan describes a proposal to increase the runway length as a safety precaution. Other minor improvements are also proposed, however, these modifications are not expected to lead to an increase in the number of aircraft based at the airport.
- The City and Rincon Consultants reviewed the growth plans at Alan Hancock College and determined that an enrollment increase of just under 30 percent is likely under 2030 conditions. This increase in enrollment considers expansion of traditional classes as well as special training programs that will be offered by the college. The TDF model enrollment was increased from 2,265 to 2,899 students.

Regional Growth Updates

To account for regional growth outside the Lompoc TDF model area, Fehr & Peers used the 2030 TDF model files supplied by SBCAG. See Appendix C for a map of the SBCAG TDF model TAZs in the Lompoc area, the base year (2002) land use file and the 2030 land use file. Overall, the SBCAG TDF model indicates about a 32 percent increase in population and a 38 percent increase in employment countywide between 2002 and 2030. More significantly to the Lompoc TDF model, the SBCAG TDF model indicates a 38 percent increase in employment at Vandenberg Air Force Base between 2002 and 2030, with employment rising from 8,253 to 10,827.

The regional growth reflected in the SBCAG TDF model will impact the Lompoc TDF model by increasing the number of through trips and changing the pattern of internal-external trip making between Lompoc and the rest of the county. To account for these changes, Fehr & Peers assigned the 2030 SBCAG model trip tables to the SBCAG model roadway network and performed a sub-area extraction around the Lompoc TDF model area. The output of this process was a new through trip matrix and new internal-external travel factors (i.e., station weights).

Overall, through trips increased by 121 percent between 2002 and 2030 with the greatest increases expected on State Route 246 east of Lompoc (232 percent increase) and on State Route 1 north of Santa Lucia Canyon Road (149 percent increase).

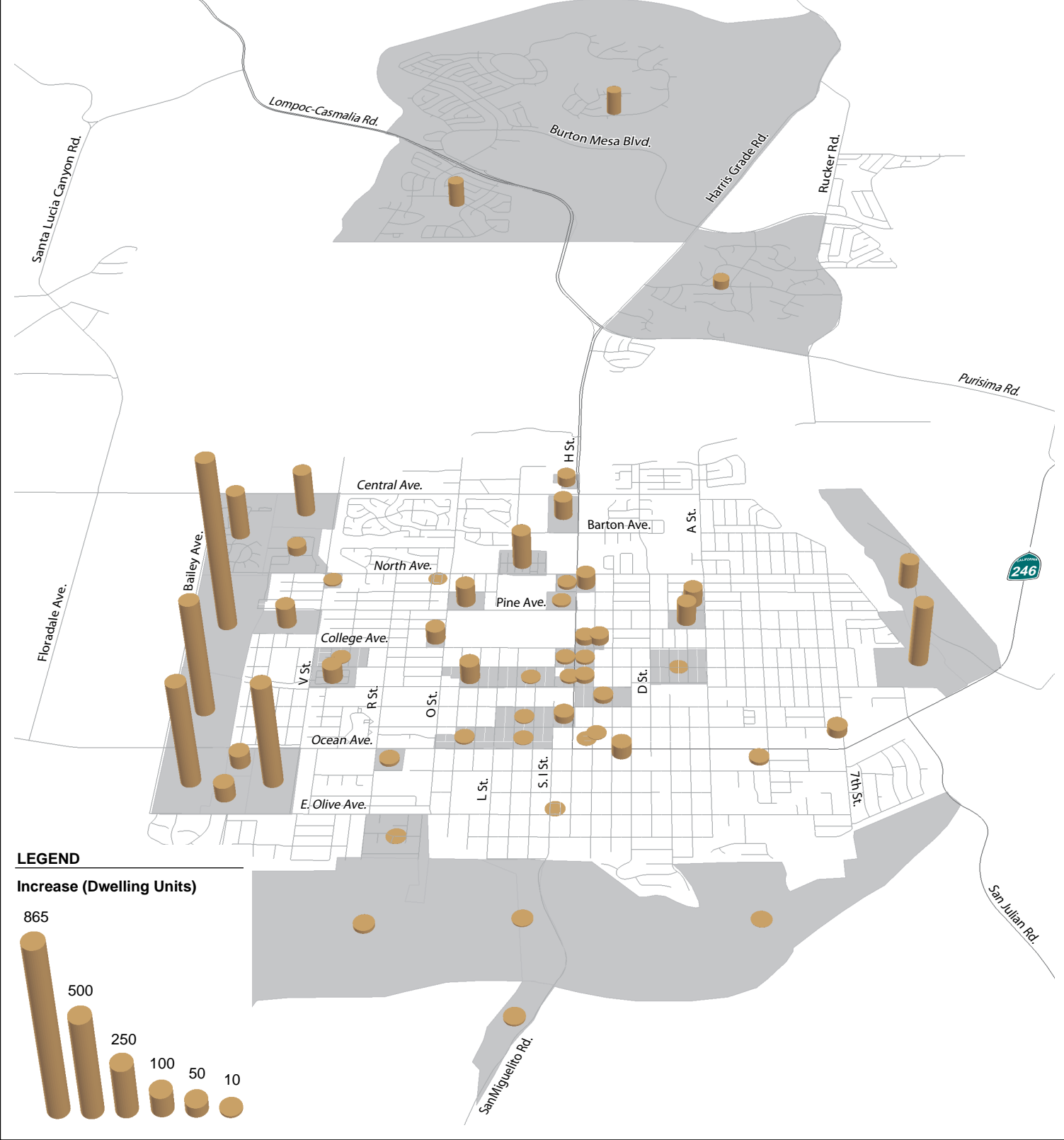
External Station Forecasts

With the roadway network, land use file, and regional growth factors updated, the 2030 version of the Lompoc TDF model was run to produce the PM peak hour external station forecasts shown in Table 12.

TABLE 12 EXTERNAL STATION PM PEAK HOUR FORECASTS			
External Station	2008 TDF Model Volume	2030 TDF Model Volume	Change
State Route 1 north of Santa Lucia Canyon Road	1,780	2,070	290 (16%)
State Route 1 south of State Route 246	1,100	2,300	1,200 (109%)
State Route 246 east of Purisima Road	1,290	2,290	1,000 (78%)

Source: Fehr & Peers, 2009.

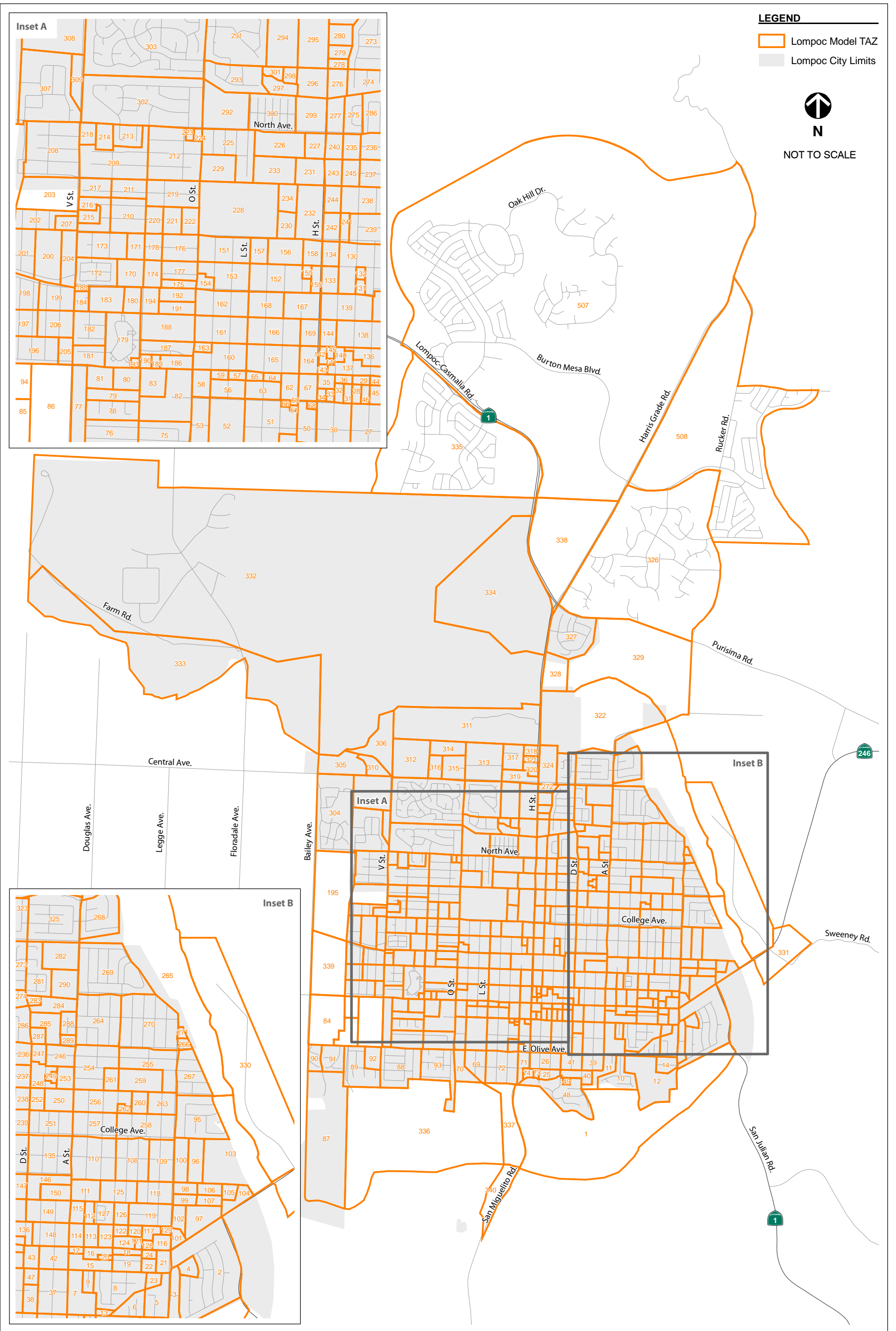
RESIDENTIAL (DWELLING UNITS)



NON-RESIDENTIAL (1,000 SQUARE FEET)



Appendix A:
Lompoc TDF Model TAZ Map and Land Use Files



TAZ	ATYPE	ATYPR	STFSF_DU	MF_DU	HOTEL_KSF	RTAIL	KPSRV_KSF	RSTNT	KAUTO_KS	OFCE_KS	SLTIND_KSF	HVIND_K	KIAG_KSF	INST_KSF	SAFE_KS	SPARK_AC	MED_KSF	ARPRT_PLN	MLTRY_EMP	ELEM_SHS_ST	COLL_S	JAIL	CHRRCH_KSF	R_RETAIL	IX_P	IX_A	XI_P	XI_A
1	1	Lmpc	9	0	0	0	0	0	0	0	4	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
2	1	Lmpc	236	0	0	0	0	0	5	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	1	Lmpc	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0
5	1	Lmpc	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	Lmpc	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	410	0	0	0	0	0	0	0
8	1	Lmpc	83	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	Lmpc	14	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	1	Lmpc	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	Lmpc	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	Lmpc	2	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0
13	1	Lmpc	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	Lmpc	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	1	Lmpc	0	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	1	Lmpc	0	0	36	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	Lmpc	0	0	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	Lmpc	0	0	0	15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	Lmpc	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	Lmpc	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	1	Lmpc	5	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	1	Lmpc	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	Lmpc	15	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	1	Lmpc	63	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	Lmpc	72	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	1	Lmpc	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	1	Lmpc	97	39	0	0	0	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0
31	1	Lmpc	10	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	1	Lmpc	3	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	1	Lmpc	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	1	Lmpc	0	0	0	0	2	0	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	1	Lmpc	0	0	0	0	2	0	4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	1	Lmpc	0	0	4	3	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	1	Lmpc	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	1	Lmpc	4	2	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0
39	1	Lmpc	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	1	Lmpc	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	1	Lmpc	27	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	1	Lmpc	4	21	0	3	3	4	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
43	1	Lmpc	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	1	Lmpc	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	1	Lmpc	0	0	0	0	0	0	0	12	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	1	Lmpc	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
47	1	Lmpc	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	1	Lmpc	88	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	1	Lmpc	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	1	Lmpc	37	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	1	Lmpc	120	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0
52	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	918	0	0	0	0	0	0	0	0
53	1	Lmpc	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	157	0	0	0	4	0	0	0	0
55	1	Lmpc	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
56	1	Lmpc	23	20	0	0	0	0	0	23	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
57	1	Lmpc	0	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	1	Lmpc	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	1	Lmpc	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	1	Lmpc	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	1	Lmpc	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	1	Lmpc	14	52	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	1	Lmpc	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	1	Lmpc	0	0	0	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
67	1	Lmpc																										

TAZ	ATYPE	ATYP	SF_DU	MF_DU	HOTEL_KSF	RTAIL_KSF	PSRV_KSF	RSTNT_KSF	AUTO_KSF	OFCE_KSF	LTIND_KSF	HVIND_KSF	AG_KSF	INST_KSF	SAFE_KSF	PARK_AC	MED_KSF	ARPRT_PLN	MLTRY_EMP	ELEM_STU	HS_ST	COLL_STU	JAIL	CHRH_KSF	R_RETAIL	IX_P	IX_A	XI_P	XI_A
1	1	Lmpc	9	1	0	0	0	0	0	0	4	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	
2	1	Lmpc	236	0	0	0	0	0	5	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	1	Lmpc	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0	0	0	0	0	0	58	0	0	0	0	
5	1	Lmpc	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	1	Lmpc	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	525	0	0	0	0	0	0	0	0	
8	1	Lmpc	83	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	1	Lmpc	14	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10	1	Lmpc	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11	1	Lmpc	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	1	Lmpc	2	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0
13	1	Lmpc	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	Lmpc	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	1	Lmpc	0	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	1	Lmpc	0	0	36	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	Lmpc	0	0	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	Lmpc	0	0	0	15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	Lmpc	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	Lmpc	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	Lmpc	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	1	Lmpc	5	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	1	Lmpc	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	Lmpc	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	1	Lmpc	63	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	Lmpc	72	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	1	Lmpc	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	1	Lmpc	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	1	Lmpc	97	39	0	0	0	0	4	0	0	0	0	9	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
31	1	Lmpc	10	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	1	Lmpc	3	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	1	Lmpc	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	1	Lmpc	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	1	Lmpc	0	0	0	0	0	2	0	4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	1	Lmpc	0	0	4	3	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	1	Lmpc	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	1	Lmpc	4	2	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0
39	1	Lmpc	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	1	Lmpc	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	1	Lmpc	27	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	1	Lmpc	4	21	0	3	3	4	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
43	1	Lmpc	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	1	Lmpc	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	1	Lmpc	0	0	0	0	0	0	12	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	1	Lmpc	1	4	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0
47	1	Lmpc	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	1	Lmpc	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	1	Lmpc	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	1	Lmpc	37	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	1	Lmpc	120	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
52	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1175	0	0	0	0	0	0	0	0	0
53	1	Lmpc	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	201	0	0	0	4	0	0	0	0	0
55	1	Lmpc	2	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
56	1	Lmpc	23	20	0	0	0	0	0	20	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
57	1	Lmpc	0	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	1	Lmpc	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	1	Lmpc	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	1	Lmpc	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	1	Lmpc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	1	Lmpc	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	1	Lmpc	14	52	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	1	Lmpc	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	1	Lmpc	0	0	0	9	2	0																					

Appendix B:
Lompoc TDF Model Static Validation Results

Lompoc GP Update Model Validation Results: Daily Two-Way Total Traffic Volumes

CNT_ID	Roadway Segment	Functional Class	Model Link ID	Model Volume	Traffic Count	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared	
1	CENTRAL W/O V ST	Principal Arterial	1021	7,734	6,000	1.29	0.61	0.48	Yes	1,734	3,005,705	
2	OLIVE E/O AVALON	Collector	1299	1,621	1,000	1.62	0.91	0.68	Yes	621	385,537	
3	OCEAN BET L ST & K ST	Principal Arterial	1058	11,630	12,100	0.96	-0.11	0.34	Yes	-470	220,850	
4	D ST N/O COLLEGE	Collector	248	2,072	3,100	0.67	-0.58	0.58	Yes	-1,028	1,057,209	
5	A ST S/O LAUREL	Minor Arterial	2043	12,061	9,000	1.34	0.90	0.38	Yes	3,061	9,371,112	
6	NORTH BET LUPINE & POPPY	Collector	602	3,688	2,900	1.27	0.47	0.58	Yes	788	621,732	
7	COLLEGE BET 3RD & LUPINE	Collector	203	3,003	3,200	0.94	-0.11	0.58	Yes	-197	38,985	
8	OCEAN E/O 3RD	Principal Arterial	1888	19,684	14,800	1.33	1.05	0.31	No	4,884	23,853,704	
9	OLIVE E/O HAWTHORNE	Collector	527	670	1,600	0.42	-0.92	0.63	Yes	-930	865,315	
10	7TH S/O PINE	Collector	169	4,049	4,200	0.96	-0.04	0.52	Yes	-151	22,873	
11	CA-1 s/o Jct 246	Principal Arterial	632	14,926	13,935	1.07	0.07	0.31	Yes	991	982,627	
12	CA-1 n/o Hancock College	Principal Arterial	2355	26,382	27,000	0.98	-0.02	0.25	Yes	-618	382,272	
13	CA-246 w/o Jct 1	Principal Arterial	1056									
14	CA-246 e/o Jct 1	Principal Arterial	23	12,432	9,320	1.33	0.33	0.38	Yes	3,112	9,687,392	
15	Central Ave e/o Floradale	Minor Arterial	1000	6,984	5,899	1.18	0.18	0.48	Yes	1,085	1,176,362	
16	Central Ave w/o Floradale	Minor Arterial	1465	2,772	2,614	1.06	0.06	0.58	Yes	158	24,966	
17	Floradale Ave n/o Central	Minor Arterial	934	6,760	6,883	0.98	-0.02	0.44	Yes	-123	15,036	
18	Floradale Ave s/o Central	Minor Arterial	1464	2,623	2,624	1.00	0.00	0.58	Yes	-1	2	
19	Miguelito Rd s/o Willow	Minor Arterial	1347	1,896	1,813	1.05	0.05	0.63	Yes	83	6,921	
20	Ocean Ave e/o Floradale	Principal Arterial	1462	4,620	5,295	0.87	-0.13	0.48	Yes	-675	455,118	
21	Ocean Ave w/o Floradale	Principal Arterial	1463	2,800	2,619	1.07	0.07	0.58	Yes	181	32,631	
22	Santa Lucia Canyon Rd s/o Lmpc Farm Rd	Minor Arterial	999	6,760	6,316	1.07	0.07	0.44	Yes	444	197,472	
23	V St n/o North Ave	Minor Arterial	912	5,009	5,472	0.92	-0.08	0.48	Yes	-463	214,199	
24	V St s/o Laurel Ave	Minor Arterial	1096	4,453	4,915	0.91	-0.09	0.52	Yes	-462	213,616	
25	Barton Ave w/o O St	Collector	766	2,792	3,095	0.90	-0.10	0.58	Yes	-303	91,533	
26	Barton Ave e/o O St	Collector	970	2,452	3,214	0.76	-0.24	0.58	Yes	-762	580,430	
27	Pine Ave w/o H St	Collector	925	3,139	4,650	0.68	-0.32	0.52	Yes	-1,511	2,282,033	
28	Central Ave e/o H St	Principal Arterial	1612	12,403	12,965	0.96	-0.04	0.33	Yes	-562	315,995	
29	A St n/o Central Ave	Minor Arterial	637	1,140	1,599	0.71	-0.29	0.63	Yes	-459	210,268	
30	A St n/o Ocean Ave	Minor Arterial	323	9,832	9,570	1.03	0.03	0.38	Yes	262	68,685	
31	College Ave w/o V St	Collector	1414	1,038	876	1.19	0.19	0.68	Yes	162	26,360	
32	V St s/o Ocean	Collector	1242	3,804	2,976	1.28	0.28	0.58	Yes	828	685,408	
33	Olive Ave e/o O St	Collector	1265	3,719	3,010	1.24	0.24	0.58	Yes	709	503,125	
34	I St s/o Olive	Minor Arterial	1373	2,081	2,241	0.93	-0.07	0.63	Yes	-160	25,616	
35	L St n/o Ocean	Collector	1165	1,032	1,101	0.94	-0.06	0.68	Yes	-69	4,703	
36	O St s/o Pine	Minor Arterial	814	8,719	9,269	0.94	-0.06	0.38	Yes	-550	302,029	
37	Central Ave w/o O St	Principal Arterial	917	7,720	8,159	0.95	-0.05	0.41	Yes	-439	192,646	
38	Central Ave w/o L St	Principal Arterial	761	15,666	13,751	1.14	0.14	0.31	Yes	1,915	3,666,978	
39	O St n/o Cordoba	Collector	757	2,174	1,629	1.33	0.33	0.63	Yes	545	296,695	
40	Barton Ave e/o H St	Collector	299	1,078	1,878	0.57	-0.43	0.63	Yes	-800	640,380	
41	D St n/o North Ave	Collector	615	2,594	4,588	0.57	-0.43	0.52	Yes	-1,994	3,977,191	
42	North Ave e/o H St	Minor Arterial	295	8,185	6,138	1.33	0.33	0.48	Yes	2,047	4,188,557	
43	College Ave e/o G St	Minor Arterial	41	4,242	3,725	1.14	0.14	0.58	Yes	517	267,172	
44	College Ave e/o A St	Collector	243	2,636	3,725	0.71	-0.29	0.58	Yes	-1,089	1,185,221	
45	College Ave w/o 7th St	Collector	592	2,357	2,417	0.98	-0.02	0.63	Yes	-60	3,599	
46	7th St n/o Laurel	Collector	156	4,674	4,756	0.98	-0.02	0.52	Yes	-82	6,798	
47	A St s/o Cypress	Collector	356	4,414	2,980	1.48	0.48	0.58	Yes	1,434	2,056,599	
48	H St n/o Central	Principal Arterial	1	34,426	31,000	1.11	0.11	0.24	Yes	3,426	11,735,357	
50	Purisma Rd e/o CA-1	Principal Arterial	2351	6,531	6,927	0.94	-0.06	0.44	Yes	-396	156,590	
51	Harris Grade Rd n/o CA-1	Principal Arterial	748	9,033	8,877	1.02	0.02	0.38	Yes	156	24,389	
52	Santa Lucia Canyon Rd s/o Washington	Minor Arterial	2359	6,649	5,858	1.14	0.14	0.48	Yes	791	626,363	
Subtotal				329,161	313,579	Model/Count Ratio = 1.05			Percent Within Caltrans Maximum Deviation = 98% > 75%			
							Percent Root Mean Square Error = 21% < 40%			Correlation Coefficient = 0.98 > 0.88		

Lompop GP Update Model Validation Results: AM Peak Hour Two-Way Total Traffic Volumes

Roadway	Segment	Functional Class	Model Link ID	Model Volume	Traffic Count	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
V Street	n/o Central Avenue		754	23							
V Street	s/o Central Avenue	Minor Arterial	1480	335	439	0.76	-0.46	0.52	Yes	-104	10,909
Central Avenue	e/o V Street	Principal Arterial	2151	491	691	0.71	-0.66	0.44	Yes	-200	40,140
Central Avenue	w/o V Street	Principal Arterial	1021	450	593	0.76	-0.51	0.48	Yes	-143	20,584
V Street	n/o North Avenue	Minor Arterial	912	335	416	0.81	-0.37	0.52	Yes	-81	6,487
V Street	s/o North Avenue	Minor Arterial	789	411	460	0.89	-0.21	0.52	Yes	-49	2,405
North Avenue	e/o V Street	Minor Arterial	2162	180	169	1.06	0.10	0.63	Yes	11	111
North Avenue	w/o V Street	Collector	963	128	131	0.97	-0.04	0.63	Yes	-3	11
V Street	n/o Pine Avenue	Minor Arterial	947	407	508	0.80	-0.42	0.48	Yes	-101	10,107
V Street	s/o Pine Avenue	Minor Arterial	2164	401	537	0.75	-0.53	0.48	Yes	-136	18,608
Pine Avenue	e/o V Street	Collector	831	74	126	0.59	-0.66	0.63	Yes	-52	2,720
Pine Avenue	w/o V Street	Collector	964	0	33	0.00	-1.46	0.68	No	-33	1,089
V Street	n/o College Avenue	Minor Arterial	918	386	503	0.77	-0.49	0.48	Yes	-117	13,798
V Street	s/o College Avenue	Minor Arterial	1494	327	401	0.82	-0.35	0.52	Yes	-74	5,455
College Avenue	e/o V Street	Minor Arterial	1118	83	263	0.32	-1.19	0.58	No	-180	32,395
College Avenue	w/o V Street	Collector	1414	124	353	0.35	-1.13	0.58	No	-229	52,649
V Street	n/o Laurel Avenue	Minor Arterial	1307	397	397	1.00	0.00	0.52	Yes	0	0
V Street	s/o Laurel Avenue	Minor Arterial	1458	409	340	1.20	0.35	0.58	Yes	69	4,767
Laurel Avenue	e/o V Street	Collector	2267	265	148	1.79	1.25	0.63	No	117	13,627
Laurel Avenue	w/o V Street		1097	12							
V Street	n/o Ocean Avenue	Collector	1341	355	391	0.91	-0.18	0.52	Yes	-36	1,316
V Street	s/o Ocean Avenue	Collector	1242	333	250	1.33	0.58	0.58	Yes	83	6,858
Ocean Avenue	e/o V Street	Principal Arterial	1067	325	635	0.51	-1.11	0.44	No	-310	95,896
Ocean Avenue	w/o V Street	Principal Arterial	1068	245	470	0.52	-0.92	0.52	Yes	-225	50,472
R Street	n/o Ocean Avenue	Collector	1418	94	201	0.47	-0.84	0.63	Yes	-107	11,401
R Street	s/o Ocean Avenue	Collector	1187	104	122	0.86	-0.21	0.68	Yes	-18	310
Ocean Avenue	e/o R Street	Principal Arterial	2180	479	674	0.71	-0.66	0.44	Yes	-195	38,005
Ocean Avenue	w/o R Street	Principal Arterial	1063	372	625	0.60	-0.92	0.44	Yes	-253	63,858
O Street	n/o Central Avenue		756	127							
O Street	s/o Central Avenue	Minor Arterial	919	490	428	1.15	0.28	0.52	Yes	62	3,897
Central Avenue	e/o O Street	Principal Arterial	1597	845	869	0.97	-0.07	0.41	Yes	-24	586
Central Avenue	w/o O Street	Principal Arterial	917	552	703	0.79	-0.49	0.44	Yes	-151	22,719
O Street	n/o North Avenue	Minor Arterial	852	726	571	1.27	0.57	0.48	Yes	155	24,012
O Street	s/o North Avenue	Minor Arterial	2218	693	570	1.22	0.46	0.48	Yes	123	15,191
North Avenue	e/o O Street	Minor Arterial	865	554	300	1.85	1.47	0.58	No	254	64,469
North Avenue	w/o O Street	Minor Arterial	952	303	295	1.03	0.04	0.58	Yes	8	57
O Street	n/o Pine Avenue	Minor Arterial	812	694	549	1.26	0.56	0.48	Yes	145	21,113
O Street	s/o Pine Avenue	Minor Arterial	814	714	578	1.24	0.50	0.48	Yes	136	18,604
Pine Avenue	e/o O Street	Collector	806	175	255	0.69	-0.55	0.58	Yes	-80	6,394
Pine Avenue	w/o O Street	Collector	949	115	180	0.64	-0.57	0.63	Yes	-65	4,216
O Street	n/o College Avenue	Minor Arterial	805	719	666	1.08	0.18	0.44	Yes	53	2,758
O Street	s/o College Avenue	Minor Arterial	1130	702	548	1.28	0.59	0.48	Yes	154	23,865
College Avenue	e/o O Street	Minor Arterial	1134	321	427	0.75	-0.48	0.52	Yes	-106	11,194
College Avenue	w/o O Street	Minor Arterial	1407	168	307	0.55	-0.79	0.58	Yes	-139	19,276
O Street	n/o Laurel Avenue	Minor Arterial	1320	694	526	1.32	0.67	0.48	Yes	168	28,183
O Street	s/o Laurel Avenue	Minor Arterial	2303	572	602	0.95	-0.11	0.48	Yes	-30	904
Laurel Avenue	e/o O Street	Collector	1725	165	345	0.48	-0.90	0.58	Yes	-180	32,229
Laurel Avenue	w/o O Street	Collector	1404	446	371	1.20	0.35	0.58	Yes	75	5,685
O Street	n/o Ocean Avenue	Minor Arterial	1322	555	516	1.08	0.16	0.48	Yes	39	1,498
O Street	s/o Ocean Avenue	Collector	1156	417	510	0.82	-0.38	0.48	Yes	-93	8,610
Ocean Avenue	e/o O Street	Principal Arterial	1061	656	683	0.96	-0.09	0.44	Yes	-27	729
Ocean Avenue	w/o O Street	Principal Arterial	1062	498	697	0.71	-0.65	0.44	Yes	-199	39,621
I Street	n/o Ocean Avenue		1163	21							
I Street	s/o Ocean Avenue	Collector	1162	98	141	0.70	-0.48	0.63	Yes	-43	1,826
Ocean Avenue	e/o I Street	Principal Arterial	1993	893	769	1.16	0.39	0.41	Yes	124	15,483
Ocean Avenue	w/o I Street	Principal Arterial	1056	816	689	1.18	0.42	0.44	Yes	127	16,081
I Street	n/o Olive Avenue	Minor Arterial	1959	196	119	1.64	0.94	0.68	Yes	77	5,871
I Street	s/o Olive Avenue	Minor Arterial	1373	128	117	1.10	0.14	0.68	Yes	11	132
Olive Avenue	e/o I Street	Collector	1961	183	136	1.35	0.55	0.63	Yes	47	2,229
Olive Avenue	w/o I Street	Collector	1376	191	150	1.27	0.43	0.63	Yes	41	1,652
H Street/Harris Grade Road	n/o Purisma Road/Cabrillo Highway	Principal Arterial	2345	966	662	1.46	1.04	0.44	No	304	92,614
H Street/Harris Grade Road	s/o Purisma Road/Cabrillo Highway	Principal Arterial	746	2,887	2,165	1.24	0.89	0.27	Yes	522	272,660
Purisma Road/Cabrillo Highway	e/o H Street/Harris Grade Road	Principal Arterial	744	415	521	0.80	-0.43	0.48	Yes	-106	11,200
Purisma Road/Cabrillo Highway	w/o H Street/Harris Grade Road	Principal Arterial	745	2,152	1,704	1.26	0.89	0.29	Yes	448	200,911
H Street	n/o Central Avenue	Principal Arterial	1	2,680	2,186	1.23	0.84	0.27	Yes	494	244,478
H Street	s/o Central Avenue	Principal Arterial	1628	1,559	1,661	0.94	-0.21	0.29	Yes	-102	10,355
Central Avenue	e/o H Street	Principal Arterial	100	919	856	1.07	0.18	0.41	Yes	63	3,972
Central Avenue	w/o H Street	Principal Arterial	923	1,245	921	1.35	0.93	0.38	Yes	324	105,262
H Street	n/o Barton Avenue	Principal Arterial	2	1,597	1,522	1.05	0.16	0.30	Yes	75	5,626
H Street	s/o Barton Avenue	Principal Arterial	1642	1,656	1,525	1.09	0.28	0.30	Yes	131	17,066
Barton Avenue	e/o H Street	Collector	299	90	119	0.76	-0.35	0.68	Yes	-29	818
Barton Avenue	w/o H Street	Collector	1013	237	270	0.88	-0.21	0.58	Yes	-33	1,084
H Street	n/o North Avenue	Principal Arterial	3	1,674	1,311	1.28	0.85	0.33	Yes	363	131,897
H Street	s/o North Avenue	Principal Arterial	1670	1,397	1,339	1.04	0.13	0.33	Yes	58	3,338
North Avenue	e/o H Street	Minor Arterial	295	614	452	1.36	0.69	0.52	Yes	162	26,251
North Avenue	w/o H Street	Minor Arterial	956	611	430	1.42	0.81	0.52	Yes	181	32,668
H Street	n/o Pine Avenue	Principal Arterial	5	1,419	1,451	0.98	-0.07	0.31	Yes	-32	997
H Street	s/o Pine Avenue	Principal Arterial	1691	1,438	1,408	1.02	0.07	0.31	Yes	30	929
Pine Avenue	e/o H Street	Collector	52	226	392	0.58	-0.81	0.52	Yes	-166	27,430
Pine Avenue	w/o H Street	Collector	925	251	421	0.60	-0.78	0.52	Yes	-170	28,868
H Street	n/o College Avenue	Principal Arterial	6	1,386	1,385	1.00	0.00	0.31	Yes	1	2
H Street	s/o College Avenue	Principal Arterial	1705	1,233	1,295	0.95	-0.15	0.33	Yes	-62	3,824
College Avenue	e/o H Street	Minor Arterial	40	335	509	0.66	-0.72	0.48	Yes	-174	30,200
College Avenue	w/o H Street	Minor Arterial	1141	385	683	0.56	-0.99	0.44	Yes	-298	88,795
H Street	n/o Laurel Avenue	Principal Arterial	8	1,187	1,412	0.84	-0.51	0.31	Yes	-225	50,689
H Street	s/o Laurel Avenue	Principal Arterial	9	1,069	1,284	0.83	-0.51	0.33	Yes	-215	46,078
Laurel Avenue	e/o H Street	Collector	77	76	171	0.45	-0.88	0.63	Yes	-95	9,001
Laurel Avenue	w/o H Street	Collector	1303	259	279	0.93	-0.13	0.58	Yes	-20	405
H Street	n/o Ocean Avenue	Principal Arterial	11	905	869	1.04	0.10	0.41	Yes	36	1,266
H Street	s/o Ocean Avenue	Collector	1070	132	360	0.37	-1.10	0.58	No	-228	51,764
Ocean Avenue	e/o H Street	Principal Arterial	12	1,183	925	1.28	0.73	0.38	Yes	258	66,469
Ocean Avenue	w/o H Street	Principal Arterial	1055	915	774	1.18	0.44	0.41	Yes	141	19,805
D Street	n/o North Avenue	Collector	615	198	397	0.50	-0.97	0.52	Yes	-199	39,725
D Street	s/o North Avenue	Collector	2110	156	302	0.52	-0.84	0.58	Yes	-146	21,270
North Avenue	e/o D Street	Minor Arterial	290	575	578	1.00	-0.01	0.48	Yes	-3	7
North Avenue	w/o D Street	Minor Arterial	292	573	469	1.22	0.43	0.52	Yes	104	10,879
A Street	n/o Central Avenue	Minor Arterial	637	91	131	0.69	-0.49	0.63	Yes	-40	1,608
A Street	s/o Central Avenue	Minor Arterial	109	633	755	0.84	-0.40	0.41	Yes	-122	14,964
Central Avenue	w/o A Street	Principal Arterial	2157	655	724	0.90	-0.22	0.44	Yes	-69	4,788
A Street	n/o North Avenue	Minor Arterial	284	571	745	0.77	-0.53	0.44	Yes	-174	30,127
A Street	s/o North Avenue	Minor Arterial	576	773	748	1.03	0.08	0.44	Yes	25	617
North Avenue	e/o A Street	Collector	287	295	330	0.89	-0.18	0.58	Yes	-35	1,205
North Avenue	w/o A Street	Minor Arterial	2108	550	479	1.15	0.28	0.52	Yes	71	4,993
A Street	n/o Pine Avenue	Minor Arterial	267	800	761	1.05	0.13	0.41	Yes	39	1,525
A Street	s/o Pine Avenue	Minor Arterial	258	807	745	1.08	0.19	0.44	Yes	62	3,815

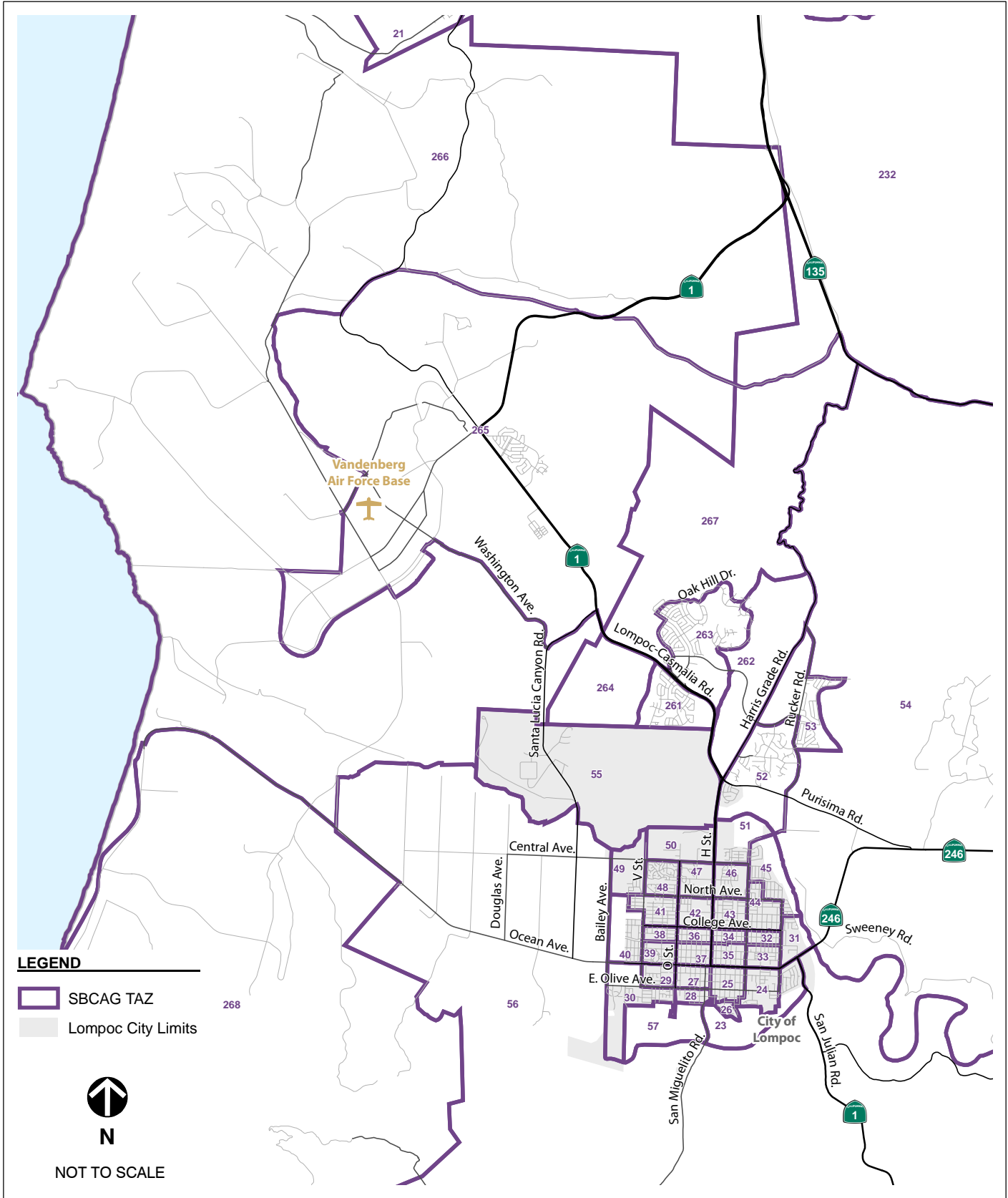
Roadway	Segment	Functional Class	Model	Model	Traffic	Model	Model	Maximum	Within	Model	Difference
			Link ID	Volume	Count	/Count	# Deviation	Deviation	Deviation	- Count	Squared
Pine Avenue	e/o A Street	Collector	264	203	353	0.58	-0.74	0.58	Yes	-150	22,443
Pine Avenue	w/o A Street	Collector	2116	146	337	0.43	-0.99	0.58	Yes	-191	36,618
A Street	n/o College Avenue	Minor Arterial	245	812	713	1.14	0.32	0.44	Yes	99	9,836
A Street	s/o College Avenue	Minor Arterial	235	846	701	1.21	0.47	0.44	Yes	145	20,936
College Avenue	e/o A Street	Collector	243	203	303	0.67	-0.57	0.58	Yes	-100	9,914
College Avenue	w/o A Street	Minor Arterial	242	288	427	0.68	-0.62	0.52	Yes	-139	19,200
A Street	n/o Ocean Avenue	Minor Arterial	323	673	680	0.99	-0.02	0.44	Yes	-7	48
A Street	s/o Ocean Avenue	Collector	351	376	577	0.65	-0.74	0.48	Yes	-201	40,597
Ocean Avenue	e/o A Street	Principal Arterial	19	1,205	1,004	1.20	0.56	0.36	Yes	201	40,317
Ocean Avenue	w/o A Street	Principal Arterial	18	1,003	961	1.04	0.12	0.38	Yes	42	1,775
7th Street	n/o Laurel Avenue	Collector	156	283	358	0.79	-0.37	0.58	Yes	-75	5,658
7th Street	s/o Laurel Avenue	Collector	412	200	289	0.69	-0.53	0.58	Yes	-89	7,834
Laurel Avenue	e/o 7th Street	Collector	415	234	171	1.37	0.59	0.63	Yes	63	3,998
Laurel Avenue	w/o 7th Street		349	9							
7th Street	n/o Ocean Avenue/SR-246	Collector	411	210	336	0.62	-0.65	0.58	Yes	-126	15,971
7th Street	s/o Ocean Avenue/SR-246	Collector	391	436	243	1.79	1.26	0.63	No	193	37,133
Ocean Avenue/SR-246	e/o 7th Street	Principal Arterial	22	1,242	994	1.25	0.66	0.38	Yes	248	61,751
Ocean Avenue/SR-246	w/o 7th Street	Principal Arterial	1864	1,089	961	1.13	0.35	0.38	Yes	128	16,434
12th Street/SR-1	n/o Ocean Avenue/SR-246	Collector	633	211	222	0.95	-0.08	0.63	Yes	-11	115
12th Street/SR-1	s/o Ocean Avenue/SR-246	Principal Arterial	632	817	678	1.21	0.47	0.44	Yes	139	19,389
Ocean Avenue/SR-246	e/o 12th Street/SR-1	Principal Arterial	23	698	698	1.00	0.00	0.44	Yes	0	0
Ocean Avenue/SR-246	w/o 12th Street/SR-1	Principal Arterial	1872	1,245	988	1.26	0.69	0.38	Yes	257	66,171
Subtotal				73,982	73,913						
Model/Count Ratio = 1.00 Percent Within Caltrans Maximum Deviation = 93% > 75% Percent Root Mean Square Error = 26% < 40% Correlation Coefficient = 0.96 > 0.88											

Lompop GP Update Model Validation Results: PM Peak Hour Two-Way Total Traffic Volumes

Roadway	Segment	Functional Class	Model	Model	Traffic	Model	Model	Maximum	Within	Model	Difference
			Link ID	Volume	Count	/Count	# Deviation	Deviation	Deviation	- Count	Squared
V Street	n/o Central Avenue		754								
V Street	s/o Central Avenue	Principal Arterial	1480	388	465	0.83	-0.32	0.52	Yes	-77	5,923
Central Avenue	e/o V Street	Principal Arterial	2151	581	864	0.67	-0.80	0.41	Yes	-283	80,263
Central Avenue	w/o V Street	Principal Arterial	1021	598	736	0.81	-0.43	0.44	Yes	-138	19,046
V Street	n/o North Avenue	Minor Arterial	912	389	450	0.87	-0.26	0.52	Yes	-61	3,677
V Street	s/o North Avenue	Minor Arterial	789	435	520	0.84	-0.35	0.48	Yes	-85	7,287
North Avenue	e/o V Street	Minor Arterial	2162	180	213	0.85	-0.24	0.63	Yes	-33	1,075
North Avenue	w/o V Street	Collector	963	122	155	0.79	-0.34	0.63	Yes	-33	1,088
V Street	n/o Pine Avenue	Minor Arterial	947	427	567	0.75	-0.52	0.48	Yes	-140	19,509
V Street	s/o Pine Avenue	Minor Arterial	2164	405	539	0.75	-0.53	0.48	Yes	-134	18,075
Pine Avenue	e/o V Street	Collector	831	75	122	0.61	-0.57	0.68	Yes	-47	2,249
Pine Avenue	w/o V Street		964	0							
V Street	n/o College Avenue	Minor Arterial	918	388	508	0.76	-0.50	0.48	Yes	-120	14,301
V Street	s/o College Avenue	Minor Arterial	1494	354	484	0.73	-0.52	0.52	Yes	-130	16,986
College Avenue	e/o V Street	Minor Arterial	1118	66	209	0.31	-1.09	0.63	No	-143	20,568
College Avenue	w/o V Street	Collector	1414	84	103	0.82	-0.26	0.68	Yes	-19	345
V Street	n/o Laurel Avenue	Minor Arterial	1307	389	505	0.77	-0.48	0.48	Yes	-116	13,432
V Street	s/o Laurel Avenue	Minor Arterial	1458	401	423	0.95	-0.10	0.52	Yes	-22	488
Laurel Avenue	e/o V Street	Collector	2267	277	209	1.33	0.52	0.63	Yes	68	4,630
Laurel Avenue	w/o V Street		1097	12							
V Street	n/o Ocean Avenue	Collector	1341	359	394	0.91	-0.17	0.52	Yes	-35	1,210
V Street	s/o Ocean Avenue	Collector	1242	325	199	1.64	1.01	0.63	No	126	15,970
Ocean Avenue	e/o V Street	Principal Arterial	1067	381	614	0.62	-0.80	0.48	Yes	-233	54,435
Ocean Avenue	w/o V Street	Principal Arterial	1068	323	441	0.73	-0.51	0.52	Yes	-118	13,886
R Street	n/o Ocean Avenue	Collector	1418	106	273	0.39	-1.06	0.58	No	-167	27,854
R Street	s/o Ocean Avenue	Collector	1187	104	232	0.45	-0.88	0.63	Yes	-128	16,443
Ocean Avenue	e/o R Street	Principal Arterial	2180	578	769	0.75	-0.61	0.41	Yes	-191	36,395
Ocean Avenue	w/o R Street	Principal Arterial	1063	472	630	0.75	-0.57	0.44	Yes	-158	25,058
O Street	n/o Central Avenue	Collector	756	197	385	0.51	-0.94	0.52	Yes	-188	35,176
O Street	s/o Central Avenue	Minor Arterial	919	557	778	0.72	-0.69	0.41	Yes	-221	48,950
Central Avenue	e/o O Street	Principal Arterial	1597	914	1,242	0.74	-0.78	0.34	Yes	-328	107,830
Central Avenue	w/o O Street	Principal Arterial	917	638	913	0.70	-0.79	0.38	Yes	-275	75,867
O Street	n/o North Avenue	Minor Arterial	852	790	739	1.07	0.16	0.44	Yes	51	2,598
O Street	s/o North Avenue	Minor Arterial	2218	746	734	1.02	0.04	0.44	Yes	12	153
North Avenue	e/o O Street	Minor Arterial	865	593	440	1.35	0.67	0.52	Yes	153	23,466
North Avenue	w/o O Street	Minor Arterial	952	284	399	0.71	-0.55	0.52	Yes	-115	13,239
O Street	n/o Pine Avenue	Minor Arterial	812	746	777	0.96	-0.10	0.41	Yes	-31	947
O Street	s/o Pine Avenue	Minor Arterial	814	759	820	0.93	-0.18	0.41	Yes	-61	3,689
Pine Avenue	e/o O Street	Collector	806	175	347	0.50	-0.86	0.58	Yes	-172	29,725
Pine Avenue	w/o O Street	Collector	949	105	236	0.44	-0.88	0.63	Yes	-131	17,225
O Street	n/o College Avenue	Minor Arterial	805	763	833	0.92	-0.21	0.41	Yes	-70	4,950
O Street	s/o College Avenue	Minor Arterial	1130	753	763	0.99	-0.03	0.41	Yes	-10	100
College Avenue	e/o O Street	Minor Arterial	1134	242	522	0.46	-1.13	0.48	No	-280	78,416
College Avenue	w/o O Street	Minor Arterial	1407	175	328	0.53	-0.81	0.58	Yes	-153	23,516
O Street	n/o Laurel Avenue	Minor Arterial	1320	736	684	1.08	0.17	0.44	Yes	52	2,743
O Street	s/o Laurel Avenue	Minor Arterial	2303	598	691	0.87	-0.30	0.44	Yes	-93	8,598
Laurel Avenue	e/o O Street	Collector	1725	183	331	0.55	-0.78	0.58	Yes	-148	22,033
Laurel Avenue	w/o O Street	Collector	1404	567	424	1.34	0.65	0.52	Yes	143	20,531
O Street	n/o Ocean Avenue	Minor Arterial	1322	597	537	1.11	0.24	0.48	Yes	60	3,657
O Street	s/o Ocean Avenue	Collector	1156	418	380	1.10	0.19	0.52	Yes	38	1,420
Ocean Avenue	e/o O Street	Principal Arterial	1061	850	921	0.92	-0.20	0.38	Yes	-71	5,096
Ocean Avenue	w/o O Street	Principal Arterial	1062	601	828	0.73	-0.67	0.41	Yes	-227	51,372
I Street	n/o Ocean Avenue	Collector	1163	20	113	0.18	-1.20	0.68	No	-93	8,637
I Street	s/o Ocean Avenue	Collector	1162	115	126	0.91	-0.14	0.63	Yes	-11	131
Ocean Avenue	e/o I Street	Principal Arterial	1993	1,135	993	1.14	0.38	0.38	Yes	142	20,258
Ocean Avenue	w/o I Street	Principal Arterial	1056	1,041	906	1.15	0.39	0.38	Yes	135	18,156
I Street	n/o Olive Avenue	Minor Arterial	1959	218	193	1.13	0.21	0.63	Yes	25	631
I Street	s/o Olive Avenue	Minor Arterial	1373	163	213	0.76	-0.38	0.63	Yes	-50	2,550
Olive Avenue	e/o I Street	Collector	1961	172	221	0.78	-0.35	0.63	Yes	-49	2,437
Olive Avenue	w/o I Street	Collector	1376	170	233	0.73	-0.43	0.63	Yes	-63	3,990
H Street/Harris Grade Road	n/o Purisma Road/Cabrillo Highway	Principal Arterial	2345	1,059	787	1.35	0.84	0.41	Yes	272	74,223
H Street/Harris Grade Road	s/o Purisma Road/Cabrillo Highway	Principal Arterial	746	2,856	2,444	1.17	0.65	0.26	Yes	412	170,223
Purisma Road/Cabrillo Highway	e/o H Street/Harris Grade Road	Principal Arterial	744	534	677	0.79	-0.48	0.44	Yes	-143	20,387
Purisma Road/Cabrillo Highway	w/o H Street/Harris Grade Road	Principal Arterial	745	2,188	1,650	1.33	1.11	0.29	No	538	289,125
H Street	n/o Central Avenue	Principal Arterial	1	2,810	2,368	1.19	0.70	0.27	Yes	442	195,690
H Street	s/o Central Avenue	Principal Arterial	1628	1,758	1,889	0.93	-0.25	0.28	Yes	-131	17,036
Central Avenue	e/o H Street	Principal Arterial	100	1,133	1,258	0.90	-0.31	0.33	Yes	-125	15,722
Central Avenue	w/o H Street	Principal Arterial	923	1,571	1,473	1.07	0.21	0.31	Yes	98	9,617
H Street	n/o Barton Avenue	Principal Arterial	2	1,909	2,364	0.81	-0.73	0.27	Yes	-455	206,858
H Street	s/o Barton Avenue	Principal Arterial	1642	2,048	2,351	0.87	-0.49	0.27	Yes	-303	91,871
Barton Avenue	e/o H Street	Collector	299	71	191	0.37	-0.99	0.63	Yes	-120	14,299
Barton Avenue	w/o H Street	Collector	1013	235	378	0.62	-0.73	0.52	Yes	-143	20,514
H Street	n/o North Avenue	Principal Arterial	3	2,055	1,947	1.06	0.20	0.28	Yes	108	11,618
H Street	s/o North Avenue	Principal Arterial	1670	1,698	1,892	0.90	-0.37	0.28	Yes	-194	37,532
North Avenue	e/o H Street	Minor Arterial	295	702	589	1.19	0.40	0.48	Yes	113	12,702
North Avenue	w/o H Street	Minor Arterial	956	711	502	1.42	0.88	0.48	Yes	209	43,859
H Street	n/o Pine Avenue	Principal Arterial	5	1,747	1,963	0.89	-0.39	0.28	Yes	-216	46,532
H Street	s/o Pine Avenue	Principal Arterial	1691	1,744	1,777	0.98	-0.06	0.29	Yes	-33	1,061
Pine Avenue	e/o H Street	Collector	52	220	447	0.49	-0.98	0.52	Yes	-227	51,556
Pine Avenue	w/o H Street	Collector	925	250	561	0.45	-1.17	0.48	No	-311	96,504
H Street	n/o College Avenue	Principal Arterial	6	1,700	1,698	1.00	0.00	0.29	Yes	2	4
H Street	s/o College Avenue	Principal Arterial	1705	1,488	1,502	0.99	-0.03	0.30	Yes	-14	207
College Avenue	e/o H Street	Minor Arterial	40	326	537	0.61	-0.83	0.48	Yes	-211	44,379
College Avenue	w/o H Street	Minor Arterial	1141	307	783	0.39	-1.48	0.41	No	-476	226,740
H Street	n/o Laurel Avenue	Principal Arterial	8	1,410	1,634	0.86	-0.47	0.29	Yes	-224	50,367
H Street	s/o Laurel Avenue	Principal Arterial	9	1,298	1,556	0.83	-0.55	0.30	Yes	-258	66,787
Laurel Avenue	e/o H Street	Collector	77	114	161	0.71	-0.46	0.63	Yes	-47	2,192
Laurel Avenue	w/o H Street	Collector	1303	289	279	1.04	0.06	0.58	Yes	10	99
H Street	n/o Ocean Avenue	Principal Arterial	11	1,068	1,059	1.01	0.02	0.36	Yes	9	79
H Street	s/o Ocean Avenue	Collector	1070	143	383	0.37	-1.21	0.52	No	-240	57,681
Ocean Avenue	e/o H Street	Principal Arterial	12	1,467	1,132	1.30	0.87	0.34	Yes	335	112,158
Ocean Avenue	w/o H Street	Principal Arterial	1055	1,175	1,018	1.15	0.43	0.36	Yes	157	24,595
D Street	n/o North Avenue	Collector	615	220	435	0.51	-0.95	0.52	Yes	-215	46,058
D Street	s/o North Avenue	Collector	2110	160	307	0.52	-0.83	0.58	Yes	-147	21,631
North Avenue	e/o D Street	Minor Arterial	290	697	614	1.13	0.28	0.48	Yes	83	6,819
North Avenue	w/o D Street	Minor Arterial	292	693	548	1.26	0.56	0.48	Yes	145	20,983
A Street	n/o Central Avenue	Minor Arterial	637	90	160	0.56	-0.69	0.63	Yes	-70	4,863
A Street	s/o Central Avenue	Minor Arterial	109	700	835	0.84	-0.39	0.41	Yes	-135	18,175
Central Avenue	w/o A Street	Principal Arterial	2157	717	821	0.87	-0.31	0.41	Yes	-104	10,718
A Street	n/o North Avenue	Minor Arterial	284	652	662	0.98	-0.04	0.44	Yes	-10	108
A Street	s/o North Avenue	Minor Arterial	576	901	747	1.21	0.47	0.44	Yes	154	23,583
North Avenue	e/o A Street	Collector	287	354	407	0.87	-0.25	0.52	Yes	-53	2,774
North Avenue	w/o A Street	Minor Arterial	2108	669	548	1.22	0.47	0.48	Yes	121	14,722

Roadway	Segment	Functional Class	Model	Model	Traffic	Model	Model	Maximum	Within	Model	Difference	
			Link ID	Volume	Count	/Count	# Deviation	Deviation	Deviation	- Count	Squared	
Pine Avenue	e/o A Street	Collector	264	149	228	0.66	-0.55	0.63	Yes	-79	6,169	
Pine Avenue	w/o A Street	Collector	2116	158	222	0.71	-0.46	0.63	Yes	-64	4,100	
A Street	n/o College Avenue	Minor Arterial	245	952	645	1.48	1.08	0.44	No	307	94,371	
A Street	s/o College Avenue	Minor Arterial	235	1,011	669	1.51	1.16	0.44	No	342	117,148	
College Avenue	e/o A Street	Collector	243	239	382	0.63	-0.72	0.52	Yes	-143	20,508	
College Avenue	w/o A Street	Minor Arterial	242	327	396	0.83	-0.33	0.52	Yes	-69	4,747	
A Street	n/o Ocean Avenue	Minor Arterial	323	795	698	1.14	0.32	0.44	Yes	97	9,451	
A Street	s/o Ocean Avenue	Collector	351	341	427	0.80	-0.39	0.52	Yes	-86	7,477	
Ocean Avenue	e/o A Street	Principal Arterial	19	1,674	1,409	1.19	0.60	0.31	Yes	265	70,414	
Ocean Avenue	w/o A Street	Principal Arterial	18	1,307	1,304	1.00	0.01	0.33	Yes	3	10	
7th Street	n/o Laurel Avenue	Collector	156	367	506	0.73	-0.58	0.48	Yes	-139	19,307	
7th Street	s/o Laurel Avenue	Collector	412	323	326	0.99	-0.02	0.58	Yes	-3	11	
Laurel Avenue	e/o 7th Street	Collector	415	379	335	1.13	0.23	0.58	Yes	44	1,932	
Laurel Avenue	w/o 7th Street	Collector	349	17	117	0.15	-1.25	0.68	No	-100	9,956	
7th Street	n/o Ocean Avenue/SR-246	Collector	411	301	346	0.87	-0.22	0.58	Yes	-45	1,987	
7th Street	s/o Ocean Avenue/SR-246	Collector	391	519	313	1.66	1.15	0.58	No	206	42,600	
Ocean Avenue/SR-246	e/o 7th Street	Principal Arterial	22	1,680	1,380	1.22	0.69	0.31	Yes	300	89,821	
Ocean Avenue/SR-246	w/o 7th Street	Principal Arterial	1864	1,510	1,323	1.14	0.44	0.33	Yes	187	35,131	
12th Street/SR-1	n/o Ocean Avenue/SR-246	Collector	633	282	329	0.86	-0.25	0.58	Yes	-47	2,234	
12th Street/SR-1	s/o Ocean Avenue/SR-246	Principal Arterial	632	1,100	800	1.38	0.92	0.41	Yes	300	90,203	
Ocean Avenue/SR-246	e/o 12th Street/SR-1	Principal Arterial	23	928	938	0.99	-0.03	0.38	Yes	-10	96	
Ocean Avenue/SR-246	w/o 12th Street/SR-1	Principal Arterial	1872	1,668	1,293	1.29	0.89	0.33	Yes	375	140,257	
Subtotal			86,106	89,672					Model/Count Ratio = 0.96	89%	> 75%	
									Percent Within Caltrans Maximum Deviation = 25%	< 40%		
									Percent Root Mean Square Error = 0.95	> 0.88		

Appendix C:
Lompoc Area SBCAG TDF Model TAZ Map and Land Use Files



2002 SBCAG TDF Model Land Use Data

TAZ	ID	Population	Households	AgrEmpFull	ComEmpFull	IndEmpFull	OffEmpFull	SerEmpFull	TotalEmp	REGION	AGG_REG	CCDNAME
1	1	2734	1059	757	383	67	17	229	1453	1	CARPINTE	SC UNINCORPORAT
2	2	212	72	100	8	0	0	0	108	1	CARPINTE	SC UNINCORPORAT
3	3	84	29	0	19	8	0	0	27	1	CARPINTE	SC UNINCORPORAT
4	4	667	252	183	898	671	288	42	2082	1	CARPINTE	CARP CITY
5	5	1863	629	0	10	0	5	0	15	1	CARPINTE	CARP CITY
6	6	376	118	223	147	36	18	356	780	1	CARPINTE	CARP CITY
7	7	1833	589	4	15	5	2	386	412	1	CARPINTE	CARP CITY
8	8	2611	738	113	131	7	4	110	365	1	CARPINTE	CARP CITY
9	9	1287	448	197	247	30	62	59	595	1	CARPINTE	SC UNINCORPORAT
10	10	1405	550	27	376	541	59	334	1337	1	CARPINTE	CARP CITY
11	11	414	241	8	478	117	334	190	1127	1	CARPINTE	CARP CITY
12	12	2039	686	10	423	64	60	184	741	1	CARPINTE	CARP CITY
13	13	1578	638	0	59	0	9	62	130	1	CARPINTE	SC UNINCORPORAT
14	14	256	122	1	58	0	6	0	65	1	CARPINTE	SB CITY
15	15	517	245	354	152	3	7	14	530	1	CARPINTE	CARP CITY
16	16	1232	594	0	193	21	23	27	264	1	CARPINTE	SB CITY
17	17	1349	462	53	57	46	15	204	375	2	CUYAMA	NC UNINCORPORAT
18	18	1275	297	0	644	0	9	194	847	3	GUADALU	GUADALUPE CITY
19	19	1204	279	0	68	0	0	0	68	3	GUADALU	GUADALUPE CITY
20	20	1118	302	505	346	0	8	38	897	3	GUADALU	GUADALUPE CITY
21	21	495	135	308	156	33	6	75	578	3	GUADALU	NC UNINCORPORAT
22	22	1971	518	0	19	0	3	19	41	3	GUADALU	GUADALUPE CITY
23	23	723	269	19	13	0	1	6	39	4	LOMPOC	NC UNINCORPORAT
24	24	1265	524	26	77	9	26	139	277	4	LOMPOC	LOMPOC CITY
25	25	1253	582	32	131	0	30	949	1142	4	LOMPOC	LOMPOC CITY
26	26	229	93	0	0	3	0	1	4	4	LOMPOC	LOMPOC CITY
27	27	851	355	0	192	17	11	152	372	4	LOMPOC	LOMPOC CITY
28	28	529	216	3	0	3	4	12	22	4	LOMPOC	LOMPOC CITY
29	29	997	413	19	59	9	2	4	93	4	LOMPOC	LOMPOC CITY
30	30	1214	418	0	44	0	4	50	98	4	LOMPOC	LOMPOC CITY
31	31	454	138	19	73	40	8	85	225	4	LOMPOC	LOMPOC CITY
32	32	820	273	0	1	0	2	5	8	4	LOMPOC	LOMPOC CITY
33	33	871	285	2	118	25	29	501	675	4	LOMPOC	LOMPOC CITY
34	34	997	293	19	110	5	6	17	157	4	LOMPOC	LOMPOC CITY
35	35	696	299	38	318	34	98	360	848	4	LOMPOC	LOMPOC CITY
36	36	2197	572	5	120	16	25	69	235	4	LOMPOC	LOMPOC CITY
37	37	2160	676	63	131	141	43	311	689	4	LOMPOC	LOMPOC CITY
38	38	1125	309	19	107	45	0	159	330	4	LOMPOC	LOMPOC CITY
39	39	2098	742	0	12	13	10	214	249	4	LOMPOC	LOMPOC CITY
40	40	1059	325	7	22	3	0	43	75	4	LOMPOC	NC UNINCORPORAT
41	41	2274	713	1	0	2	1	32	36	4	LOMPOC	LOMPOC CITY
42	42	1460	692	46	215	3	30	237	531	4	LOMPOC	LOMPOC CITY
43	43	3472	1037	22	270	14	36	84	426	4	LOMPOC	LOMPOC CITY
44	44	2815	859	22	8	6	1	74	111	4	LOMPOC	LOMPOC CITY
45	45	1735	580	0	8	6	0	13	27	4	LOMPOC	LOMPOC CITY
46	46	892	295	31	262	0	35	255	583	4	LOMPOC	LOMPOC CITY
47	47	1787	777	5	745	188	35	343	1316	4	LOMPOC	LOMPOC CITY
48	48	2247	702	0	12	3	4	0	19	4	LOMPOC	LOMPOC CITY
49	49	895	338	165	25	287	8	15	500	4	LOMPOC	LOMPOC CITY
50	50	3	2	24	78	3	17	133	255	4	LOMPOC	LOMPOC CITY
51	51	548	191	1	363	3	9	135	511	4	LOMPOC	NC UNINCORPORAT
52	52	930	349	0	6	0	0	28	34	4	LOMPOC	LOMPOC CITY
53	53	2216	702	3	5	1	0	61	70	4	LOMPOC	NC UNINCORPORAT
54	54	1017	367	20	36	77	0	23	156	4	LOMPOC	NC UNINCORPORAT
55	55	3452	96	0	0	0	0	881	881	4	LOMPOC	LOMPOC CITY
56	56	990	362	401	97	471	3	64	1036	4	LOMPOC	NC UNINCORPORAT
57	57	76	32	0	0	0	0	0	0	4	LOMPOC	NC UNINCORPORAT
58	58	1470	595	4	75	5	8	226	318	1	SANTA BA	SC UNINCORPORAT
59	59	945	405	0	39	6	21	177	243	1	SANTA BA	SB CITY
60	60	876	351	77	334	74	165	146	796	1	SANTA BA	SB CITY
61	61	787	301	0	11	4	7	177	199	1	SANTA BA	SB CITY
62	62	1800	773	0	95	8	36	363	502	1	SANTA BA	SB CITY
63	63	676	367	1	11	2	12	189	215	1	SANTA BA	SB CITY
64	64	158	107	51	923	56	515	149	1694	1	SANTA BA	SB CITY
65	65	364	178	0	17	0	13	625	655	1	SANTA BA	SB CITY
66	66	338	120	0	0	5	9	3	17	1	SANTA BA	SB CITY
67	67	519	193	6	13	6	1	0	26	1	SANTA BA	SB CITY
68	68	2116	357	1	5	6	4	445	461	1	SANTA BA	SB CITY
69	69	165	66	0	1	0	3	0	4	1	SANTA BA	SC UNINCORPORAT
70	70	483	163	0	5	8	3	0	16	1	SANTA BA	SB CITY
71	71	3349	1377	18	41	19	17	337	432	1	SANTA BA	SB CITY
72	72	1267	514	15	20	8	16	124	183	1	SANTA BA	SB CITY
73	73	2294	910	1	34	63	27	56	181	1	SANTA BA	SB CITY
74	74	2063	922	0	36	18	51	264	369	1	SANTA BA	SB CITY
75	75	408	205	0	11	3	12	0	26	1	SANTA BA	SB CITY
76	76	1205	498	0	19	16	3	15	53	1	SANTA BA	SB CITY
77	77	601	275	1	62	18	5	290	376	1	SANTA BA	SB CITY
78	78	729	390	7	10	5	5	3	30	1	SANTA BA	SB CITY
79	79	2049	542	0	16	11	1	9	37	1	SANTA BA	SB CITY
80	80	5319	1410	23	114	164	35	280	616	1	SANTA BA	SB CITY
81	81	703	470	27	395	15	110	392	939	1	SANTA BA	SB CITY
82	82	1381	416	0	195	35	4	202	436	1	SANTA BA	SB CITY
83	83	1063	242	221	804	379	5	201	1610	1	SANTA BA	SB CITY
84	84	680	179	51	785	252	12	483	1583	1	SANTA BA	SB CITY
85	85	200	6	54	521	266	90	171	1102	1	SANTA BA	SB CITY
86	86	4	0	0	51	0	0	313	364	1	SANTA BA	SB CITY
87	87	26	13	227	1381	218	28	72	1926	1	SANTA BA	SB CITY
88	88	75	27	208	766	443	59	571	2047	1	SANTA BA	SB CITY
89	89	1112	452	0	162	156	101	296	715	1	SANTA BA	SB CITY
90	90	1013	501	2	121	77	123	199	522	1	SANTA BA	SB CITY
91	91	297	77	25	306	72	19	158	580	1	SANTA BA	SB CITY

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92	92	177	57	34	359	141	119	805	1458	1	SANTA BARBARA CITY
93	93	339	103	91	304	44	492	2354	3285	1	SANTA BARBARA CITY
94	94	76	51	164	1211	57	60	286	1778	1	SANTA BARBARA CITY
95	95	4	3	175	1812	565	383	1178	4113	1	SANTA BARBARA CITY
96	96	18	17	275	1804	83	731	1145	4038	1	SANTA BARBARA CITY
97	97	1563	483	112	693	62	41	234	1142	1	SANTA BARBARA CITY
98	98	1509	582	53	725	53	97	168	1096	1	SANTA BARBARA CITY
99	99	3207	1610	153	684	37	326	612	1812	1	SANTA BARBARA CITY
100	100	861	511	0	514	193	15	309	1031	1	SANTA BARBARA CITY
101	101	259	115	120	368	9	0	1681	2178	1	SANTA BARBARA CITY
102	102	3411	978	4	14	3	14	107	142	1	SANTA BARBARA CITY
103	103	2666	1243	7	184	41	80	243	555	1	SANTA BARBARA CITY
104	104	2174	983	1	50	20	9	12	92	1	SANTA BARBARA CITY
105	105	1818	718	136	289	27	40	136	628	1	SANTA BARBARA CITY
106	106	1258	690	5	91	16	115	82	309	1	SANTA BARBARA CITY
107	107	108	70	60	628	16	244	486	1434	1	SANTA BARBARA CITY
108	108	1802	842	1	108	6	35	383	533	1	SANTA BARBARA CITY
109	109	1087	500	70	28	43	36	250	427	1	SANTA BARBARA CITY
110	110	109	65	145	34	8	65	12	264	1	SANTA BARBARA CITY
111	111	598	248	3	17	0	2	160	182	1	SANTA BARBARA CITY
112	112	2538	1169	20	90	13	235	274	632	1	SANTA BARBARA CITY
113	113	1768	862	11	283	73	108	531	1006	1	SANTA BARBARA CITY
114	114	1514	613	40	58	6	51	5997	6152	1	SANTA BARBARA CITY
115	115	1266	598	5	146	19	62	32	264	1	SANTA BARBARA CITY
116	116	649	270	0	18	5	1	69	93	1	SANTA BARBARA CITY
117	117	988	459	4	18	38	77	117	254	1	SANTA BARBARA CITY
118	118	1691	664	20	238	25	39	288	610	1	SANTA BARBARA CITY
119	119	2020	772	0	18	30	4	4	56	1	SANTA BARBARA CITY
120	120	408	227	20	173	0	131	124	448	1	SANTA BARBARA CITY
121	121	355	192	72	526	100	56	135	889	1	SANTA BARBARA CITY
122	122	2020	947	1	8	17	17	190	233	1	SANTA BARBARA CITY
123	123	2041	964	187	1669	163	178	1067	3264	1	SANTA BARBARA CITY
124	124	51	44	68	1989	32	151	310	2550	1	SANTA BARBARA CITY
125	125	5129	1347	1	81	11	15	26	134	1	SANTA BARBARA CITY
126	126	4585	1519	20	165	6	21	274	486	1	SANTA BARBARA CITY
127	127	2751	1098	7	271	28	41	140	487	1	SANTA BARBARA CITY
128	128	3426	1297	54	26	37	13	12	142	1	SANTA BARBARA CITY
129	129	1513	549	6	7	24	8	24	69	1	SANTA BARBARA CITY
130	130	2784	1253	0	113	37	11	441	602	1	SANTA BARBARA CITY
131	131	797	313	4	68	15	5	1	93	1	SANTA BARBARA CITY
132	132	1856	754	97	14	26	13	189	339	1	SANTA BARBARA SC UNINCORPORATED
133	133	572	208	0	0	10	23	65	98	1	SANTA BARBARA SC UNINCORPORATED
134	134	154	107	0	309	18	94	62	483	1	SANTA BARBARA SC UNINCORPORATED
135	135	1913	714	5	32	42	16	299	394	1	SANTA BARBARA CITY
136	136	368	216	0	88	26	323	173	610	1	SANTA BARBARA CITY
137	137	1568	649	2	6	5	20	242	275	1	SANTA BARBARA CITY
138	138	1312	554	0	203	20	209	386	818	1	SANTA BARBARA CITY
139	139	758	301	8	10	14	3	37	72	1	SANTA BARBARA SC UNINCORPORATED
140	140	1604	594	54	31	46	13	294	438	1	SANTA BARBARA SC UNINCORPORATED
141	141	2365	1207	0	16	19	29	149	213	1	SANTA BARBARA SC UNINCORPORATED
142	142	376	144	0	3	0	0	1501	1504	1	SANTA BARBARA SC UNINCORPORATED
143	143	2297	815	1	153	22	52	976	1204	1	SANTA BARBARA SC UNINCORPORATED
144	144	1259	423	40	120	67	8	124	359	1	SANTA BARBARA SC UNINCORPORATED
145	145	531	144	0	2	1	7	280	290	1	SANTA BARBARA SC UNINCORPORATED
146	146	875	297	1	264	0	5	0	270	1	SANTA BARBARA SC UNINCORPORATED
147	147	2416	661	30	26	9	22	190	277	1	SANTA BARBARA SC UNINCORPORATED
148	148	1224	454	18	105	0	10	5	138	1	SANTA BARBARA SC UNINCORPORATED
149	149	2846	982	5	130	15	33	148	331	1	SANTA BARBARA SC UNINCORPORATED
150	150	1987	764	0	167	10	24	60	261	1	SANTA BARBARA SC UNINCORPORATED
151	151	1142	431	1	10	10	5	0	26	1	SANTA BARBARA SC UNINCORPORATED
152	152	2224	914	0	31	7	12	88	138	1	SANTA BARBARA GOLETA CITY
153	153	1082	433	37	916	3	189	471	1616	1	SANTA BARBARA GOLETA CITY
154	154	1438	472	8	129	5	78	241	461	1	SANTA BARBARA SC UNINCORPORATED
155	155	636	289	104	262	149	167	575	1257	1	SANTA BARBARA GOLETA CITY
156	156	3666	1259	224	529	76	65	228	1122	1	SANTA BARBARA GOLETA CITY
157	157	3284	1032	5	212	62	18	71	368	1	SANTA BARBARA SC UNINCORPORATED
158	158	541	252	0	638	741	507	1509	3395	1	SANTA BARBARA SC UNINCORPORATED
159	159	649	297	318	1430	1021	119	246	3134	1	SANTA BARBARA GOLETA CITY
160	160	791	281	101	88	39	8	0	236	1	SANTA BARBARA SC UNINCORPORATED
161	161	4070	1410	80	43	12	11	426	572	1	SANTA BARBARA GOLETA CITY
162	162	54	21	3	461	5	98	43	610	1	SANTA BARBARA GOLETA CITY
163	163	8	4	0	7	63	1	46	117	1	SANTA BARBARA GOLETA CITY
164	164	15	7	125	1921	656	1061	35	3798	1	SANTA BARBARA GOLETA CITY
165	165	2745	6	190	1225	124	8	488	2035	1	SANTA BARBARA CITY
166	166	1	1	0	43	0	0	8828	8871	1	SANTA BARBARA CITY
167	167	5	1	0	0	0	3	131	134	1	SANTA BARBARA GOLETA CITY
168	168	6	0	498	289	2405	246	361	3799	1	SANTA BARBARA GOLETA CITY
169	169	3224	673	607	899	210	13	222	1951	1	SANTA BARBARA CITY
170	170	5622	1424	0	632	11	35	197	875	1	SANTA BARBARA CITY
171	171	5032	1575	0	1	0	44	126	171	1	SANTA BARBARA CITY
172	172	4026	1267	0	0	5	23	538	566	1	SANTA BARBARA CITY
173	173	121	39	3	2	1	0	120	126	1	SANTA BARBARA GOLETA CITY
174	174	5452	1661	5	85	39	12	159	300	1	SANTA BARBARA GOLETA CITY
175	175	374	130	81	116	211	16	46	470	1	SANTA BARBARA GOLETA CITY
176	176	393	195	177	2	443	0	85	707	1	SANTA BARBARA GOLETA CITY
177	177	10	4	200	21	0	0	889	1110	1	SANTA BARBARA GOLETA CITY
178	178	2591	1042	0	289	12	9	46	356	1	SANTA BARBARA GOLETA CITY
179	179	2025	798	0	18	22	8	0	48	1	SANTA BARBARA GOLETA CITY
180	180	2886	1079	50	72	2	12	7	143	1	SANTA BARBARA GOLETA CITY
181	181	1842	587	76	63	21	15	196	371	1	SANTA BARBARA SC UNINCORPORATED
182	182	722	300	0	14	12	8	29	63	1	SANTA BARBARA SC UNINCORPORATED
183	183	7	4	0	0	0	0	0	0	1	SANTA BARBARA SC UNINCORPORATED

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184	184	287	95	0	1	0	0	0	1	1	SANTA BA	SC UNINCORPORAT
185	185	765	254	8	25	0	0	5	38	1	SANTA BA	SC UNINCORPORAT
186	186	104	36	546	190	122	0	42	900	3	SANTA MA	NC UNINCORPORAT
187	187	4816	1587	0	70	6	10	154	240	3	SANTA MA	SANTA MARIA CITY
188	188	2796	809	26	396	35	7	425	889	3	SANTA MA	SANTA MARIA CITY
189	189	2587	721	13	5	11	0	153	182	3	SANTA MA	SANTA MARIA CITY
190	190	4886	977	0	7	10	0	224	241	3	SANTA MA	SANTA MARIA CITY
191	191	1565	369	26	53	24	0	53	156	3	SANTA MA	SANTA MARIA CITY
192	192	1902	461	95	227	1	10	137	470	3	SANTA MA	SANTA MARIA CITY
193	193	2169	746	0	10	8	9	149	176	3	SANTA MA	SANTA MARIA CITY
194	194	5045	1063	37	410	25	109	313	894	3	SANTA MA	SANTA MARIA CITY
195	195	949	336	23	509	5	22	289	848	3	SANTA MA	SANTA MARIA CITY
196	196	1188	482	60	935	37	77	628	1737	3	SANTA MA	SANTA MARIA CITY
197	197	2821	1058	144	416	54	101	557	1272	3	SANTA MA	SANTA MARIA CITY
198	198	4323	1606	49	209	7	47	829	1141	3	SANTA MA	NC UNINCORPORAT
199	199	1583	490	60	219	106	3	84	472	3	SANTA MA	SANTA MARIA CITY
200	200	2843	1123	24	173	21	120	762	1100	3	SANTA MA	SANTA MARIA CITY
201	201	1370	481	0	143	20	8	225	396	3	SANTA MA	SANTA MARIA CITY
202	202	1618	268	282	1211	152	205	1255	3105	3	SANTA MA	SANTA MARIA CITY
203	203	1198	277	40	321	8	48	502	919	3	SANTA MA	SANTA MARIA CITY
204	204	4837	1074	46	607	71	23	414	1161	3	SANTA MA	SANTA MARIA CITY
205	205	2014	628	770	1073	448	27	187	2505	3	SANTA MA	NC UNINCORPORAT
206	206	3375	724	42	561	22	109	653	1387	3	SANTA MA	SANTA MARIA CITY
207	207	2017	793	43	517	13	124	778	1475	3	SANTA MA	SANTA MARIA CITY
208	208	2	1	0	83	4	22	0	109	3	SANTA MA	NC UNINCORPORAT
209	209	6685	1698	44	398	48	140	400	1030	3	SANTA MA	SANTA MARIA CITY
210	210	728	263	698	406	44	11	46	1205	3	SANTA MA	NC UNINCORPORAT
211	211	0	0	4	6	0	0	734	744	3	SANTA MA	NC UNINCORPORAT
212	212	2815	1033	247	742	88	393	1662	3132	3	SANTA MA	SANTA MARIA CITY
213	213	3015	1253	4	139	12	13	146	314	3	SANTA MA	SANTA MARIA CITY
214	214	129	91	27	711	414	78	141	1371	3	SANTA MA	SANTA MARIA CITY
215	215	239	96	40	122	817	168	81	1228	3	SANTA MA	SANTA MARIA CITY
216	216	1869	699	10	141	6	88	324	569	3	SANTA MA	SANTA MARIA CITY
217	217	430	100	0	162	839	38	260	1299	3	SANTA MA	SANTA MARIA CITY
218	218	2155	491	6	97	9	1	82	195	3	SANTA MA	NC UNINCORPORAT
219	219	1070	337	24	405	11	34	246	720	3	SANTA MA	SANTA MARIA CITY
220	220	1642	648	5	335	25	18	18	401	3	SANTA MA	SANTA MARIA CITY
221	221	3357	1087	180	47	28	9	301	565	3	SANTA MA	SANTA MARIA CITY
222	222	1202	387	1	23	5	1	0	30	3	SANTA MA	SANTA MARIA CITY
223	223	1864	776	24	19	0	6	84	133	3	SANTA MA	SANTA MARIA CITY
224	224	2886	940	1	25	20	1	5	52	3	SANTA MA	SANTA MARIA CITY
225	225	2438	801	4	16	11	0	10	41	3	SANTA MA	SANTA MARIA CITY
226	226	3035	1117	0	19	20	13	14	66	3	SANTA MA	SANTA MARIA CITY
227	227	1834	600	2	134	8	25	155	324	3	SANTA MA	SANTA MARIA CITY
228	228	1186	389	0	167	0	11	87	265	3	SANTA MA	SANTA MARIA CITY
229	229	2244	777	18	54	5	49	40	166	3	SANTA MA	SANTA MARIA CITY
230	230	975	409	3	191	7	41	211	453	3	SANTA MA	SANTA MARIA CITY
231	231	2362	980	6	99	19	62	160	346	3	SANTA MA	SANTA MARIA CITY
232	232	1189	363	116	177	478	4	126	901	3	SANTA MA	NC UNINCORPORAT
233	233	1	1	0	389	182	29	338	938	3	SANTA MA	SANTA MARIA CITY
234	234	1465	665	110	1215	79	135	1334	2873	3	SANTA MA	SANTA MARIA CITY
235	235	42	0	0	0	0	0	263	263	3	SANTA MA	SANTA MARIA CITY
236	236	0	0	10	0	0	0	0	10	3	SANTA MA	NC UNINCORPORAT
237	237	7100	1451	24	120	4	2	76	226	3	SANTA MA	SANTA MARIA CITY
238	238	283	87	657	582	401	3	149	1792	3	SANTA MA	NC UNINCORPORAT
239	239	525	173	0	0	7	0	48	55	3	SANTA MA	SANTA MARIA CITY
240	240	171	71	2	1	1	5	2	11	2	SANTA YN	NC UNINCORPORAT
241	241	459	174	29	50	41	28	70	218	2	SANTA YN	NC UNINCORPORAT
242	242	138	46	51	65	8	0	2	126	2	SANTA YN	NC UNINCORPORAT
243	243	987	381	75	132	63	17	104	391	2	SANTA YN	NC UNINCORPORAT
244	244	1009	375	16	32	33	19	93	193	2	SANTA YN	SOLVANG CITY
245	245	3033	1063	26	328	47	89	658	1148	2	SANTA YN	SOLVANG CITY
246	246	655	215	4	623	100	19	569	1315	2	SANTA YN	NC UNINCORPORAT
247	247	1702	532	139	271	40	24	205	679	2	SANTA YN	NC UNINCORPORAT
248	248	1600	735	31	154	223	38	72	518	2	SANTA YN	BUPELLTON CITY
249	249	623	218	7	23	18	1	472	521	2	SANTA YN	NC UNINCORPORAT
250	250	960	372	6	103	9	327	268	713	2	SANTA YN	SOLVANG CITY
251	251	2071	766	4	381	38	136	434	993	2	SANTA YN	SOLVANG CITY
252	252	292	167	0	61	58	6	1	126	2	SANTA YN	SOLVANG CITY
253	253	1029	460	30	654	36	65	266	1051	2	SANTA YN	SOLVANG CITY
254	254	883	361	50	232	13	55	262	612	2	SANTA YN	SOLVANG CITY
255	255	210	110	3	46	52	0	285	386	2	SANTA YN	NC UNINCORPORAT
256	256	2100	721	18	104	219	10	84	435	2	SANTA YN	NC UNINCORPORAT
257	257	1491	578	57	154	68	52	121	452	2	SANTA YN	NC UNINCORPORAT
258	258	924	360	22	44	2	2	268	338	2	SANTA YN	NC UNINCORPORAT
259	259	887	327	1	148	7	8	109	273	2	SANTA YN	NC UNINCORPORAT
260	260	623	220	11	89	10	0	119	229	2	SANTA YN	SOLVANG CITY
261	261	1541	528	0	11	3	0	58	72	4	LOMPOC	LOMPOC CITY
262	262	110	48	0	0	0	0	38	38	4	LOMPOC	NC UNINCORPORAT
263	263	3329	1363	40	186	5	101	140	472	4	LOMPOC	LOMPOC CITY
264	264	0	0	0	0	0	0	0	0	4	LOMPOC	NC UNINCORPORAT
265	265	6151	1707	36	27	157	7	7108	7335	4	LOMPOC	LOMPOC CITY
266	266	1	0	276	9	15	0	218	518	4	LOMPOC	NC UNINCORPORAT
267	267	834	368	0	6	0	3	92	101	4	LOMPOC	NC UNINCORPORAT
268	268	0	0	0	0	0	0	1126	1126	4	LOMPOC	NC UNINCORPORAT
301	269	0	0	0	0	0	0	0	0	5	SLO	SLO
302	270	0	0	0	0	0	0	0	0	5	SLO	SLO
303	271	0	0	0	0	0	0	0	0	5	SLO	SLO
304	272	0	0	0	0	0	0	0	0	5	SLO	SLO
305	273	0	0	0	0	0	0	0	0	5	SLO	SLO
401	274	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA
402	275	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA

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403	276	0	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA
404	277	0	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA
405	278	0	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA
406	279	0	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA
407	280	0	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA
408	281	0	0	0	0	0	0	0	0	0	5	VENTURA	VENTURA

TAZ	ID	Population	Households	AgrEmpFull	ComEmpFull	IndEmpFull	OffEmpFull	SerEmpFull	TotalEmp	REGION	AGGR	AGG REGION NAME	CCDNAME	TAZINDEX
1	1	3459	1250	2978	449	145	16	315	3905	1	4	CARPINTERIA	SC UNINCORPORATE	SOUTH OF CBD
2	2	267	84	103	9	0	0	0	113	1	4	CARPINTERIA	SC UNINCORPORATE	SOUTH OF CBD
3	3	105	34	0	22	17	0	0	39	1	4	CARPINTERIA	SC UNINCORPORATE	SOUTH OF CBD
4	4	947	341	411	1197	1531	426	201	3768	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
5	5	2099	666	0	11	0	4	0	16	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
6	6	423	125	231	172	78	17	489	989	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
7	7	2065	624	4	17	10	1	531	565	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
8	8	3292	868	117	153	15	3	151	441	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
9	9	1622	527	264	329	84	99	120	898	1	4	CARPINTERIA	SC UNINCORPORATE	SOUTH OF CBD
10	10	1583	583	27	441	1177	57	459	2163	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
11	11	466	255	8	560	254	327	261	1412	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
12	12	2297	727	10	496	139	58	253	957	1	1	CARPINTERIA	CARP CITY	SOUTH OF CBD
13	13	1778	676	0	69	0	8	85	163	1	4	CARPINTERIA	SC UNINCORPORATE	SOUTH OF CBD
14	14	322	143	1	68	0	5	0	74	1	2	CARPINTERIA	SB CITY	SOUTH OF CBD
15	15	651	288	366	178	6	6	19	577	1	1	CARPINTERIA	CARP CITY	
16	16	1553	699	0	226	45	22	37	331	1	2	CARPINTERIA	SB CITY	
17	17	2316	543	54	66	100	14	280	517	2	10	CUYAMA	NC UNINCORPORATE	
18	18	911	341	0	755	0	8	266	1031	3	9	GUADALUPE	GUADALUPE CITY	NORTH OF CBD
19	19	1535	320	0	79	0	0	0	79	3	9	GUADALUPE	GUADALUPE CITY	NORTH OF CBD
20	20	1521	347	523	406	0	7	52	989	3	9	GUADALUPE	GUADALUPE CITY	NORTH OF CBD
21	21	624	158	319	183	71	5	103	683	3	10	GUADALUPE	NC UNINCORPORATE	NORTH OF CBD
22	22	2316	595	0	22	0	2	26	51	3	9	GUADALUPE	GUADALUPE CITY	NORTH OF CBD
23	23	1904	316	19	15	0	0	8	44	4	10	LOMPOC	NC UNINCORPORATE	NORTH OF CBD
24	24	2626	606	26	90	19	25	191	353	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
25	25	1773	673	33	153	0	29	1305	1522	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
26	26	278	107	0	0	6	0	1	7	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
27	27	1033	410	0	225	36	10	209	482	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
28	28	642	249	3	0	6	3	16	30	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
29	29	1270	499	19	69	19	1	5	115	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
30	30	1743	568	0	51	0	3	68	124	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
31	31	1595	459	0	175	132	97	206	610	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
32	32	995	315	0	1	0	1	6	10	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
33	33	1057	329	2	138	54	28	689	912	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
34	34	1210	339	19	129	10	5	23	188	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
35	35	845	346	39	373	73	95	495	1077	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
36	36	2667	661	5	140	34	24	94	300	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
37	37	2622	782	65	153	306	42	427	995	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
38	38	1365	357	19	125	97	0	218	461	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
39	39	2547	858	0	14	28	9	294	346	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
40	40	2383	743	7	25	6	0	59	98	4	10	LOMPOC	NC UNINCORPORATE	NORTH OF CBD
41	41	2760	825	1	0	4	0	44	50	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
42	42	1772	800	47	252	6	29	326	661	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
43	43	4215	1200	22	316	30	35	115	520	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
44	44	3417	994	22	9	13	0	101	148	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
45	45	2187	682	0	9	13	0	17	40	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
46	46	1082	341	32	307	0	34	350	724	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
47	47	2169	899	5	874	409	34	471	1794	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
48	48	2728	812	0	14	6	3	0	24	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
49	49	2160	757	195	29	300	7	20	552	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
50	50	3	2	134	91	6	16	249	497	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
51	51	665	221	1	425	6	8	185	628	4	10	LOMPOC	NC UNINCORPORATE	NORTH OF CBD
52	52	1523	937	0	7	0	0	38	45	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
53	53	2794	826	3	5	2	0	83	95	4	10	LOMPOC	NC UNINCORPORATE	NORTH OF CBD
54	54	1282	431	20	42	167	0	31	262	4	10	LOMPOC	NC UNINCORPORATE	NORTH OF CBD
55	55	4191	111	0	0	0	0	1212	1212	4	5	LOMPOC	LOMPOC CITY	NORTH OF CBD
56	56	1248	426	415	113	1024	2	88	1645	4	10	LOMPOC	NC UNINCORPORATE	NORTH OF CBD
57	57	95	37	0	0	0	0	0	0	4	10	LOMPOC	NC UNINCORPORATE	NORTH OF CBD
58	58	1853	700	4	88	10	7	310	421	1	4	SANTA BARBARA	SC UNINCORPORATE	
59	59	1191	476	0	45	13	20	243	322	1	2	SANTA BARBARA	SB CITY	
60	60	1104	413	85	395	163	165	204	1015	1	2	SANTA BARBARA	SB CITY	
61	61	992	354	0	12	8	6	243	272	1	2	SANTA BARBARA	SB CITY	
62	62	2269	909	0	111	17	35	499	663	1	2	SANTA BARBARA	SB CITY	
63	63	852	431	1	12	4	11	260	290	1	2	SANTA BARBARA	SB CITY	
64	64	199	125	52	1083	121	504	205	1967	1	2	SANTA BARBARA	SB CITY	
65	65	459	209	129	103	42	96	944	1315	1	2	SANTA BARBARA	SB CITY	
66	66	426	141	0	0	10	8	4	23	1	2	SANTA BARBARA	SB CITY	
67	67	654	227	6	15	13	0	0	35	1	2	SANTA BARBARA	SB CITY	
68	68	2668	420	1	5	13	3	612	636	1	2	SANTA BARBARA	SB CITY	
69	69	208	77	0	1	0	2	0	4	1	4	SANTA BARBARA	SC UNINCORPORATE	
70	70	548	171	0	5	17	2	0	26	1	2	SANTA BARBARA	SB CITY	
71	71	3801	1448	18	48	41	16	463	588	1	2	SANTA BARBARA	SB CITY	CBD
72	72	1438	540	15	23	17	15	170	242	1	2	SANTA BARBARA	SB CITY	CBD
73	73	2603	957	1	39	137	26	77	281	1	2	SANTA BARBARA	SB CITY	CBD
74	74	2341	969	0	42	39	49	363	494	1	2	SANTA BARBARA	SB CITY	CBD
75	75	463	215	18	24	12	23	12	91	1	2	SANTA BARBARA	SB CITY	CBD
76	76	1367	523	0	22	34	2	20	80	1	2	SANTA BARBARA	SB CITY	CBD
77	77	682	289	1	72	39	4	399	516	1	2	SANTA BARBARA	SB CITY	CBD
78	78	827	410	7	11	10	4	4	38	1	2	SANTA BARBARA	SB CITY	CBD
79	79	2325	570	0	18	23	0	12	56	1	2	SANTA BARBARA	SB CITY	CBD
80	80	6037	1483	23	133	356	34	385	934	1	2	SANTA BARBARA	SB CITY	CBD
81	81	797	494	27	463	32	107	539	1171	1	2	SANTA BARBARA	SB CITY	CBD
82	82	1567	437	0	228	76	3	277	586	1	2	SANTA BARBARA	SB CITY	CBD
83	83	1206	254	229	943	824	4	276	2278	1	2	SANTA BARBARA	SB CITY	CBD
84	84	771	188	52	921	548	11	664	2198	1	2	SANTA BARBARA	SB CITY	CBD
85	85	227	6	151	673	609	150	297	1881	1	2	SANTA BARBARA	SB CITY	CBD
86	86	4	0	78	111	25	51	481	748	1	2	SANTA BARBARA	SB CITY	CBD
87	87	124	53	235	1620	474	27	99	2456	1	2	SANTA BARBARA	SB CITY	CBD
88	88	146	48	215	898	963	57	785	2921	1	2	SANTA BARBARA	SB CITY	CBD
89	89	1262	475	0	190	339	98	407	1035	1	2	SANTA BARBARA	SB CITY	CBD
90	90	1149	527	2	141	167	120	273	705	1	2	SANTA BARBARA	SB CITY	CBD
91	91	337	81	25	359	156	18	217	777	1	2	SANTA BARBARA	SB CITY	CBD
92	92	200	59	35	421	306	116	1107	1987	1	2	SANTA BARBARA	SB CITY	CBD
93	93	384	108	94	356	95	481	3239	4267	1	2	SANTA BARBARA	SB CITY	CBD
94	94	133	77	179	1427	127	64	399	2197	1	2	SANTA BARBARA	SB CITY	CBD
95	95	4	3	181	2126	1229	375	1621	5532	1	2	SANTA BARBARA	SB CITY	CBD
96	96	20	17	330	2146	195	745	1605	5022	1	2	SANTA BARBARA	SB CITY	CBD
97	97	1839	528	116	813	134	40	321	1426	1	2	SANTA BARBARA	SB CITY	CBD
98	98	1833	654	54	850	115	94	231	1347	1	2	SANTA BARBARA	SB CITY	CBD
99	99	3640	1693	158	802	80	319	842	2203	1	2	SANTA BARBARA	SB CITY	CBD
100	100	1214	649	0	603	419	14	425	1462	1	2	SANTA BARBARA	SB CITY	CBD
101	101	293	120	124	431	19	0	2313	2888	1	2	SANTA BARBARA	SB CITY	CBD
102	102	3871	1028	4	16	6	13	147	188	1	2	SANTA BARBARA	SB CITY	CBD
103	103	3026	1307	7	215	89	78	334	725	1	2	SANTA BARBARA	SB CITY	CBD
104	104	2467	1034	1	58	43	8	16	128	1	2	SANTA BARBARA	SB CITY	CBD
105	105	2063	755	140	339	58	39	187	765	1	2	SANTA BARBARA	SB CITY	CBD
106	106	1427	725	5	106	34	112	112						

124	124	57	46	70	2333	69	147	426	3048	1	2	SANTA BARBARA	SB CITY	CBD
125	125	5741	1397	1	95	23	14	35	170	1	2	SANTA BARBARA	SB CITY	CBD
126	126	5138	1578	20	193	13	20	377	625	1	2	SANTA BARBARA	SB CITY	CBD
127	127	3122	1155	7	318	60	40	192	618	1	2	SANTA BARBARA	SB CITY	CBD
128	128	3888	1364	55	30	80	12	16	196	1	2	SANTA BARBARA	SB CITY	CBD
129	129	1717	577	6	8	52	7	33	107	1	2	SANTA BARBARA	SB CITY	CBD
130	130	3190	1331	0	132	80	10	606	830	1	2	SANTA BARBARA	SB CITY	CBD
131	131	1026	372	4	79	32	4	1	122	1	2	SANTA BARBARA	SB CITY	CBD
132	132	2094	807	100	16	56	12	260	446	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
133	133	713	244	0	0	21	22	89	133	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
134	134	192	125	0	362	39	92	85	579	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
135	135	2246	780	5	37	91	15	411	561	1	2	SANTA BARBARA	SB CITY	CBD
136	136	430	233	2	104	57	317	239	722	1	2	SANTA BARBARA	SB CITY	CBD
137	137	1956	749	2	7	10	19	333	372	1	2	SANTA BARBARA	SB CITY	CBD
138	138	1489	582	0	238	43	204	531	1017	1	2	SANTA BARBARA	SB CITY	CBD
139	139	987	362	8	11	30	2	50	104	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
140	140	2138	731	58	37	100	14	406	617	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
141	141	3342	1563	0	18	41	28	205	293	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
142	142	871	306	0	3	0	0	2065	2068	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
143	143	2866	940	1	179	47	50	1343	1622	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
144	144	1571	488	41	140	145	7	170	506	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
145	145	662	166	0	2	2	6	385	396	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
146	146	1092	342	1	309	0	4	0	315	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
147	147	2822	713	31	30	19	21	261	364	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
148	148	1699	582	18	123	0	9	6	158	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
149	149	3580	1142	5	152	32	32	203	426	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
150	150	2479	881	0	195	21	23	82	323	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
151	151	1674	582	1	11	21	4	0	39	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
152	152	2638	1005	0	36	15	11	121	184	1	3	SANTA BARBARA	GOLETA CITY	CBD
153	153	1350	499	38	1074	6	185	648	1952	1	3	SANTA BARBARA	GOLETA CITY	CBD
154	154	1794	544	8	151	10	76	331	578	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
155	155	793	333	107	307	324	163	791	1694	1	3	SANTA BARBARA	GOLETA CITY	CBD
156	156	4575	1453	232	620	165	63	313	1395	1	3	SANTA BARBARA	GOLETA CITY	CBD
157	157	4098	1191	25	261	141	30	110	570	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
158	158	675	290	121	827	1651	575	2155	5332	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
159	159	809	342	329	1678	2221	116	338	4684	1	3	SANTA BARBARA	GOLETA CITY	CBD
160	160	987	324	104	103	84	7	0	300	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
161	161	4765	1527	82	50	26	10	586	756	1	3	SANTA BARBARA	GOLETA CITY	CBD
162	162	67	24	3	540	10	95	59	710	1	3	SANTA BARBARA	GOLETA CITY	CBD
163	163	9	4	0	8	137	0	63	209	1	3	SANTA BARBARA	GOLETA CITY	CBD
164	164	392	158	277	2350	1475	1134	144	5381	1	3	SANTA BARBARA	GOLETA CITY	CBD
165	165	3461	7	0	1461	281	31	934	2704	1	2	SANTA BARBARA	SB CITY	CBD
166	166	1	1	0	50	0	0	12147	12198	1	2	SANTA BARBARA	SB CITY	CBD
167	167	6	1	0	0	0	2	180	183	1	3	SANTA BARBARA	GOLETA CITY	CBD
168	168	550	200	516	339	5232	240	496	6825	1	3	SANTA BARBARA	GOLETA CITY	CBD
169	169	4065	792	0	1684	456	12	305	2459	1	2	SANTA BARBARA	SB CITY	CBD
170	170	6472	1475	0	741	23	34	271	1070	1	2	SANTA BARBARA	SB CITY	CBD
171	171	5667	1653	0	1	0	43	173	217	1	2	SANTA BARBARA	SB CITY	CBD
172	172	4475	1311	0	0	10	22	740	773	1	2	SANTA BARBARA	SB CITY	CBD
173	173	151	45	3	2	2	0	165	172	1	3	SANTA BARBARA	GOLETA CITY	CBD
174	174	6804	1917	5	99	84	11	218	420	1	3	SANTA BARBARA	GOLETA CITY	CBD
175	175	1094	350	83	136	459	15	63	758	1	3	SANTA BARBARA	GOLETA CITY	CBD
176	176	967	425	183	2	963	0	116	1266	1	3	SANTA BARBARA	GOLETA CITY	CBD
177	177	12	4	207	24	0	0	1223	1455	1	3	SANTA BARBARA	GOLETA CITY	CBD
178	178	3233	1202	0	339	26	8	63	437	1	3	SANTA BARBARA	GOLETA CITY	CBD
179	179	3919	1434	0	21	47	7	0	76	1	3	SANTA BARBARA	GOLETA CITY	CBD
180	180	4026	1400	51	84	4	11	9	162	1	3	SANTA BARBARA	GOLETA CITY	CBD
181	181	2505	744	84	77	47	18	273	502	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
182	182	910	353	0	16	26	7	39	90	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
183	183	8	4	0	0	0	0	0	0	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
184	184	361	111	0	1	0	0	0	1	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
185	185	954	293	8	29	0	0	6	44	1	4	SANTA BARBARA	SC UNINCORPORATE	CBD
186	186	131	42	565	222	265	0	57	1111	3	10	SANTA MARIA	NC UNINCORPORATE	NORTH_OF_CBD
187	187	7074	2180	7	86	15	14	216	341	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
188	188	4107	1111	26	464	76	6	584	1159	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
189	189	3800	990	13	5	23	0	210	253	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
190	190	6666	1242	0	8	21	0	308	338	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
191	191	2298	506	26	62	52	0	72	214	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
192	192	2794	633	98	266	2	9	188	565	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
193	193	2878	924	0	11	17	8	205	242	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
194	194	6438	1260	38	481	54	106	430	1111	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
195	195	1394	461	23	597	10	21	397	1051	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
196	196	1745	662	62	1097	80	75	864	2179	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
197	197	3563	1253	149	488	117	98	766	1620	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
198	198	6350	2206	50	245	15	46	1140	1498	3	10	SANTA MARIA	NC UNINCORPORATE	NORTH_OF_CBD
199	199	3490	1009	62	256	230	2	115	668	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
200	200	3623	1342	24	203	45	117	1048	1439	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
201	201	2012	660	0	167	43	7	309	528	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
202	202	2376	368	292	1421	330	200	1726	3971	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
203	203	1759	380	41	376	17	47	690	1173	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
204	204	6522	1349	47	712	154	22	569	1506	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
205	205	4129	1202	837	1285	987	52	283	3446	3	10	SANTA MARIA	NC UNINCORPORATE	NORTH_OF_CBD
206	206	4957	994	43	658	47	106	898	1754	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
207	207	2962	1089	44	606	28	121	1070	1871	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
208	208	2	1	0	97	8	21	0	127	3	10	SANTA MARIA	NC UNINCORPORATE	NORTH_OF_CBD
209	209	8585	2032	45	467	104	137	550	1304	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
210	210	918	309	723	476	95	10	63	1369	3	10	SANTA MARIA	NC UNINCORPORATE	NORTH_OF_CBD
211	211	1655	539	4	7	0	0	1010	1021	3	10	SANTA MARIA	NC UNINCORPORATE	NORTH_OF_CBD
212	212	4135	1419	311	906	209	420	2323	4171	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
213	213	3802	1474	4	163	26	12	200	406	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
214	214	576	325	97	879	923	121	239	2261	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
215	215	1189	431	179	232	1822	254	201	2689	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
216	216	3074	1072	10	165	13	86	445	720	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
217	217	631	137	0	190	1825	37	357	2410	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
218	218	2717	577	6	113	19	0	112	253	3	10	SANTA MARIA	NC UNINCORPORATE	NORTH_OF_CBD
219	219	1571	462	24	475	23	33	338	895	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
220	220	2231	819	5	393	54	17	24	495	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
221	221	4233	1279	186	55	60	8	414	725	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
222	222	1515	455	1	26	10	0	0	39	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
223	223	2350	913	24	22	0	5	115	168	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
224	224	3639	1106	1	29	43	0	6	81	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
225	225	3097	949	4	18	23	0	13	60	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
226	226	3827	1314	0	22	43	12	19	97	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD
227	227	2312	706	69	401	39	68	257	836	3	8	SANTA MARIA	SANTA MARIA CITY	NORTH_OF_CBD

248	248	2484	1110	32	180	485	37	99	834	2	7	SANTA YNEZ	BUELLTON CITY	NORTH_OF_CBD
249	249	785	256	33	43	47	17	666	808	2	10	SANTA YNEZ	NC UNINCORPORATE	NORTH_OF_CBD
250	250	1141	437	6	120	19	320	368	835	2	6	SANTA YNEZ	SOLVANG CITY	NORTH_OF_CBD
251	251	2461	900	19	457	87	143	607	1314	2	6	SANTA YNEZ	SOLVANG CITY	NORTH_OF_CBD
252	252	790	400	0	71	106	5	1	185	2	6	SANTA YNEZ	SOLVANG CITY	NORTH_OF_CBD
253	253	1223	540	34	789	79	65	368	1336	2	6	SANTA YNEZ	SOLVANG CITY	NORTH_OF_CBD
254	254	1320	409	51	272	28	53	360	766	2	6	SANTA YNEZ	SOLVANG CITY	NORTH_OF_CBD
255	255	264	129	3	53	113	0	392	562	2	10	SANTA YNEZ	NC UNINCORPORATE	NORTH_OF_CBD
256	256	2648	848	18	122	476	9	115	742	2	10	SANTA YNEZ	NC UNINCORPORATE	NORTH_OF_CBD
257	257	1880	680	133	229	172	99	214	849	2	10	SANTA YNEZ	NC UNINCORPORATE	NORTH_OF_CBD
258	258	1165	423	22	51	4	1	368	449	2	10	SANTA YNEZ	NC UNINCORPORATE	NORTH_OF_CBD
259	259	1127	387	4	175	16	9	151	357	2	10	SANTA YNEZ	NC UNINCORPORATE	NORTH_OF_CBD
260	260	785	258	24	112	25	8	172	343	2	6	SANTA YNEZ	SOLVANG CITY	NORTH_OF_CBD
261	261	2986	960	0	12	6	0	79	99	4	5	LOMPOC	LOMPOC CITY	NORTH_OF_CBD
262	262	1244	478	0	0	0	0	52	52	4	10	LOMPOC	NC UNINCORPORATE	NORTH_OF_CBD
263	263	4475	1705	41	218	10	98	192	562	4	5	LOMPOC	LOMPOC CITY	NORTH_OF_CBD
264	264	0	0	0	0	0	0	0	0	4	10	LOMPOC	NC UNINCORPORATE	NORTH_OF_CBD
265	265	7756	2009	37	31	341	6	9781	10198	4	5	LOMPOC	LOMPOC CITY	NORTH_OF_CBD
266	266	1	0	285	10	32	0	299	629	4	10	LOMPOC	NC UNINCORPORATE	NORTH_OF_CBD
267	267	1051	433	0	7	0	2	126	136	4	10	LOMPOC	NC UNINCORPORATE	NORTH_OF_CBD
268	268	0	0	0	0	0	0	1549	1549	4	10	LOMPOC	NC UNINCORPORATE	NORTH_OF_CBD
301	269	0	0	0	0	0	0	0	0	5	11	SLO	SLO	NORTH_OF_CBD
302	270	0	0	0	0	0	0	0	0	5	11	SLO	SLO	NORTH_OF_CBD
303	271	0	0	0	0	0	0	0	0	5	11	SLO	SLO	NORTH_OF_CBD
304	272	0	0	0	0	0	0	0	0	5	11	SLO	SLO	
305	273	0	0	0	0	0	0	0	0	5	11	SLO	SLO	
401	274	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD
402	275	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD
403	276	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD
404	277	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD
405	278	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD
406	279	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD
407	280	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD
408	281	0	0	0	0	0	0	0	0	5	12	VENTURA	VENTURA	SOUTH_OF_CBD



Appendix I

Water Resources Study

City of Lompoc Water Resources Study 2008

FINAL

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October 16, 2008

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Executive Summary

This water resources study is intended to support the environmental impact analysis for the City of Lompoc's General Plan update. The update contemplates intensified development within the existing urban area and the potential for new development on up to four areas adjacent to or near the existing city limits that are being considered for annexation. Altogether, these proposed developments would add 6,372 new dwelling units, increasing the City's population from 39,055 people in 2008 to 57,000 people in 2030. At the current per-capita water use rate of 125 gallons per capita per day, water use would increase from 5,600 acre-feet per year (ac-ft/yr) to 8,140 ac-ft/yr.

The City obtains over 99% of its water supply from nine wells in the Lompoc groundwater basin. The basin is located at the downstream end of the Santa Ynez River watershed and underlies the final 12 miles of river channel before it meets the Pacific Ocean. The basin consists of two primary layers: alluvial deposits about 120 feet thick that form the flat valley floor (Lompoc plain) on which the City lies and the underlying "lower aquifer" that is up to 1,000 feet thick and continues several miles to the northeast. This northeast extension is a hilly region called the Lompoc upland and includes the communities of Mission Hills and Vandenberg Village. The City occupies about one-fourth of the Lompoc plain, and the remainder is used for irrigated agriculture. The upland area is covered with natural vegetation outside the aforementioned towns.

Groundwater levels in the basin decline during droughts but fully recover during subsequent normal and wet years. Long-term declining trends are evident in hydrographs for some wells in the Lompoc upland and at the western end of the Lompoc plain, but the number of such wells is small. Taken as a whole, the basin is not in overdraft.

The ability of the groundwater basin to provide the additional water supply needed to support increased development depends on the future water budget for the entire groundwater basin. Quantitative estimates were developed for water budget items that might change in the future. Groundwater pumping for agriculture on the Lompoc plain is presently 12,000 ac-ft/yr and could decrease by 400 ac-ft/yr as a result of urban expansion considered in the General Plan update. Municipal pumping for the communities of Mission Hills and Vandenberg Village amounts to 2,300 ac-ft/yr and shows no signs of notable increase.

Groundwater recharge would also be affected by development considered in the General Plan update. Changes in impervious area and landscape irrigation in the existing urban area and the proposed annexation areas would create a net decrease in recharge from rainfall and irrigation water of up to 214 ac-ft/yr (under Alternative 2B). Combining the changes in pumping with the changes in rainfall and irrigation recharge leads to a net negative shift in the groundwater budget of 2,357 ac-ft/yr.

Percolation from the Santa Ynez River is an additional source of recharge and is particularly important because river percolation increases when pumping increases. Up to a point, induced recharge can fully balance an increase in pumping. Although the average annual discharge of the river where it enters the groundwater basin is 102,600 ac-ft/yr, most of the water passes through during high flow events. The percolation capacity during low and moderate flows along the reach adjacent to the City is about 10 cubic feet per second. The low-flow regime is regulated by the operation of Lake Cachuma and is more sustained now than it was prior to the change in reservoir operation that commenced in 1989. Induced recharge would probably fully offset the negative shift in the groundwater budget that would result from implementation of the General Plan update. This conclusion is supported by the favorable hydrogeologic conditions between the City's wells and the river, the lack of overdraft during historical periods when the groundwater budget was also more negative, and the results of previous modeling studies.

The future increase in City water use might also be partly offset by water conservation efforts. The City implemented a water conservation program in 1990 that has achieved relatively low per-capita water use rates. Per-capita water use for indoor residential purposes is presently about 76 gallons per day, which compares favorably with other areas in California. The City has issued rebates for retrofitting over one-third of the total number of pre-1990 dwelling units with low-flow plumbing fixtures, so additional increments of conservation by that means continue to be possible. Residential landscape irrigation accounts for 18% of the City's annual water use, which is quite low for cities in California.

High groundwater salinity is a key water quality concern in the basin. Salinity has increased by hundreds of milligrams per liter over 20-40 years in many wells in the central and western parts of the Lompoc plain. Salinity at the City's wells has remained steady or possibly decreased slightly. The salinity outlook for the City's wells is favorable because they are close to the river and upgradient of agricultural areas, where evaporative concentration of applied irrigation water is a major source of salt loading. Development envisioned in the General Plan update would tend to decrease salt loading to the basin because cropland would be urbanized in some of the annexation areas.

Background and Purpose

The City of Lompoc began updating its General Plan in 2007. An assumption in the planning process is that the City's population will grow in the future and that the population growth will be accompanied by infill development within the existing city limits and/or expansion of development onto adjacent undeveloped lands. These changes would affect or be affected by local water resources. For example, expansion of the urban area would affect groundwater recharge, storm drainage, municipal water demand, groundwater production by the City's wells, wastewater discharge volumes, and water use for agriculture in the annexation areas.

The purpose of this report is to provide water resources background information needed to evaluate potential impacts of the General Plan on water availability and quality in the Lompoc region. Conversely, the report explores whether anticipated changes in hydrologic conditions or groundwater pumping by other basin users might limit the availability of additional water to support the City's growth. In other words, this report addresses three questions:

1. How much additional water will the City need to support the proposed growth?
2. Can the City meet that need simply by pumping additional groundwater?
3. Would increased groundwater pumping by the City adversely impact the groundwater basin, other basin users or the environment?

A similar water resources study was prepared at the time of the last General Plan update in 1996 (Hydrologic Consultants, Inc. 1996). The present report updates that information and organizes it slightly differently to emphasize key information related to development constraints and potential impacts.

Location

The City of Lompoc is located near the lower end of the Santa Ynez River watershed in western Santa Barbara County (**Figure 1**), approximately 10 miles upriver from the Pacific Ocean. The City occupies about one-fourth of the Lompoc plain, which is a flat coastal valley otherwise used for cropland. The City's water supply is obtained from the groundwater basin beneath the plain, and a significant percentage of basin recharge derives from infiltration of river water. Thus, the dimensions and hydrology of the river watershed and the groundwater basin are relevant to the evaluation of the City's water supply.

Santa Ynez River Watershed

The Santa Ynez River watershed drains an area of 890 square miles on the western slopes of the Coast Ranges of central California. Except for flat or gently sloping areas along the Santa Ynez River, the terrain is generally rugged. Elevations range from sea level to 6,800 feet. Precipitation occurs entirely as rainfall and increases from less than 14 inches per year (in/yr) at the coast to about 40 in/yr at the highest points in the watershed. Precipitation is highly seasonal, with an average of 85% of the annual rainfall occurring between November and March. The climate is Mediterranean and moderated by the maritime influence of the Pacific Ocean. Winters are cool and wet, and summers are warm and dry. Average temperatures in Lompoc range from 65°F in January-February to 75°F in September.

Flow in the Santa Ynez River watershed is regulated by two reservoirs. Lake Cachuma is located approximately 30 miles upstream of Lompoc and was created by the completion of Bradbury Dam in 1956. It has a capacity of 205,000 acre-feet (ac-ft) and regulates

runoff from 47% of the watershed. The primary purpose of Lake Cachuma is to store water for cities along the south coast of Santa Barbara County, including Santa Barbara and Goleta. Gibraltar Dam and its reservoir are a smaller, older facility upstream of Lake Cachuma, which re-regulates the Gibraltar outflows.

Releases and spills from Lake Cachuma flow downstream to Lompoc through a narrow agricultural valley, emerging onto the Lompoc plain at the “Narrows” (**Figure 1**). The timing and magnitude of river flows reaching the Narrows are affected by the operation of Lake Cachuma, tributary inflows between the lake and the Narrows, and consumptive water use by riparian vegetation and agriculture along that reach.

The study area for the present analysis consists of the area within the Santa Ynez River watershed downstream of the Narrows that is underlain by or drains toward unconsolidated geologic deposits. For a distance of about 10 miles downstream of the Narrows, the river flows through a flat valley 2-4 miles wide that is occupied by cropland and the City of Lompoc. The valley floor area is known as the Lompoc plain. The study area extends several miles into the higher ground north and east of the plain, where unconsolidated deposits also occur.

Other communities near Lompoc include Mission Hills, Vandenberg Village, the United States Penitentiary, and various facilities on Vandenberg Air Force Base (**Figure 1**).

Groundwater Basin

The Lompoc groundwater basin—as defined for this analysis—corresponds generally to the western end of the Santa Ynez River Valley groundwater basin delineated by the California Department of Water Resources. It consists of unconsolidated sedimentary deposits in a structural trough underlain by older consolidated rocks. A geologic map of the distribution of these materials is shown in **Figure 2**, and cross sections are shown in **Figure 3**. Relatively young river channel and alluvial deposits create the flat valley floor, and the extent of those deposits defines the boundaries of the Lompoc plain. These deposits have a thickness of up to 150 feet and form what is known as the alluvial aquifer. This aquifer has been divided into three parts on the basis of sediment texture. The shallow zone just below the ground surface consists of predominantly fine-grained materials averaging 33 feet in thickness. The middle zone is somewhat coarser in texture and averages 52 feet in thickness. The basal or main zone consists of highly permeable material and forms the principal aquifer tapped by wells in the Lompoc plain. Its average thickness is 36 feet (Hydrologic Consultants, Inc. 1997).

The alluvial aquifer is underlain by the lower aquifer, which includes three geologic formations. Principal among these is the Careaga Sand, which is 600-800 feet thick beneath the Lompoc plain. It thickens to the northeast, where it underlies the upland area in the vicinity of Mission Hills and Vandenberg Village. It consists of fine to coarse sand of marine origin. The Careaga Sand also occurs in the Lompoc terrace, which is a band of permeable materials that cuts through consolidated rocks from the Lompoc plain to the Pacific Ocean south of the Santa Ynez River (**Figure 2**). There is little or no groundwater

use in the Lompoc terrace area. The Paso Robles Formation overlies the Careaga Sand over part of the Lompoc upland. Its variable texture is moderately permeable overall. The Paso Robles Formation and the upper member of the Careaga Sand comprise the primary aquifer zone for wells in the upland. The Orcutt Sand is the uppermost geologic unit throughout most of the Lompoc upland. It is generally less than 100 feet thick and is consequently above the water table in most areas.

Along most of its perimeter, the groundwater basin is bounded by relatively impermeable consolidated rocks. A small thickness of river channel deposits allows some groundwater inflow at the Narrows, where the Santa Ynez River enters the basin. At the Pacific Ocean, the alluvial aquifer extends an unknown distance offshore, and groundwater is in connection with seawater. The aquifers in the Lompoc upland continue eastward toward Buellton. However, groundwater gradients are essentially flat, so little or no groundwater enters or exits the basin in this area. The eastern boundary of the Lompoc upland follows the surface water flow divide between Cebada Canyon and Santa Rosa Creek.

The study area shown in the figures includes the groundwater basin and adjacent parts of the Santa Ynez River watershed that drain into the basin. The study area excludes the western half of the Lompoc terrace, where groundwater flows toward the Pacific Ocean and does not contribute recharge to the Lompoc plain.

The Santa Ynez River crosses the basin from east to west and is a source of groundwater recharge along its entire length. The river is hydraulically connected to groundwater, and water can theoretically flow from the river to the aquifer or vice versa. On average, the river is a net source of recharge along its entire length across the basin. However, percolation rates decrease from the Narrows to the ocean as the texture of the streambed and shallow subsurface deposits becomes progressively finer. Ten tributary streams also cross the basin as they approach the Santa Ynez River and provide additional sources of recharge.

Land Use

Land use affects water demand and groundwater recharge. Although groundwater pumping and some sources of recharge are local, their effects spread out over time, overlapping each other. Consequently, the City's water use must be evaluated in the context of recharge and pumping for the entire basin. Land use is the basis for estimating water demand for irrigation and groundwater recharge from deep percolation of rainfall and irrigation water.

Existing Land Use and Trends

Land use is periodically monitored by two state agencies for separate purposes and at different intervals. The surveys also use different mapping categories. Both sources of data were evaluated to characterize recent land use patterns and trends in the Lompoc area.

The California Department of Conservation maps agricultural lands throughout the state on a biennial basis for its Farmland Mapping and Monitoring Program. Digital maps are available on-line (<http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/Index.aspx> accessed September 2008). The mapping focuses on categories of farmland quality, with simplified categories for other uses. **Figure 4** shows the map for 1996 and **Figure 5** shows the map for 2006. The Lompoc plain includes about 8,200 acres of cropland, or about 81% of all cropland in the study area. The plain also includes 3,400 acres of developed land, which is about half of all developed lands in the study area. The “grazing” category is nonirrigated natural vegetation consisting primarily of grassland. The “other” category also represents natural vegetation, but primarily shrubs and trees.

Because of differences in mapping techniques, polygons in the maps for 1996 and 2006 do not overlay precisely enough to enable reliable quantitative calculations of changes in land use. However, an expansion of urban development is evident during the 10-year period, particularly along the northern edge of Lompoc and between Lompoc and Mission Hills. Notwithstanding the aforementioned discrepancies in detail, farmland decreased by several percent on the Lompoc plain and developed lands increased by several percent.

The California Department of Water Resources (DWR) periodically conducts detailed land use surveys throughout the state, and this was the second source of data reviewed for this study. The most recent survey of the Lompoc area was done in 1996, and it provides detailed information on crop types in agricultural areas. **Table 2** shows the percentage of land area planted to each of the principal crops grown on the Lompoc plain. The percentages shown are for the primary crop. In the case of double- or triple-cropped fields the ranking of crop types was similar. Truck crops of various types accounted for by far the largest amount of acreage. With a few exceptions, the distribution of crops in 1996 was fairly uniform across the Lompoc plain. Walnut orchards were present only at the east end and north of the river, opposite the airport. Dry beans were also grown only in the east end. Flowers and green beans were most common in the eastern and central parts of the plain.

General Plan Proposed Land Uses

To accommodate future increases in population, the General Plan update is considering infill development within the existing urban area and annexation of up to four areas near or adjacent to the existing city limits. The locations of the annexation areas are shown in **Figure 6**. Various combinations of these elements have been grouped into five alternatives for analysis: Alternatives 1, 2A, 2B, 3 and 4. Alternative 1 represents existing conditions. Alternative 2 includes infill plus all four of the annexation areas, with two variations. Under Alternative 2A, annexation Area D (The Wye) would be developed for commercial use, and under Alternative 2B it would be developed to low-density residential use. Alternative 3 is the same as Alternative 2B, except that Area C (Miguelito Canyon) is omitted. Alternative 4 includes infill only, with no annexation. The existing and proposed developed land uses in each area are as follows:

- **Area 1: Infill**
A total of 3,115 new residences would be constructed on “vacant and underutilized” lands throughout the existing developed part of the City. Approximately 60% of these would be single-family residences (detached homes), which is slightly less than the existing City-wide average of 66%. Commercial and industrial development would also occur on about 110 acres. In addition, 263 multi-family residences would be added along the H Street corridor, which presently consists almost entirely of commercial development.
- **Area A: Bailey Avenue**
A specific plan has been developed for this 267-acre agricultural area adjacent to the western edge of the City. The plan proposes 188 acres of low, medium and high-density residential development, 12 acres of commercial and other buildings, 22 acres of irrigated parkland, 10 acres of streets and 37 acres of undeveloped land.
- **Area B: River Area**
Existing land use in this broad swath of land along the Santa Ynez River channel east of the City is almost entirely undeveloped. It includes 104 acres of irrigated cropland, 8 acres of industrial land, and about 72 acres of irrigated parkland in two locations. The proposed development would add senior housing and a mobile home/RV park at unspecified locations.
- **Area C: Miguelito Canyon**
This area consists of a corridor of largely undeveloped land along San Miguelito Road extending about 1 mile south of the existing urban area. It includes 7 acres of existing development on the south side of Willow Road (which is the location of the present City limit) and 7 acres of rural residences along San Miguelito Road. The area also includes the channel of San Miguelito Creek and 25 acres of orchard. The proposed use would add 104 rural residential homes on 5-acre lots.
- **Area D: The Wye**
This 10-acre parcel is not adjacent to the existing city limits. It is located about 1 mile north of town where Harris Grade Road splits off from Highway 1, adjacent to the southern edge of Mission Hills. The existing land use is grassland, and the proposed use is either commercial or low-density residential.

For the purpose of evaluating water resources impacts, existing and proposed land use in each area was characterized in terms of impervious, irrigated and nonirrigated land cover, as shown in **Table 3**. The City’s storm drain system captures runoff from most impervious surfaces and conveys it to San Miguelito Creek. However, runoff from some rooftops, patios, sidewalks and other small impervious areas flows to adjacent soils, where it infiltrates and rapidly overfills the soil moisture storage capacity. This excess infiltration becomes groundwater recharge. These “disconnected” impervious areas were estimated to account for 20% of the total impervious area in the City.

The impervious percentage for existing residential areas was digitized from aerial photographs for two sample 2-block areas within the City representing older and newer residential development. The impervious percentages were similar (66-68%), but a higher proportion of pervious area appeared to be irrigated in the newer development (approximately 75% versus 50%). This percentage of irrigated land was reasonably consistent with the amount of residential outdoor water use, when the latter was divided by a per-acre irrigation rate of 2.1 ft/yr. The estimated percentages of impervious, irrigated and nonirrigated cover were calculated for the proposed development in each area based on the amount and type of each development category.

Water Supply System

The City of Lompoc shares the groundwater basin with other users. The sources of water supply for agricultural and municipal users in the Lompoc area are inventoried below to determine whether they compete for the same resource.

City of Lompoc

The municipal water supply for Lompoc is supplied by nine wells. The wells are located throughout the developed part of the city. The wells all pump from the main (basal) zone of the alluvial aquifer system and are 140-200 feet deep. The three oldest wells were drilled in 1963, and the youngest was drilled in 2000. Pumping capacities range from 230 to 1,600 gal/min (Feeney 2005). The well system has 5,488 gal/min of pumping capacity with the largest well out of service, which is equivalent to 7.90 Mgal/day if the wells are operated continuously. This would not quite meet the maximum day demand, and the City is actively planning the construction of its tenth well, which will be located in the southeastern part of the City, near the Santa Ynez River. The well is expected to come on-line in 2009 (Gene Margheim, Water Superintendent, personal communication, September 4, 2008).

Figure 7 shows the locations of irrigation and municipal wells in the groundwater basin, including the City of Lompoc wells. **Table 4** lists additional information for the municipal wells.

The City serves twelve residences along Miguelito Canyon Road from Frick Springs, which is located in the canyon.

Agriculture

All agricultural irrigation in the Lompoc plain and upland areas is supplied by wells, most of which are shown on **Figure 7**. Wells in the Lompoc Plain draw almost entirely from the main zone, and wells in the upland area draw from the deep aquifer. Consequently, water use for irrigated agriculture on the Lompoc plain competes fairly directly with water use by the City. Upland pumping also affects the availability of

groundwater to the City because groundwater in the upland area is a source of recharge to the main aquifer zone in the Lompoc plain.

Other Users

The community of Mission Hills is located in the upland area and is supplied by two wells operated by Mission Hills Community Services District. Vandenberg Village is also in the upland area and is supplied by three wells. Vandenberg Air Force Base (AFB) was supplied by wells until 1997, when the supply was switched to imported (State Water Project) water. Only one of the wells remains active to serve a gatehouse on the base. The U.S. Penitentiary is located adjacent to the northern edge of the Lompoc plain and was similarly supplied by wells until 1997. It also switched to an imported supply at that time.

Water Use

The above inventory revealed that all agricultural users and the communities of Mission Hills and Vandenberg Village obtain their water from the Lompoc groundwater basin. Any changes in their future use could affect the availability of water to the City, and vice versa. The historical and likely future trends in groundwater pumping by all of those users is described below.

City of Lompoc

Existing Annual and Seasonal Water Use

Annual groundwater production by the City of Lompoc has increased fairly steadily in recent decades as the City's population has grown. **Figure 8** shows annual groundwater production by the City of Lompoc based on metered production at the individual municipal wells. The general pattern has been an increase from about 3,100 ac-ft in 1964 to about 5,600 ac-ft in 2007. Most of the year-to-year fluctuations about this trend were related to variations in rainfall and associated irrigation needs for urban landscaping. For example, annual water use was above-average in 1984-1990, 1997, 2002, 2003 and 2007. All of those periods were ones with below-average rainfall (see "Sources of Recharge" below).

Figure 9 shows historical per-capita water use in Lompoc during 1965-2007. Values for 1965-1988 were developed by Hydrologic Consultants, Inc. (1996), and data for subsequent years were calculated from population and groundwater production data supplied by the City of Lompoc Utility Department. Per-capita use increased fairly steadily from 120 gallons per capita per day (gpcd) in 1965 to about 155 gpcd in 1989. An aggressive water conservation program implemented by the City toward the end of the 1984-1990 drought helped achieve a rapid 26% decrease in per-capita water use, to about 115 gpcd in 1992. That number has gradually crept upward since then and now averages about 125 gpcd.

Recent years with above-average per-capita water use (1997, 2002, 2003 and 2007) had below-average rainfall at the beginning and/or end of the irrigation season, so the increase in per-capita use in those years can be attributed to above-average landscape irrigation. Specifically, in three of the four years rainfall was below average in May and October, and less than 50% of average in March and April. Thus, for the purpose of projecting future municipal water demand, an average per-capita water use of 125 gpcd is assumed. This is midway between per-capita use in recent normal/wet years (about 120 gpcd) and per-capita use in dry years (about 130 gpcd).

The city currently serves nearly 9,600 connections, which are classified into 35 different categories depending on the type of use. A single category—single-family residential—accounts for approximately 80% of the connections and 50% of the annual water use (City of Lompoc 2005). However, the categories do not break consumption down by indoor versus outdoor uses, and that information is helpful for evaluating conservation potential. A “curve separation” technique was used to estimate the percentage of municipal water used for irrigation. **Figure 10** shows the average monthly groundwater production in four categories during 2001-2007 as a percent of annual production. Commercial, industrial, institutional and nonmetered uses are grouped as “other” and account for 16.7% of annual water use. Those uses were assumed to be constant year-round. The “landscape” category accounts for 5.6% of annual use. It was assumed to be zero in February when irrigation is generally unnecessary due to high rainfall and low evapotranspiration (ET). The landscape category was distributed through the remaining months by the same percentages as residential outdoor use. Residential water use was divided into indoor and outdoor (irrigation) categories. Indoor use was assumed to equal 100% of residential use in February and be constant throughout the year. Residential outdoor use equaled the difference between total residential use and indoor use in each month. Indoor use accounted for 76.3% of annual residential use (or 59.3% of total citywide water use). Outdoor use accounted for 23.7% of annual residential use (or 18.4% of citywide water use).

Water Conservation

Water conservation could affect future per-capita water use and hence the estimate of total municipal water demand for the General Plan update. It also affects the City’s ability to manage water demand during droughts. The City initiated a multi-faceted water conservation program in 1990 that helped decrease per-capita water use from 155 gpcd to 115 gpcd. Most of that reduction has continued in subsequent years.

The City continues to implement retrofit programs to replace toilets, showerheads, faucet aerators, clothes washers and dishwashers with water efficient models. **Table 5** lists the approximate annual water savings currently achieved by retrofits completed to date and the potential for additional retrofit savings. The annual water savings from retrofits implemented to date is on the order of 340 ac-ft/yr. This estimate does not account for retrofits that customers completed without requesting a rebate or for retrofits that have subsequently been undone (conservation “decay”). Those adjustments are difficult to

quantify but would decrease or increase the remaining retrofit potential, respectively. The annual savings are equivalent to 7.7 gpcd of per-capita water use, if the savings are divided into the 2008 non-prison population of 39,055 people,

The potential for additional retrofits depends on the type of retrofit. The opportunity for plumbing retrofits is limited to homes built before 1990, as all newer homes have low-flow plumbing fixtures in accordance with state law. Fewer data are available for appliances. Beginning in 2007, all clothes washers sold in California had to meet high-efficiency standards, but as recently as 2003 only 20% of the machines sold met that standard (Gleick and others, 2003). Dishwasher efficiency is not regulated. Models with high water use efficiency were rare in 2003 but accounted for 87% of the models available for sale by 2007. For both of these appliances, new models are almost entirely water-efficient. The potential additional savings shown in the table are the maximum amounts that could be saved if all existing inefficient units were replaced before the end of their life expectancy (about 14 years).

Retrofits account for only one-fourth of the long-term decrease in per-capita water use achieved since 1989. Therefore, other factors or conservation measures must have contributed substantial additional savings. **Figure 11** shows the trend in outdoor water use as a percentage of annual water use since 1964, calculated using a simplified version of the curve separation method described earlier. During that period, outdoor use decreased by about 12% of total annual use. The 5% decrease that has occurred since 1989 corresponds to 6.4 gpcd at present municipal production rates.

The remaining 26 gpcd decrease in per-capita water use since 1989 must have resulted from undocumented retrofits (ones for which no rebate was requested), water system audits, leak detection and repair efforts, consumer behavior and other measures.

Residential indoor water use estimated by the curve separation method is presently about 3,320 ac-ft/yr, which corresponds to a per-capita indoor use of 76 gpcd. This is similar to baseline indoor per-capita use compiled from numerous studies by the California Department of Water Resources' (DWR's) Office of Water Use Efficiency (<http://www.landwateruse.ca.gov/docs/WaterNeedsAnalysis.cfm>). Water use surveys conducted by DWR in 2001 revealed that residential outdoor water use in most central and south coast urban areas is 47-50% of total residential use, or considerably higher than in Lompoc (24%). These data suggest that the City has achieved most of the easy savings in indoor and outdoor water use.

The potential for additional conservation in the area of indoor water use appears to be on the order of 660 ac-ft/yr, based on estimates of the number of homes with inefficient plumbing or appliances (**Table 5**). This number must be decreased by the estimated amount of water that has been saved by undocumented retrofits, which could be substantial. Another conservation opportunity is to reverse the slight "rebound" in water use that has occurred following the 1984-1990 drought, from a minimum of 114 gpcd in 1993-1995 to about 125 gpcd today (**Figure 9**). Also known as "conservation decay", this

upward creep in water use may result from reversing plumbing retrofits or from changes in consumer behavior.

Agriculture

Agricultural water use is not metered in most parts of California, including the Lompoc area. It can be estimated from electricity consumption records or from crop water demand and irrigation efficiency. Both methods are subject to considerable errors. Several previous studies have estimated irrigation demand for the Lompoc plain and upland areas. Bright et al (1997) concatenated data and estimates from nine previous reports to estimate annual irrigation use from 1945 to 1988. Their analysis showed an increasing trend, reaching 22,000 ac-ft/yr in 1988.

Hydrologic Consultants, Inc. (1997) constructed irrigation demands for each major crop type based on reference evapotranspiration (ET), effective precipitation, and crop coefficients. The resulting estimate for 1988 (which also equaled the average for 1988-1992) was 15,000 ac-ft/yr for the Lompoc plain. In contrast to Bright et al (1997), the analysis indicated that irrigation use *decreased* from 1945 (18,000 ac-ft/yr) to 1995 (13,000 ac-ft/yr).

A more recent update of the Hydrologic Consultants, Inc. method for 1984-2005 indicated that irrigation use averaged 11,500 ac-ft/yr on the Lompoc plain and about 4,000 ac-ft/yr in the Lompoc upland (C. Velayas, personal communication). Long-term trends due to urban expansion were masked by annual variations related to rainfall conditions.

The California Department of Water Resources (DWR) periodically conducts water use surveys around the state. Applied water rates for selected crop categories are tabulated for “detailed analysis units”, one of which is the lower Santa Ynez River region. Applying the irrigation rates from the most recent survey (2001) to the acreages of corresponding crops in the 1996 U.S. Geological Survey detailed land use survey resulted in an estimated application of 12,600 ac-ft/yr on 8,063 acres of cropland in the Lompoc plain. This estimate is very close to the most recent estimate based on crop acreages and ET demand. The crop-weighted average applied water rate was 1.57 ft/yr, and the average irrigation efficiency assumed by DWR was 70%. For the purposes of this analysis, irrigation use is assumed to be 1.57 ft/yr throughout the Lompoc plain. Total irrigation use on the plain is assumed to be approximately 12,000 ac-ft/yr.

Other Users

The two wells that supply Mission Hills produced 700-800 ac-ft/yr during 1999-2005, with no clear upward or downward trend. The three wells serving Vandenberg Village similarly produced an average of 1,540 ac-ft/yr during that period, with no trend since 1984. Production from the wells serving Vandenberg AFB was approximately 1,200 ac-ft/yr in the years leading up to 1997, when the community switched to an imported water supply. Water use at the U.S. Penitentiary increased from 670 ac-ft/yr in 1984 to about

825 ac-ft/yr in 1997, when groundwater production was similarly discontinued. Thus, total groundwater pumping by municipal users that share the basin with the City of Lompoc has decreased by 2,025 ac-ft/yr (21%) during the past decade, even though groundwater production by the City of Lompoc has remained more or less constant. The conversion from groundwater to an imported water supply by two other users has increased the availability of groundwater yield for the City of Lompoc.

Groundwater Levels and Storage

Groundwater pumping exceeds recharge during droughts, and local users rely on groundwater storage to meet their water needs during those periods. Groundwater levels in wells are the primary indicator of groundwater storage. Groundwater levels that decline during droughts and recover to their former elevations during subsequent normal and wet years are a sign of reasonable conjunctive management of surface water and groundwater resources. Chronic long-term declines in groundwater levels are a sign of groundwater overdraft, which is not sustainable.

City Wells

Figure 12 shows hydrographs of water levels in three of the City's municipal supply wells. These wells have relatively long-term records and are in three different parts of the city. Hydrographs for the other six municipal wells are similar. The hydrographs all show declines during major droughts such as the ones that occurred in 1970-1972, 1976-1977 and 1984-1990. In all cases, however, water levels recovered within a few years to their pre-drought elevations. Therefore, the present amount of municipal pumping appears to be sustainable in the long term.

The hydrographs exhibit other patterns that reflect groundwater storage processes. Well No. 7 is the farthest upstream of the City's current wells and closest to the Narrows, where the Santa Ynez River enters the groundwater basin. Flow at that location is relatively sustained, and percolation rates are high. The percolation forms a localized mound in the water table near the river, causing water levels in Well No. 7 to be higher than water levels in wells closer to the center of the city. When river flow is interrupted for long periods, the mound dissipates and water levels at Well No. 7 drop to the same level as other city wells. For example, there was flow at the Narrows only 20% of the time from June 24, 1987 to March 16, 1991, and the median flow of the days with flow was only 2.1 cfs. Water levels at Well No. 7 plummeted to the level of the other municipal wells during that period. However, the mound reestablished itself when more normal flows resumed in 1991.

Other Wells

The U. S. Geological Survey periodically measures water levels in numerous wells throughout the basin and compiles the information into a database along with measurements collected by other agencies. **Figure 13** shows the locations of wells with

water-level data, which in some cases go back as far as 1930. Wells labeled with the star symbol are included on the hydrograph plots shown in **Figure 14**. The hydrographs are grouped by region because long-term water-level trends are not the same throughout the basin. Hydrographs in the upland area exhibit slight long-term declining trends because pumping exceeds recharge. Although water levels recovered 3-10 feet following the 1984-1990 drought, they did not rise to their historical high levels. Wells in the upland area penetrate the lower aquifer, which is less permeable than the alluvial aquifer in the Lompoc plain. The wells are also upgradient of the Santa Ynez River, and together these factors diminish the contribution of river recharge to that area. Water level trends reflect the local balance of pumping and recharge.

In the eastern Lompoc plain, water levels in wells near the river are strongly affected by the presence of flow in the river, falling during periods of interrupted flow and rising when flow resumes. In wells close to the Narrows (such as well 35K9), the water levels recover to a maximum level close to the level of the riverbed. There are no long-term declining trends in this part of the basin.

Water levels in the central part of the Lompoc plain are similar to those in the eastern part, but are less rapidly affected by changes in river flow. There are no long-term trends. After the 1984-1990 drought, water levels recovered to their pre-drought elevations within 2-6 years.

In the western part of the Lompoc plain, water levels are stable in most wells, as illustrated by the hydrograph for well 27F1. At one location near the Santa Ynez River, some wells exhibit a slight long-term declining trend (for example, well 23E2). However, water levels remain 6-8 feet higher than water levels at the coast (well 18H1), which is 3 miles to the west. Thus, seawater intrusion is not an imminent threat.

Contours of groundwater elevation reveal the direction of groundwater flow. Contours of groundwater elevation in the spring of 1989 and the spring of 2007 are shown in **Figure 15**. Each line is a contour of equal groundwater elevation. Elevations are highest along the northern and eastern margins of the basin and become progressively lower toward the coast, with local irregularities caused by river recharge and well pumping. This pattern means that recharge in the Lompoc uplands contributes to the groundwater supply in the Lompoc plain. Multi-depth monitoring well clusters in the Lompoc plain have confirmed that groundwater flows upward from the lower aquifer into the main zone of the alluvial aquifer (Bright and others, 1997).

The slope of the water table in the Lompoc upland is shallower than the slope of the ground surface, so the depth to the water table increases with distance north of the Lompoc plain. For example, the depth to water in wells in the City of Lompoc is about 40-50 feet, and the depth increases to more than 200 ft near Mission Hills.

Water-level patterns present in 1989 and 2007 include steep gradients (closely-spaced contours) near the Narrows, a pumping depression (closed contour) around the Mission Hills supply wells, and a relatively flat surface beneath the City of Lompoc that is also

the result of municipal pumping. Because 1989 was toward the end of a 7-year drought, water levels were generally lower than in 2007.

Sources of Recharge

Groundwater in the Lompoc groundwater basin that is available to users on a sustainable basis derives from recharge. Recharge includes deep percolation of infiltrated rainfall and irrigation water, percolation from the Santa Ynez River and its tributaries, groundwater inflow across basin boundaries, and percolation from leaky pipes, wastewater ponds and other anthropogenic sources. Recharge is not the same as basin yield, which involves other factors in addition to recharge. In the Lompoc basin, neither recharge nor yield is a fixed quantity. Rather, both are affected by the location and timing of groundwater pumping. Specifically, an increase in pumping can increase the amount of percolation out of the Santa Ynez River and/or decrease the amount of groundwater outflow into the river. For the purpose of evaluating constraints and impacts of the General Plan update, the key question is whether recharge under future conditions will be adequate to support the anticipated increases in municipal groundwater withdrawals.

Rainfall and Irrigation Return Flow

A major source of groundwater recharge throughout the basin is deep percolation of infiltrated rainfall. In wet years and even normal years, rainfall can completely refill the soil moisture deficit that accumulates in the root zone of natural vegetation and crops. Additional infiltration then initiates deep percolation beneath the root zone, which eventually reaches the water table and becomes groundwater recharge. On agricultural fields, some applied irrigation water usually percolates beneath the root zone because of uneven water application across the field. Furthermore, soil moisture is generally higher at the end of the dry season on irrigated cropland than in natural areas, so less rainfall is needed to initiate deep percolation.

For water supply planning purposes, it is useful to know long-term average rainfall and recharge, as well as rainfall and recharge during droughts. Periods of average rainfall can reveal long-term trends, while drought periods typically constrain the reliability of water supplies. **Figure 16** shows annual rainfall at Lompoc during 1949-2007 and the cumulative departure of annual rainfall from average. The cumulative departure line is useful for identifying droughts and multi-year wet periods: the line declines for a number of years during droughts and rises during wet periods. For the entire period, rainfall averaged 14.54 inches. The most extreme 2-year drought in recent decades occurred in 1971-1972, when rainfall averaged 8.28 in/yr, or 57% of the long-term average. The largest drought of longer duration was during 1984-1990, when rainfall averaged 10.10 in/yr (69% of the long-term average).

The General Plan alternatives include conversion of irrigated cropland and nonirrigated, undeveloped land to urban uses (a combination of impervious, irrigated and nonirrigated

cover). To estimate the effects of those conversions on groundwater recharge, it is necessary to know the recharge rates from deep percolation of rainfall and applied water for each land use. Three previous studies developed detailed estimates of recharge from rainfall and irrigation water on cropland in the Lompoc plain and obtained remarkably similar results, ranging from 13.95 in/yr to 14.69 in/yr and averaging 14.2 in/yr (Bright and others 1997; Blaney and others 1963; Hydrologic Consultants, Inc. 1997). During droughts, rainfall recharge is negligible and recharge reduces to approximately 20% of the applied irrigation water, or 3.8 in/yr (assuming 80% irrigation efficiency).

The same three studies also presented estimates of average annual rainfall in areas of natural vegetation in the Lompoc upland. These ranged from 1.3 to 2.0 in/yr and averaged approximately 1.8 in/yr. During droughts, rainfall recharge is essentially zero.

Recharge in developed areas is more complex because of the effects of impervious surfaces. Runoff from “connected” impervious areas that drain to the City’s stormwater conveyance system flow rapidly to San Miguelito Creek with little or no opportunity for infiltration. In contrast, runoff from “disconnected” impervious surfaces flows onto adjacent pervious soils, where it infiltrates. This infiltration is in addition to infiltration of rain falling directly on those soils, so soil moisture capacity is rapidly filled to capacity. For this reason, all runoff from disconnected impervious surfaces is assumed to become groundwater recharge. The recharge rates for irrigated landscaping—principally lawns—is assumed to be the same as for cropland, and the recharge rate for nonirrigated soils in the urban area is assumed to be the same as for the natural vegetation in the Lompoc upland.

In urban areas, leaks from water and sewer pipes are an additional source of groundwater recharge. Leaks tend to increase with the age of the pipes. Because development of the annexation areas will involve new infrastructure, leak rates will likely be small. This source of recharge is assumed to be zero in this analysis of General Plan impacts.

Santa Ynez River

The Santa Ynez River is a large potential source of groundwater recharge. The annual discharge of the Santa Ynez River at the Narrows has averaged 102,600 ac-ft/yr since Bradbury Dam was completed in 1956. However, most of that water passes during high flow events that overwhelm the recharge capacity of the riverbed. Recharge is more strongly affected by the duration of low to moderate flows than by the volume of water that flows past in high-flow events. **Figure 17** is a bar graph showing annual discharge since 1953. Years during which Lake Cachuma spilled are indicated with pink bars. It is clear that spill events account for almost all of the high-flow years at the Narrows. Managed releases from Bradbury Dam were substantially altered beginning in 1989 pursuant to State Water Resources Control Board Order 89-18. Among other things, the order increased the duration of low flows at the Narrows, which increased the opportunity for groundwater recharge. However, some of the increase in low flows apparent during the 1990s can be attributed to above-average rainfall (see **Figure 16**).

The low-flow regime at the Narrows can be seen more clearly in the flow-duration graph shown in **Figure 18**. The two curves on the graph represent the frequency of flows of various magnitudes for two periods of equivalent rainfall before and after Order 89-18 was implemented. Each curve indicates the percentage of time (X axis) that flow exceeds the corresponding magnitude (Y axis). The curves show that flows less than about 10 cfs have occurred about 20% more of the time after Order 89-18 than they did before. This increased duration of low flows significantly increased the opportunity for additional groundwater recharge. This change was too new to have been quantified at the time the 1996 General Plan update was prepared.

The flow regime at the Narrows has been modified subsequent to Order 89-18 through a settlement agreement reached in 2003 by numerous parties involved in or affected by operation of Lake Cachuma. The agreement retains the operational requirements of Orders 89-18 and 94-5, and the biological opinion for protection of steelhead trout issued in 2000. It also includes provisions for various users of water stored in Lake Cachuma to exchange water among their respective “storage accounts”, which adds flexibility in meeting the different needs of the users. The settlement agreement will affect the long-term low-flow regime at the Narrows, but no systematic modeling analysis has been completed to generate a timeseries of simulated future flows that include all of the terms of the settlement agreement (Bruce Wales, Santa Ynez River Water Conservation District, pers. comm., September 3, 2008). Thus, for this analysis, the historical record of the flow regime after 1989 is used to estimate recharge availability.

The percolation capacity of the Santa Ynez River as it flows across the Lompoc plain can be estimated by comparing flows at various locations along the river. **Figure 19** shows concurrent flows at the Narrows and at H Street (approximately 3.5 miles downstream of the Narrows) for flows less than 50 cubic feet per second (cfs). These flows occurred during the dry season when flow from the one intervening tributary (Purisima and Cebada Creeks) was presumably zero. Flow at H Street was consistently at least 8 cfs less than at the Narrows throughout the range of flows. Pumping at City wells might affect percolation rates as far downstream as Pine Canyon, 2 miles downstream of H Street. The percolation capacity along that reach is approximately 25% as large as along the reach above H Street, for a total percolation capacity of about 10 cfs along the segment of river most directly affected by City pumping.

Given that the riverbed percolation capacity is approximately 10 cfs, much of the additional low-flow duration that resulted from Order 89-18 could potentially be captured by increased pumping before the City’s wells would need to borrow from groundwater storage. Integrating the volume of water between the two flow-duration curves in **Figure 18** for up to 10 cfs of flow difference yields an estimated 3,400 ac-ft/yr of additional percolation that could be induced during periods of low to moderate flows. This is additional recharge that could be extracted without reducing the low-flow regime to less than its pre-1989 level.

Additional pumping by City wells would also increase percolation during high flows, when percolation capacity is somewhat higher because of the greater width and depth of

the river. Finally, additional pumping during periods when the river is dry would borrow from groundwater storage, temporarily lowering water levels. Historically, the river has always refilled temporary storage depletions when normal flows resumed.

Previous modeling studies have estimated average annual river recharge. Bright and others (1997) obtained an estimate of 7,760 ac- for 1941-1988. Hydrologic Consultants, Inc. (1997) obtained estimates of 6,600 ac-ft/yr and 8,000 ac-ft/yr for 1942-1994 using two different models. These estimates are quite similar, given the different methods used to obtain them.

Tributary Streams

Recharge from the ten small tributary streams that cross the groundwater basin has been estimated by previous investigators using simulated flows and estimated channel percolation rates. Bright and others (1997) concluded that average annual percolation from tributaries on the south side of the Santa Ynez River was approximately 1,370 ac-ft/yr. Hydrologic Consultants, Inc. (1997) obtained an estimate of only 440 ac-ft/yr for the south side tributaries, and 1,400 ac-ft/yr for all tributaries. The cause of the discrepancy is unclear. However, land use changes proposed in the General Plan update are unlikely to affect recharge from the tributary streams.

Wastewater Percolation

The Lompoc wastewater treatment plant discharges an average of 3.0 million gallons per day of advanced secondary treated effluent to San Miguelito Creek a short distance above its confluence with the Santa Ynez River. The discharge is fairly constant year-round and has not increased appreciably in the past 10 years. Presumably, installation of low-flow plumbing fixtures in existing homes has helped to offset the increase in population served by the plant.

The wastewater discharge is potentially a source of groundwater recharge as it flows down the Santa Ynez River. However, percolation losses are small along this reach and it is too far from the City's wells for increased pumping to appreciably affect percolation rates. Therefore, it is assumed that future increases in wastewater discharges would not increase groundwater recharge.

Evaluation of General Plan Alternatives

Water Demand

The planning horizon for the General Plan update is to 2030, which is considered a "buildout" condition. The estimate of water demand in 2030 was obtained by multiplying

the estimated future population by an assumed per-capita water use factor. Growth projections in the General Plan are in terms of dwelling units rather than population. The City's current (2008) nonprison population is 39,055 people, and there are 13,804 households, which corresponds to 2.83 people per household. The number of people per household may differ between single-family and multi-family dwelling units, but no data are available to confirm that directly. Single-family residences presently account for 69% of all households. All of the infill and annexation proposals combined would add 6,372 households, of which 66% would be single-family. This ratio of single-family to multi-family dwelling units is close enough to the existing ratio that a uniform occupancy of 2.83 people per household can be applied to existing and new developed areas for estimating water use.

The buildout water demand equals the product of the number of new residences, the number of people per residence and the per-capita water use factor. Per-capita water use presently averages 125 gpcd. Multiplying these factors and converting units produces an estimate of 2,543 ac-ft/yr of additional water use at buildout. This is the estimate for Alternative 2B, with Area D (The Wye) developed for residential use. The other alternatives would have fewer new residences and consequently smaller estimated water demands. Reaching this estimate of buildout water demand by 2030 would require a slightly faster rate of increase in municipal water use than has occurred in recent years (**Figure 8**).

Future Groundwater Supply Available to the City

The review of basinwide water use and recharge presented in preceding sections of this report identified two improvements in water supply availability for the City that have occurred since the 1996 General Plan update. The first was the conversion of Vandenberg AFB and the U.S. Penitentiary water supplies from groundwater to imported water, which decreased basinwide groundwater extractions by about 2,025 ac-ft/yr. The second was the increased duration of low and moderate flows in the Santa Ynez River at the Narrows that resulted from Order 89-18. This increase would enable up to 3,400 ac-ft/yr of additional pumping-induced percolation without decreasing instream flows to below their pre-1989 levels. Together, these changes can more than compensate for increased City groundwater pumping since 1995 (875 ac-ft/yr) plus additional pumping at buildout (2,543 ac-ft/yr). However, both of the changes are part of the current "existing condition" from the standpoint of environmental impact analysis. A more systematic evaluation of all future changes in the groundwater budget is warranted to determine whether adverse impacts are likely.

Normal Conditions

Normal climatic conditions can be represented by long-term average annual groundwater budgets. Some components of the Lompoc basin groundwater budget are likely to change in the future. Recent historical production by other municipal users shows no sign of an increasing trend. Production for Mission Hills has remained essentially constant at 700-800 ac-ft/yr since the early 1990s, and production for Vandenberg Village has similarly

remained around 1,540 ac-ft/yr. Future population trends in those communities are unknown; but if recent trends are any indication, future increases in pumping are likely to be small.

Agricultural pumping would decrease in areas where cropland is urbanized. This would occur in annexation areas A, B and possibly C. In Area A (Bailey Avenue), the decrease in production would be the average irrigation rate for truck crops (1.57 ft/yr) multiplied by the 255 irrigated acres presently on the site, or 400 ac-ft/yr. The locations of the proposed mobile home/RV park and senior housing in Area B (River Area) have not been specified. If they are built on 23 acres of cropland, there would be a decrease of 36 ac-ft/yr in agricultural pumping. Urbanization of the 25-acre orchard in Area C (Miguelito Canyon) would decrease irrigation use by about 39 ac-ft/yr. The orchard is approximately 0.4 mile upstream of the Lompoc plain area. If the orchard is presently irrigated with groundwater, the decrease in groundwater pumping could affect the water budget of the groundwater basin, but might primarily affect flow in San Miguelito Creek. From the City's standpoint, a conservative estimate is that the only decrease in groundwater pumping from the main part of the basin would be for irrigation of Area A (Bailey Avenue). Thus, for planning purposes, the anticipated change in groundwater pumping by users other than the City of Lompoc would be a decrease of 400 ac-ft/yr in the Bailey Avenue area.

Groundwater recharge from rainfall and irrigation would also change as a result of changes in land use. For this analysis, cropland boundaries and crop types outside the annexation areas are assumed to remain unchanged, as is the extent of developed lands at Mission Hills, Vandenberg Village, the U.S. Penitentiary and elsewhere. This leaves the land use changes in Lompoc and the annexation areas. **Table 6** shows estimated recharge for the H Street corridor and each annexation area under existing and developed conditions based on the percentages of impervious, irrigated and nonirrigated area. The overall percentages for the annexation areas are weighted averages based on the acreages of proposed development types within each area. The net change would be a decrease in average annual recharge of 167 ac-ft/yr. The largest individual change in recharge would be a decrease of 212 ac-ft/yr in recharge on Area A (Bailey Avenue). Area C (Miguelito Canyon) would experience an increase in recharge of 47 ac-ft/yr, largely because the amount of assumed landscape irrigation at the 104 residences collectively exceeded the irrigation demand of the existing orchard. Changes in recharge at the other locations were small (-4 to +1 ac-ft/yr). Dispersed infill development on vacant and underutilized parcels within the City was assumed to result in no change in recharge. This is reasonable if most of the infill consists of converting parking areas to buildings or increasing the height of existing buildings. The largest overall decrease in recharge would occur under Alternative 3, which includes Area A (Bailey Avenue) but not Area C (Miguelito Canyon). Under that alternative, recharge would decrease by 214 ac-ft/yr.

Combining the expected increase in City pumping (2,543 ac-ft/yr), the decrease in agricultural groundwater pumping (400 ac-ft/yr) and the maximum decrease in groundwater recharge (214 ac-ft/yr) results in a net decrease in the groundwater budget of 2,357 ac-ft/yr. This deficit would need to be replenished by increased river percolation in

order to be sustainable. This would amount to a 31% increase over historical percolation, but it represents only 2% of the average annual discharge at the Narrows. Several lines of reasoning support a conclusion that percolation would increase to offset the other changes in the groundwater budget. First, the City's wells are more strategically located than any other wells in the basin for inducing additional river percolation. They are located where the river first enters the basin and have the first opportunity to capture additional recharge. The permeability of the riverbed and shallow subsurface materials between the Narrows and H Street is high, and there are few intervening fine-grained layers to obstruct the flow of water from the river to the main zone. Second, the groundwater budget was historically more negative than the anticipated future budget, and the historical condition was not associated with groundwater overdraft or excessive water-level declines during droughts. Finally, previous modeling studies have found that increased pumping can cause temporary decreases in groundwater storage during droughts, but that the river is capable of replenishing the deficit during subsequent wet periods (Hydrologic Consultants, Inc. 1996 and 1997).

Thus, it appears that the changes in land use and groundwater production envisioned in the General Plan alternatives would be offset by increases in river percolation with no long-term declines in water levels.

Drought

Groundwater levels near the City's wells would decline farther during future droughts because of the higher production rates associated with the General Plan alternatives. The amount of drawdown around a well is proportional to the pumping rate, and this relationship can be used to obtain a rough estimate of the additional lowering of groundwater levels. During the 1984-1990 drought, water levels at the City's wells declined by 20-25 feet, except at Well 7 where dissipation of the recharge mound beneath the river contributed an additional 25 feet of decline. Annual production during the drought averaged 4,980 ac-ft/yr. Anticipated production at buildout is 8,140 ac-ft/yr, or 63% more than during the 1984-1990 drought.¹ Water level declines during a similar drought after buildout would thus be roughly 33-41 feet, ending at elevations around 15-20 feet above sea level. The pumps in the City's wells are at elevations of 4 to 92 feet below sea level. Therefore, the additional drawdown during future droughts would not likely cause any of the pumps to break suction.

Vandenberg AFB and the U.S. Penitentiary were both using groundwater as their sole supply during the 1984-1990 drought. Thus, the above calculations already account for any resumption of pumping by those users if their imported supply is curtailed during droughts.

¹ According to the terms of the intertie agreement between the City of Lompoc and Mission Hills CSD, the City would not supply water to development in Area D (the Wye). It is assumed here that Mission Hills CSD would supply water to new development in that area, and that the net effect on the basinwide groundwater budget would remain the same.

Uncertainty in State Water Project Deliveries

A decrease in future deliveries of State Water Project (SWP) water to south-of-Delta customers could impact Lompoc's water supply in two ways:

- The average salinity of the Santa Ynez River at the Narrows would increase because there will be fewer times when Lake Cachuma releases are blended with SWP water.
- Vandenberg AFB and the U.S. Penitentiary could conceivably be forced to temporarily resume using groundwater if SWP deliveries to those entities are significantly reduced during drought periods. This would increase groundwater use in the Lompoc area during droughts and accelerate the drawdown of groundwater storage.

The California Department of Water Resources (DWR) updated its simulations of SWP operations to reflect current modeling of climate change impacts on supply and demand and restrictions on Delta export pumping imposed by the August 31, 2007 federal court decision related to protection of Delta fish species (DWR 2007). SWP operations are simulated using the CalSim II model. In the simulation results, projected deliveries were 33-37% of contract amounts (Table A amounts) for 2-year to 6-year drought conditions occurring within the next 20 years. Actual water use by SWP contractors in recent non-drought years averaged 80% of the Table A contract amounts, so the future drought deliveries are approximately half the amounts currently delivered in normal years.

If Vandenberg AFB and the U.S. Penitentiary needed to pump groundwater to make up for cutbacks in imported water deliveries during droughts, the additional pumping could amount to approximately 1,100 ac-ft/yr. The effect of this temporary increase in pumping was already accounted for in the above discussion of drought conditions.

Uncertainty Due to Climate Change

Climate change could affect water supply and water demand conditions in the Lompoc area. A longer dry season or increased evaporative demand could increase irrigation water use for cropland and urban landscaping. A decrease in precipitation would cause a decrease in rainfall recharge and in river flow and percolation. Although climate change and its implications for water resources are receiving substantial attention at the national and international scale, few studies have evaluated hydrologic effects in the California Coast Ranges.

Several years ago, major reports by national and international climate change research groups presented simulations of North American hydrology under various global warming scenarios that indicated a trend toward more intense precipitation events and increased risk of floods and droughts (USGCRP, 2000; IPCC, 2001). However, other studies that examined historical trends or that downscaled the results of global climate models to smaller regions have found highly variable results for different locations. For

example, a review by the U.S. Geological Survey of over 100 scientific studies of the effects of climate change on North American hydrology found evidence of an “intensification of the water cycle”. This was manifested as increased atmospheric moisture, precipitation, runoff and evapotranspiration on an annual basis, but not more extreme flooding or tropical storm events (Huntington 2006). Similarly, Kunkel et al (1999) documented statistical trends in extreme precipitation since 1930 using a nationwide data set, but the California stations exhibited no trend.

The great majority of climate change studies in California have focused on decreasing snowpack in middle- to high-elevation watersheds in the Sierra Nevada (Dracup and Vicuna, 2005). This effect is well documented in streamflow records and is consistently predicted by climate models (Miller and others, 2003; Vicuna and others, 2007). Simulations of a snow-free watershed in the northern California Coast Ranges showed that runoff was insensitive to temperature changes (Miller and others 2003). A statistical analysis of runoff patterns in hundreds of undisturbed watersheds throughout the western United States and Canada revealed a trend toward increased spring runoff at gages in Coast Ranges of central California (Stewart and others 2005). Specifically, the center of mass of annual runoff occurred later by an average of 15-20 days over the past half century. Because snow is not a factor in central coast hydrology, increased spring runoff must have resulted from increased spring precipitation relative to the winter months.

Climate models still have considerable uncertainty in projecting coastal California precipitation. New work is in progress to evaluate very high resolution coastal processes, but this has not yet been published (Prof. Norman Miller, Lawrence Berkeley Lab, pers. comm. October 2, 2008).

If the regional historical trend toward increased spring precipitation and runoff is occurring in the lower part of the Santa Ynez River watershed, it is advantageous from a water supply standpoint. This pattern would simultaneously decrease irrigation demand and increase percolation opportunity along the Santa Ynez River during the first part of the growing season. Thus, the tentative conclusion from a single study is that climate change is probably not adversely affecting groundwater availability for the City of Lompoc.

Water Quality

The principal water-quality problem facing the City of Lompoc is long-term increases in groundwater salinity, or total dissolved solids. Long-term increasing trends have been documented in numerous wells on the Lompoc plain beginning as long ago as 1940 (Bright and others 1997, Hydrologic Consultants, Inc. 1997). Increases of several hundred to 1,000 mg/L over 20-40 years is common. In contrast, the average salinity in City of Lompoc wells has remained stable or declined slightly since the 1960s, as shown in **Figure 20**. The different patterns are partly the result of location. Increasing salinity is most common in agricultural areas in the central and western parts of the plain. The largest source of salt is evaporative concentration of irrigation water, and the western part

of the plain is far from the diluting effects of river recharge. The City's wells, in contrast, are upgradient of agricultural areas, and local groundwater is frequently diluted with river recharge.

The City treats raw groundwater with a centralized softening process that also decreases salinity from about 1,200 to 800 mg/L. Because of the strong influence of river recharge on groundwater salinity at the City's wells, the salinity of raw water can be expected to remain stable for the foreseeable future. Changes in Lake Cachuma or SWP operations, or actions by other users between Lake Cachuma and the Narrows could alter the salinity of river water, but any such changes are speculative.

The principal effect of the General Plan alternatives on groundwater quality would stem from urbanization of agricultural lands. Urbanization has been estimated to decrease the salt load to the groundwater basin by 80 percent (Hydrologic Consultants, Inc. 1997), so the alternatives would tend to improve groundwater quality.

Regulatory Compliance for Water Resources Planning

As a water purveyor, the City of Lompoc is required to comply with several state laws enacted during the past 13 years directed at ensuring that long-term water supplies will be adequate for large proposed development projects. These requirements include the preparation of an Urban Water Management Plan (AB 901), written verification of sufficient water supply for new developments larger than 500 dwelling units (SB 221) and preparation of water supply assessments for large new developments (SB 610). SB610 has been incorporated into sections 10910 and 10912 of the California Water Code. Section 10910(f) lists specific information requirements for inclusion in water supply assessments if the source of supply is groundwater. Because the City of Lompoc is both a water purveyor and the approving agency for new development within the City, the reporting requirements of SB610 are for practical purposes internal communications among City departments.

The City completed an update of its Urban Water Management Plan in 2005, and the information it contains meets some of the requirements of SB 610. The present report provides most of the information needed for preparing water supply assessments, including a description of the groundwater basin, tabulations of historical and projected future groundwater pumping, a discussion of overdraft or lack thereof, and an analysis of the ability of the groundwater basin to supply the projected future demand. Information required by SB610 that is not contained in this report includes a discussion of the City's water rights.

The General Plan update meets the definition of a large project provided in section 10912 of the Water Code because the total amount of proposed new development exceeds 500 dwelling units.

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Figure 1. Location of Study Area and the Santa Ynez River Watershed

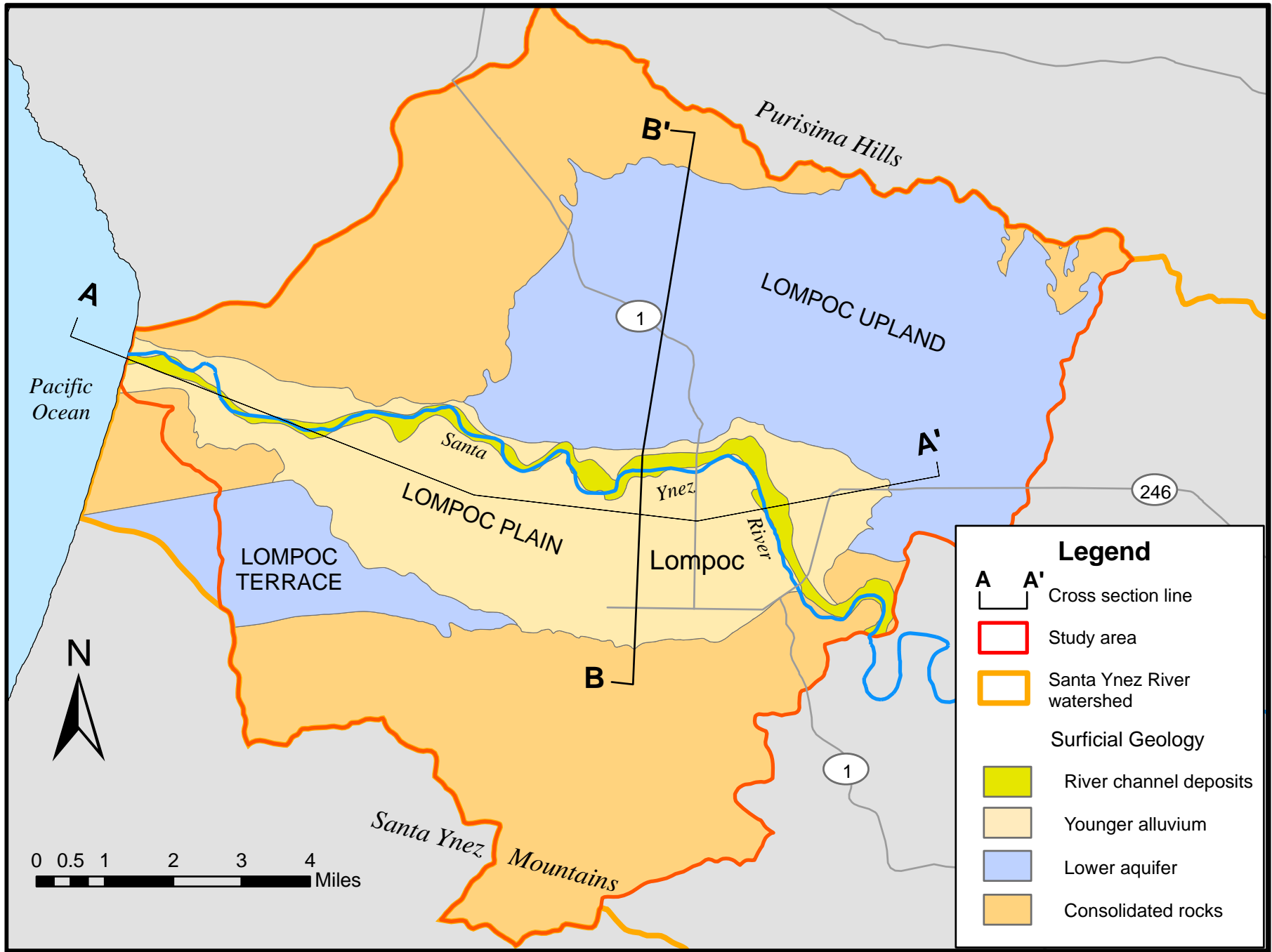
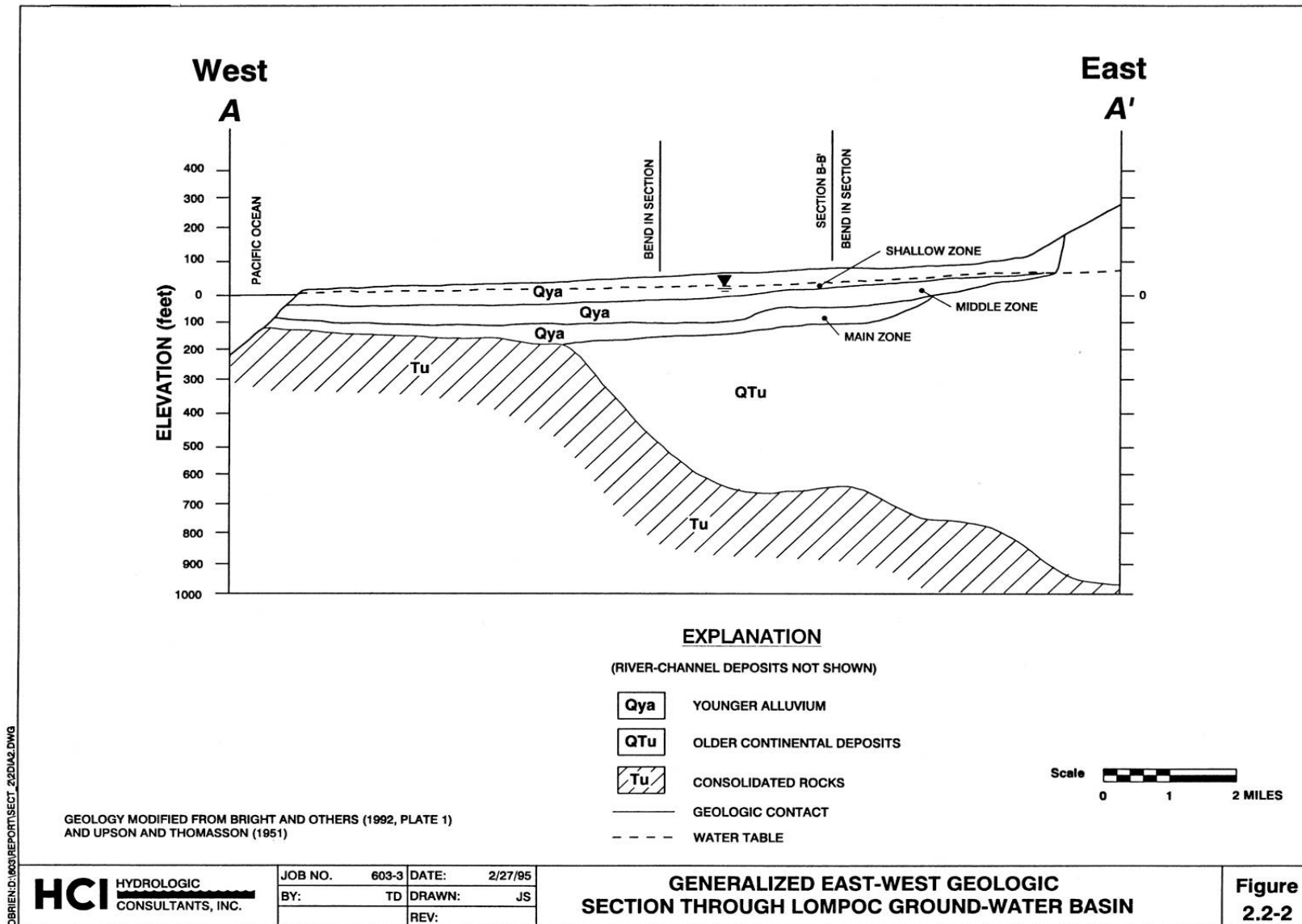


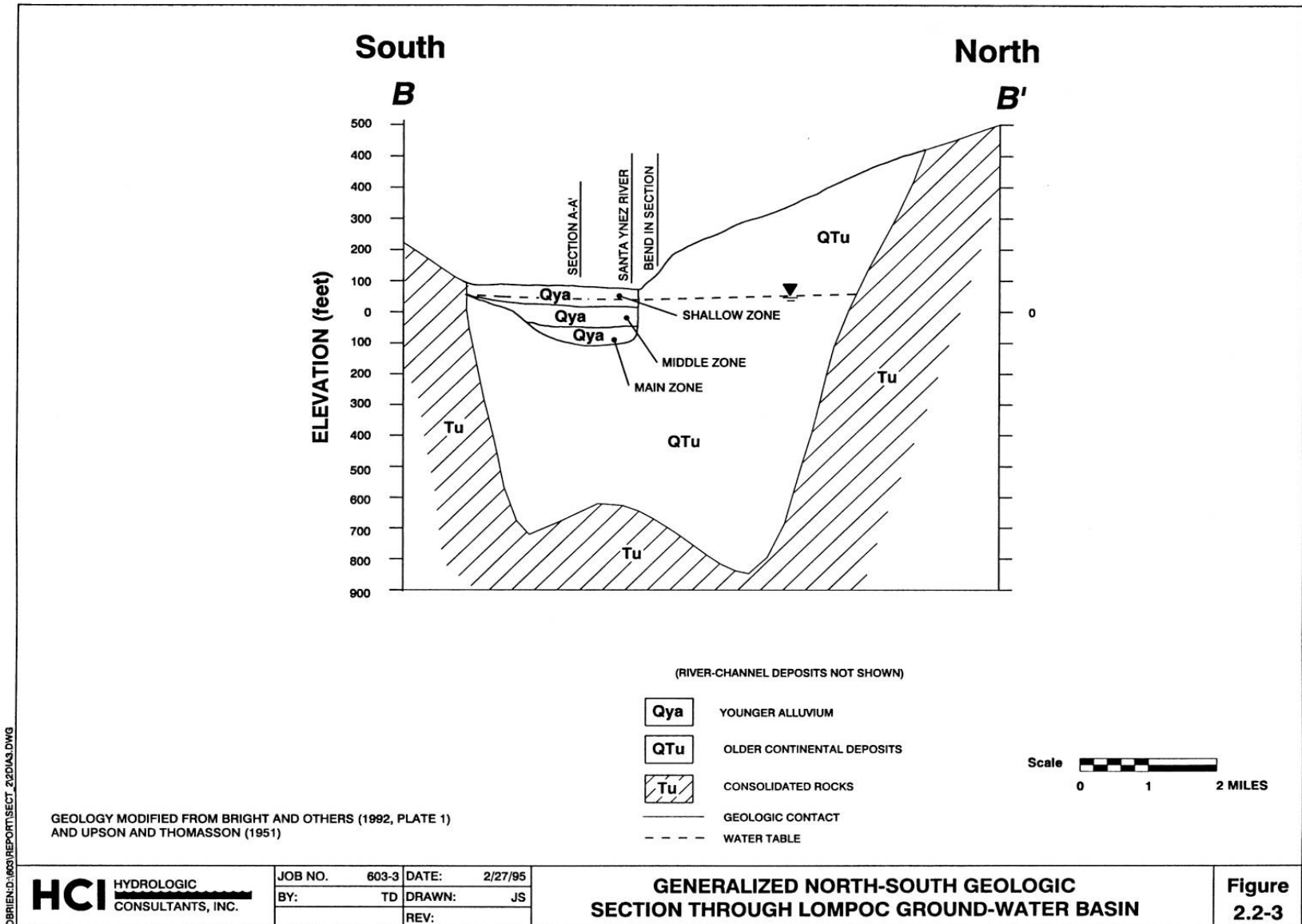
Figure 2. Geologic Map of the Lompoc Groundwater Basin



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Source: Hydrologic Consultants, Inc. (1997)

Figure 3a. Geologic Cross Section A-A'



Source: Hydrologic Consultants, Inc. (1997)

Figure 3b. Geologic Cross Section B-B'

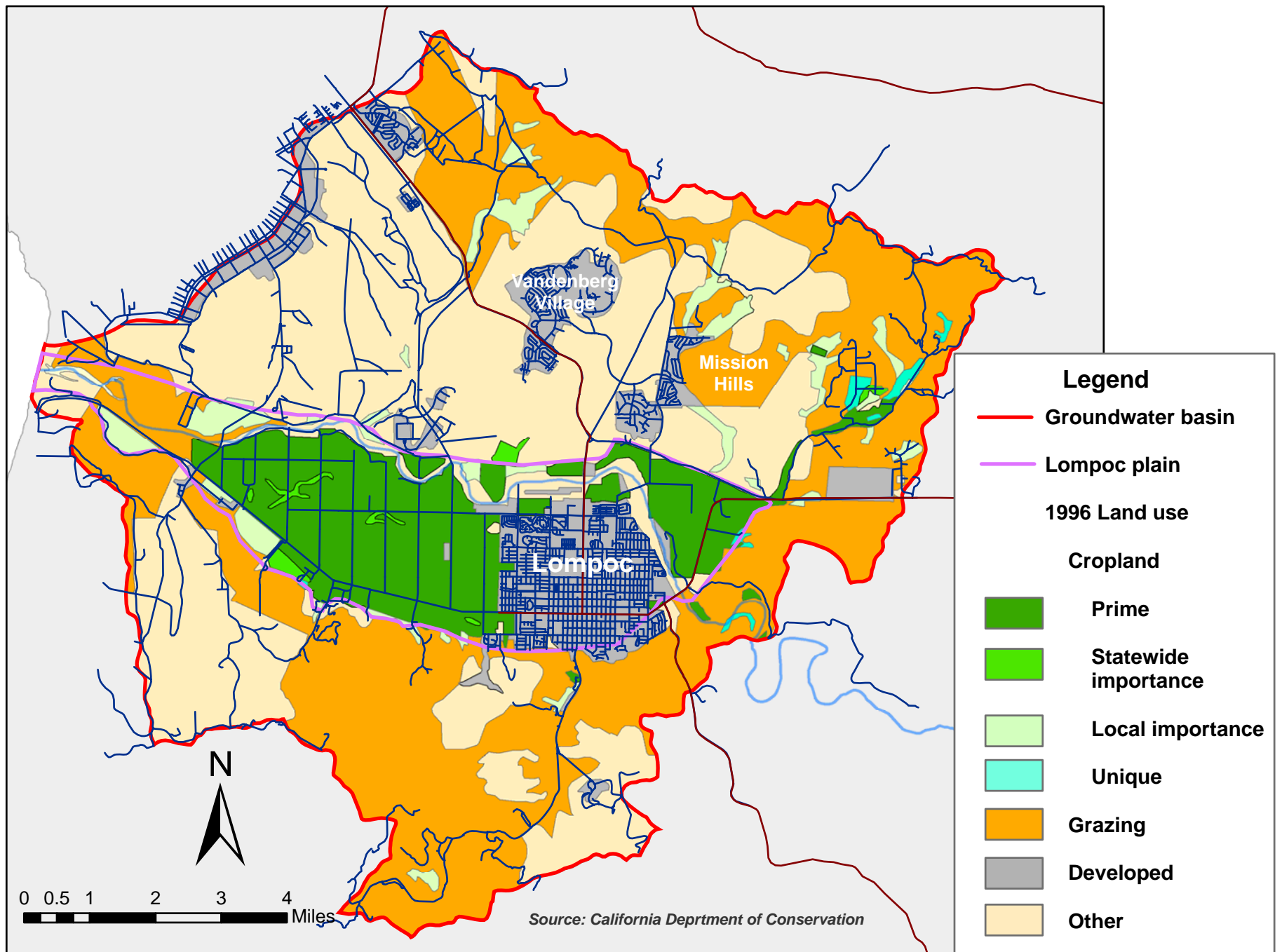


Figure 4. Land Use in the Lompoc Region in 1996

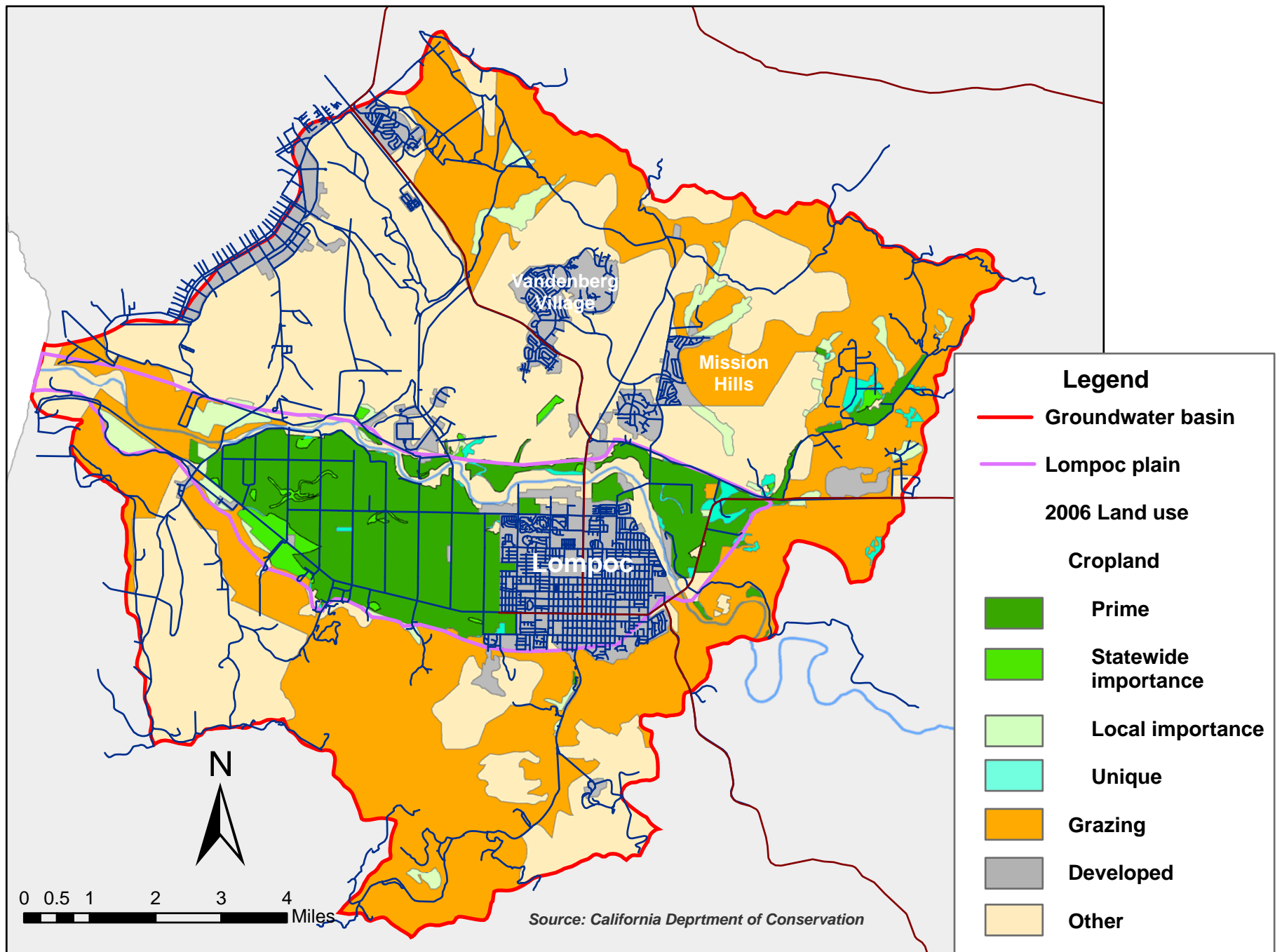


Figure 5. Land Use in the Lompoc Region in 2006

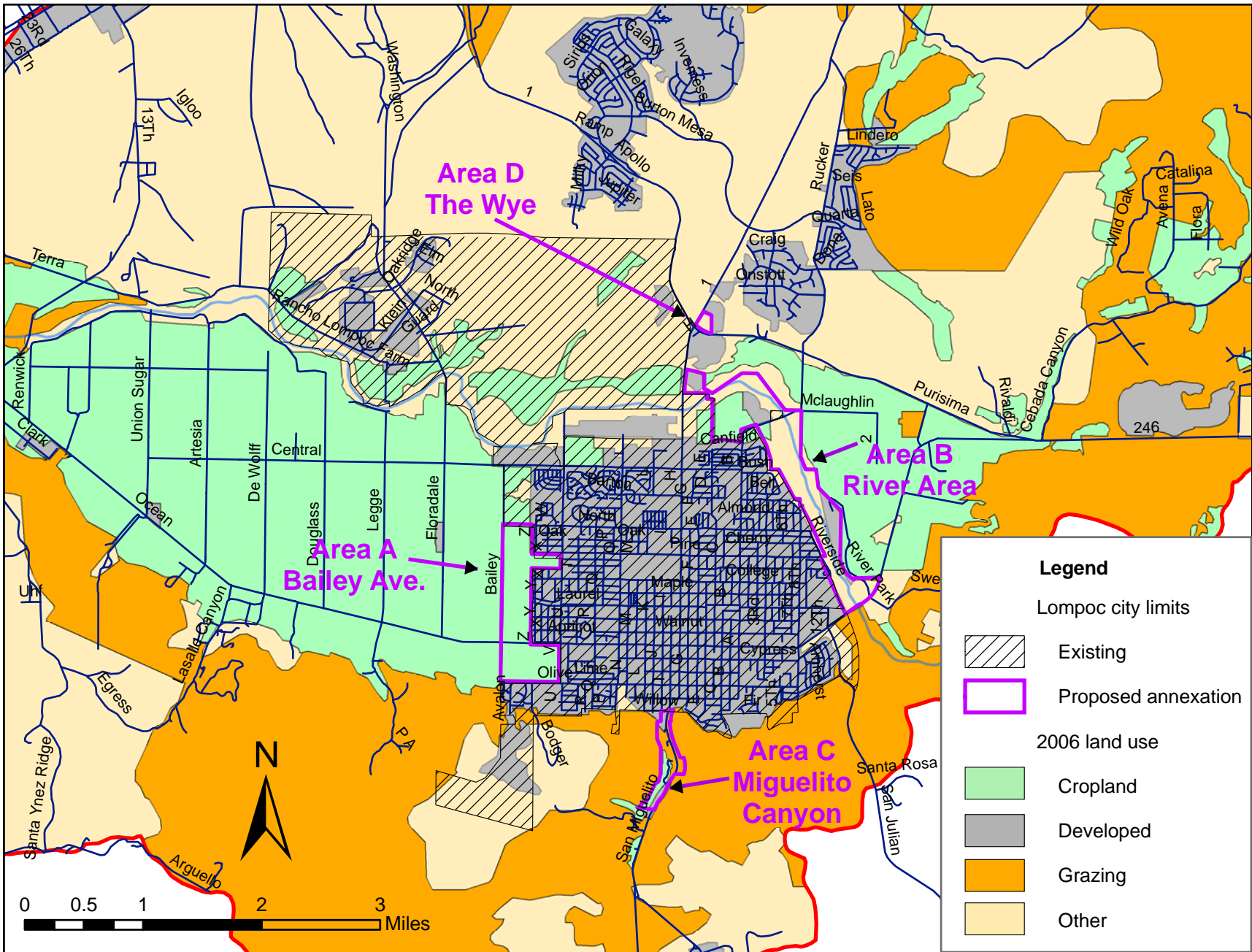


Figure 6. Proposed City of Lompoc Annexation Areas

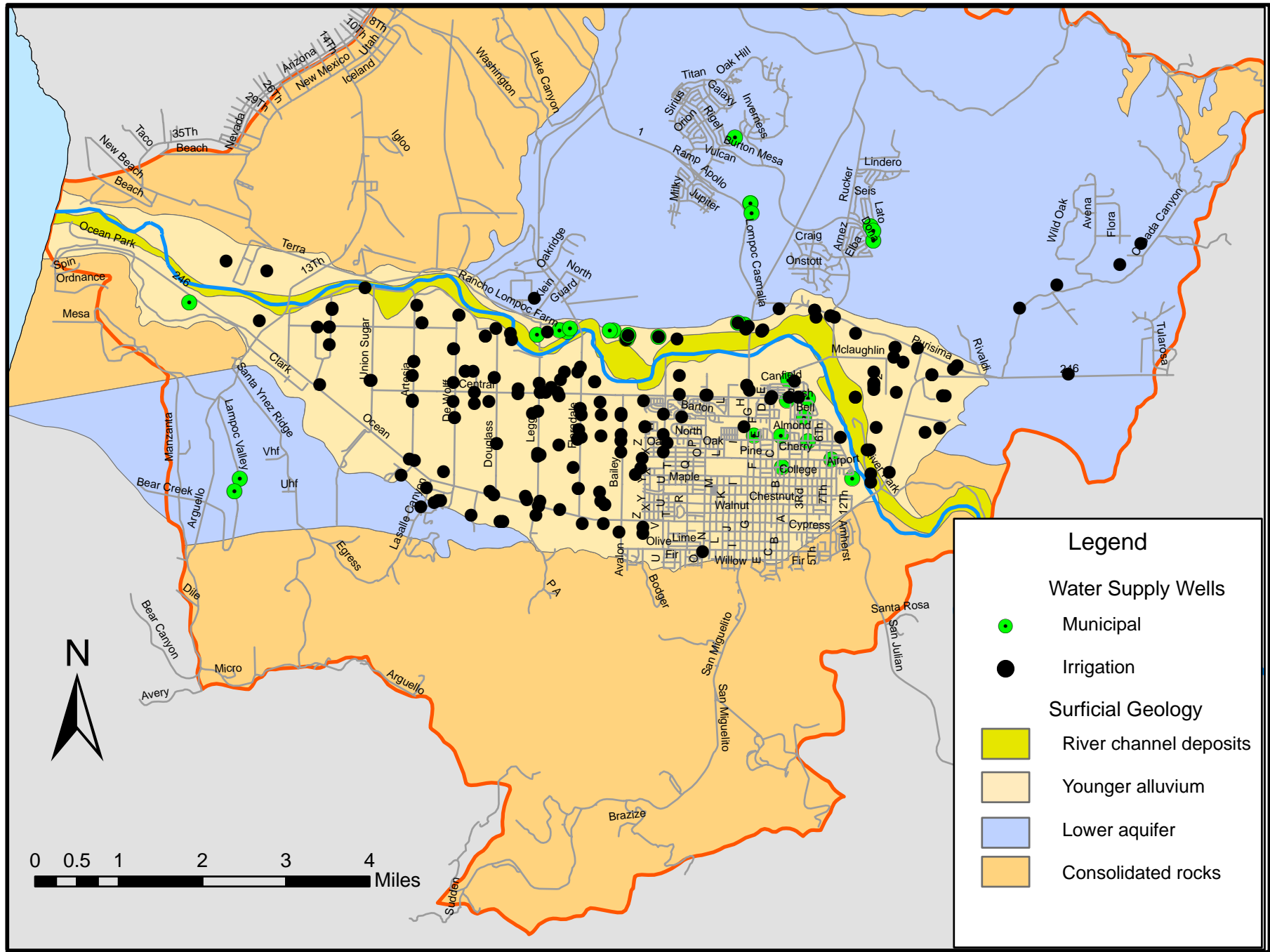


Figure 7. Locations of Water Supply Wells in the Groundwater Basin

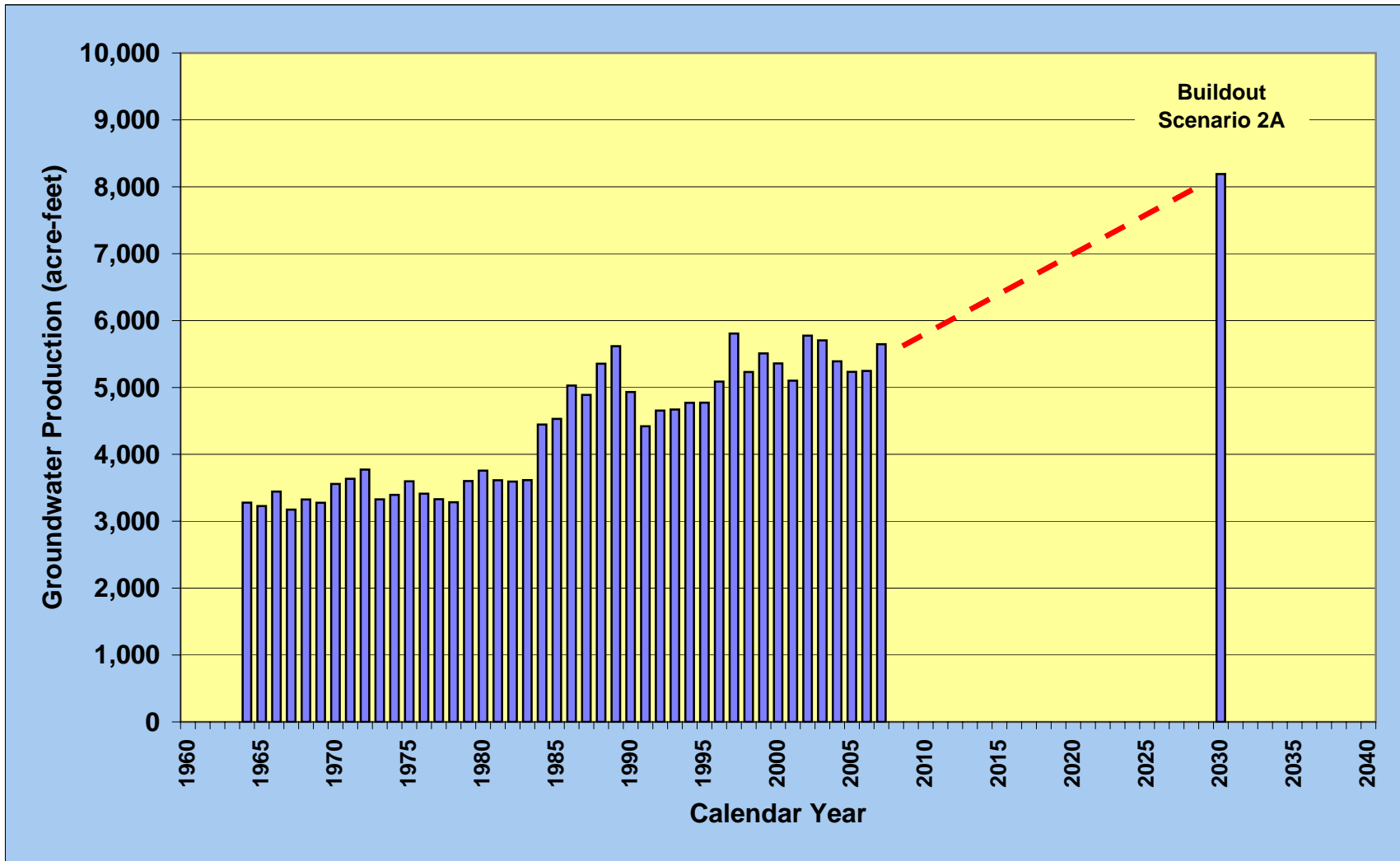


Figure 8. Historical and Projected Groundwater Production by the City of Lompoc

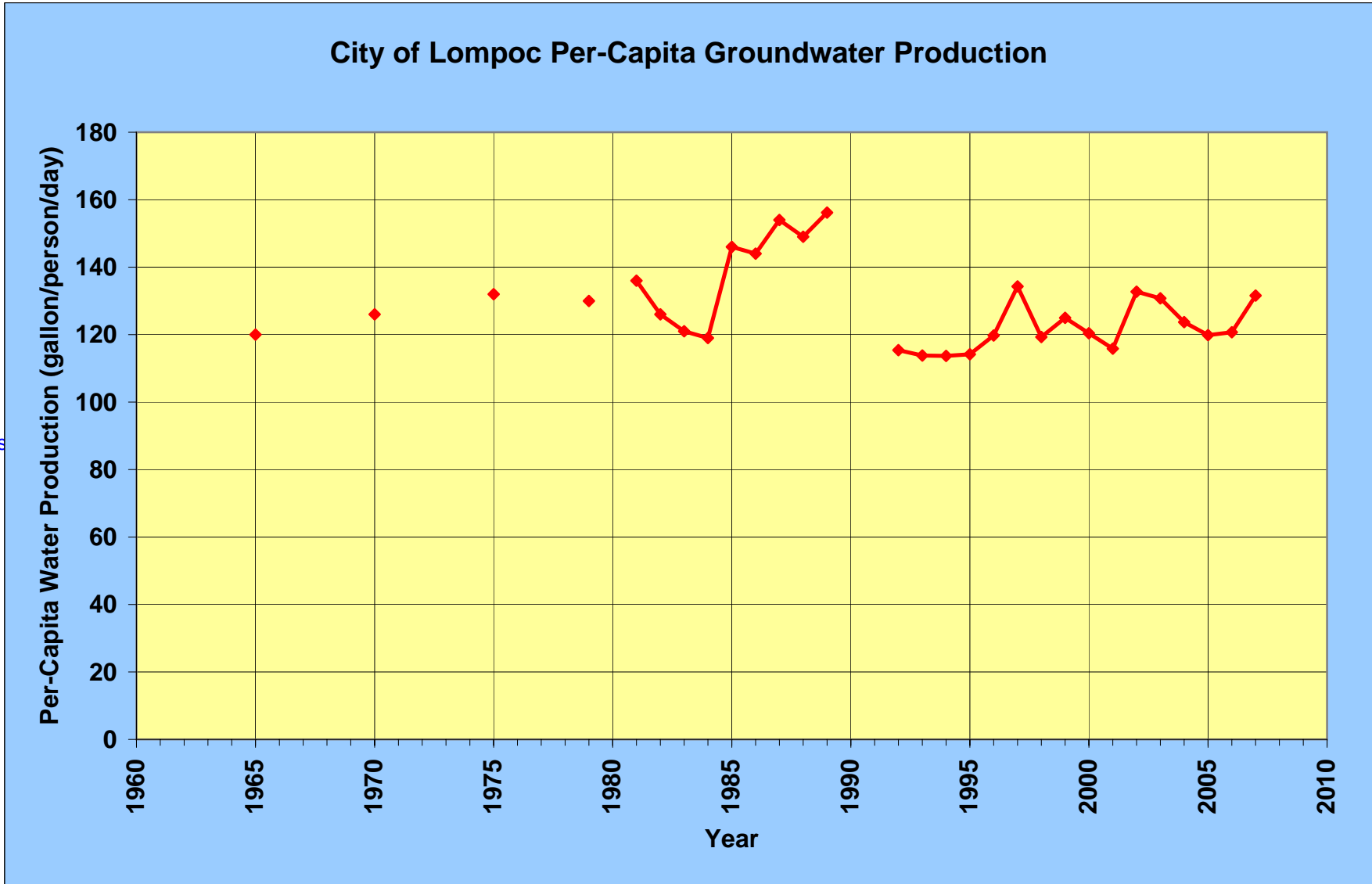


Figure 9. Per-Capita Water Use in the City of Lompoc, 1965-2007

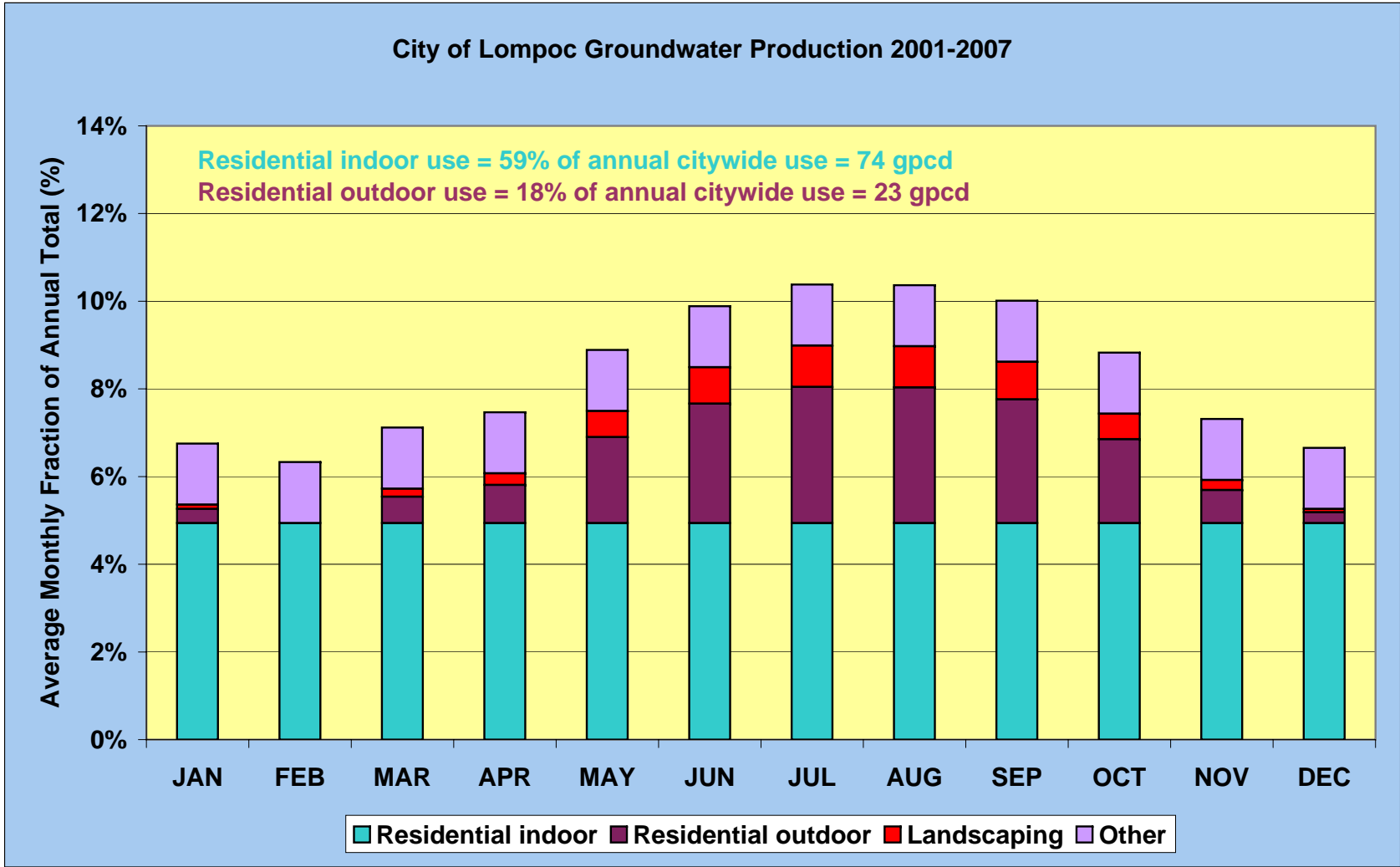


Figure 10. City of Lompoc Average Monthly Groundwater Production, by Type of Use

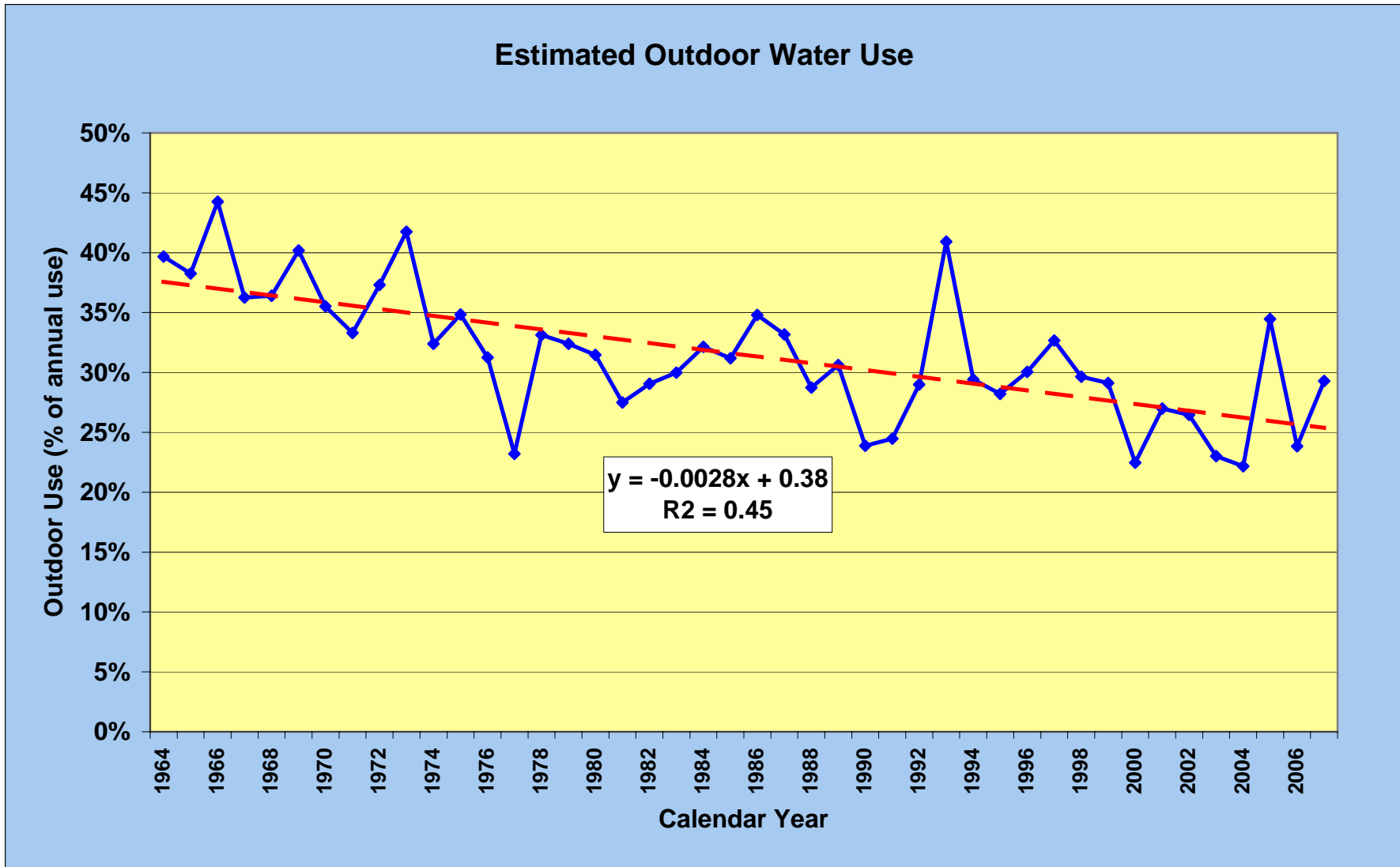


Figure 11. Estimated Outdoor Water Use in the City of Lompoc, 1964-2007

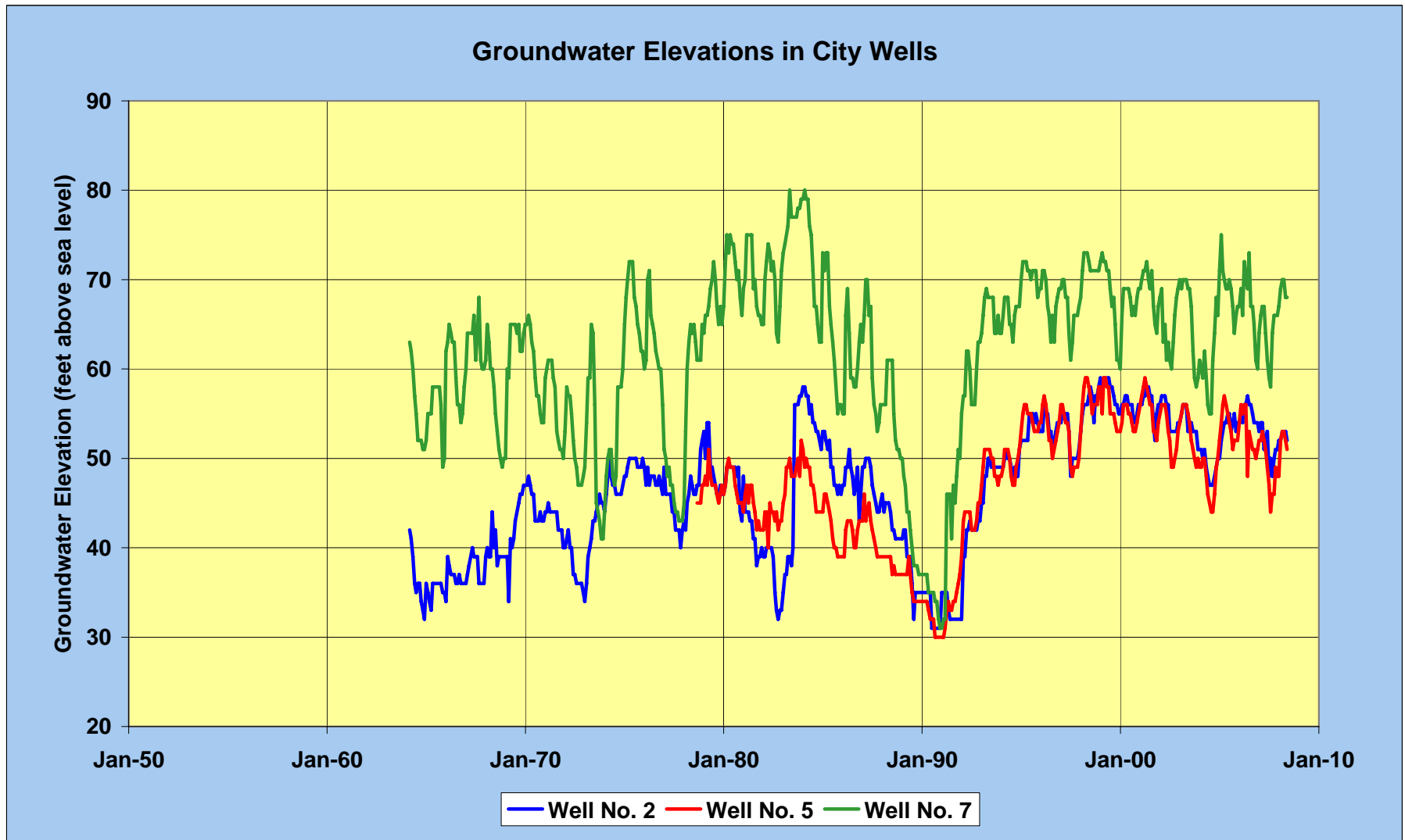


Figure 12. Hydrographs of Groundwater Elevations in Selected City of Lompoc Wells

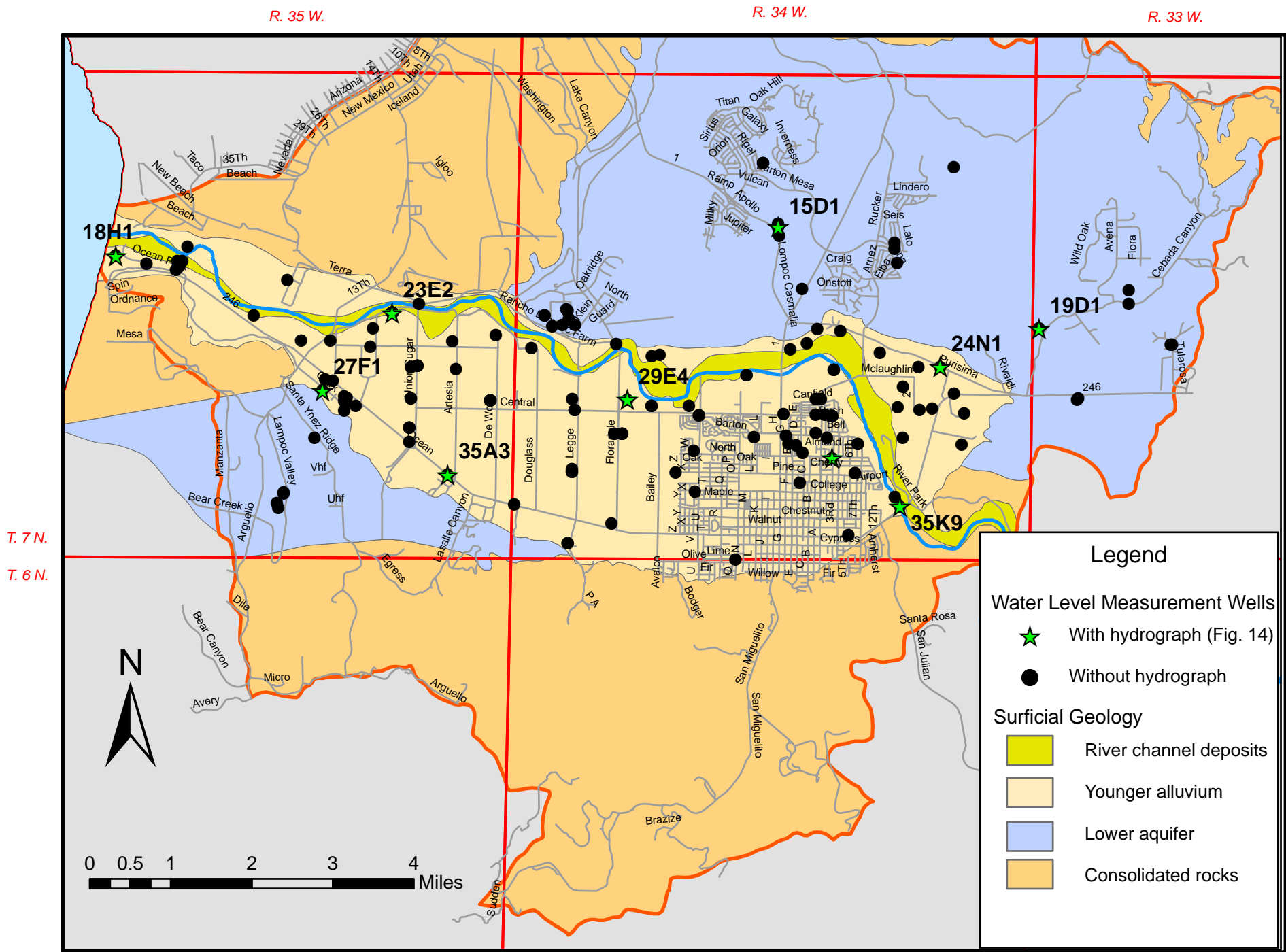


Figure 13. Locations of Wells with Water Level Measurements Compiled by the U. S. Geological Survey

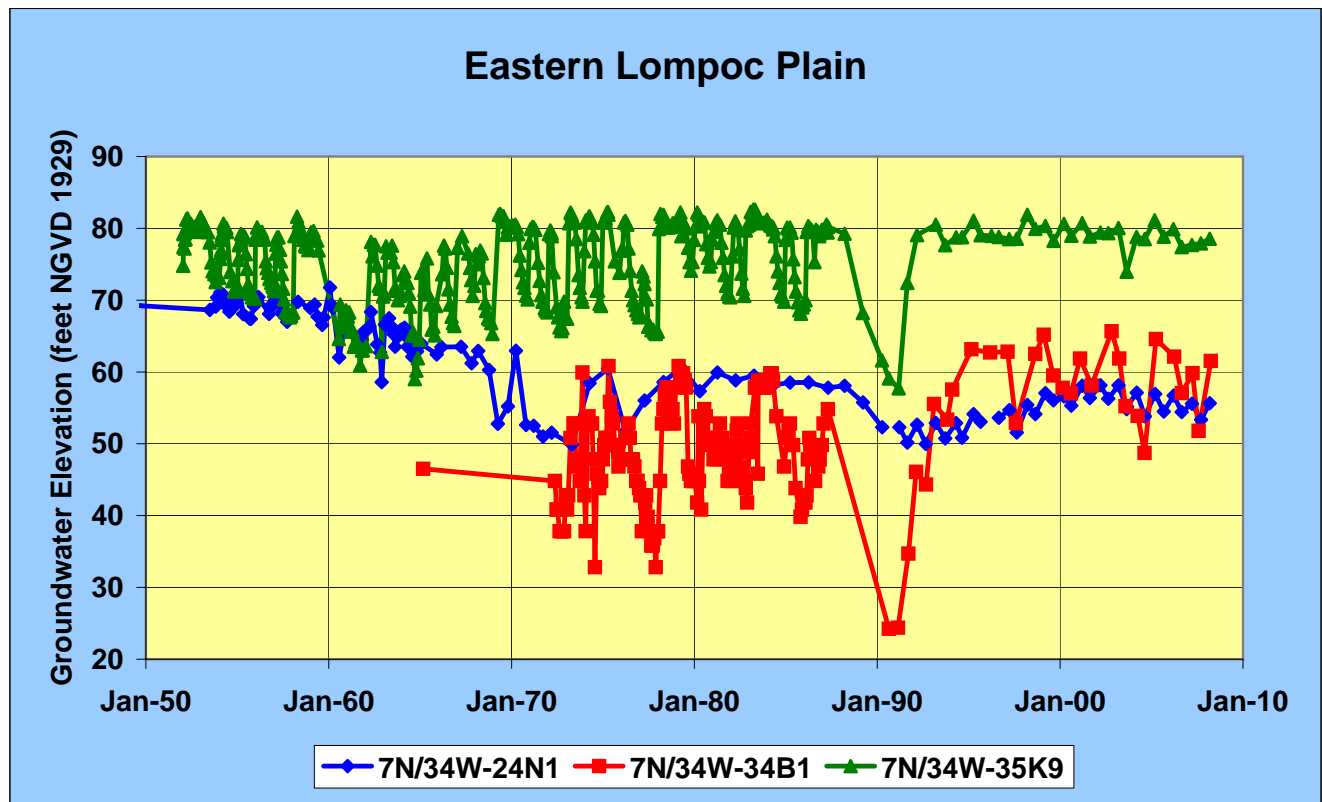
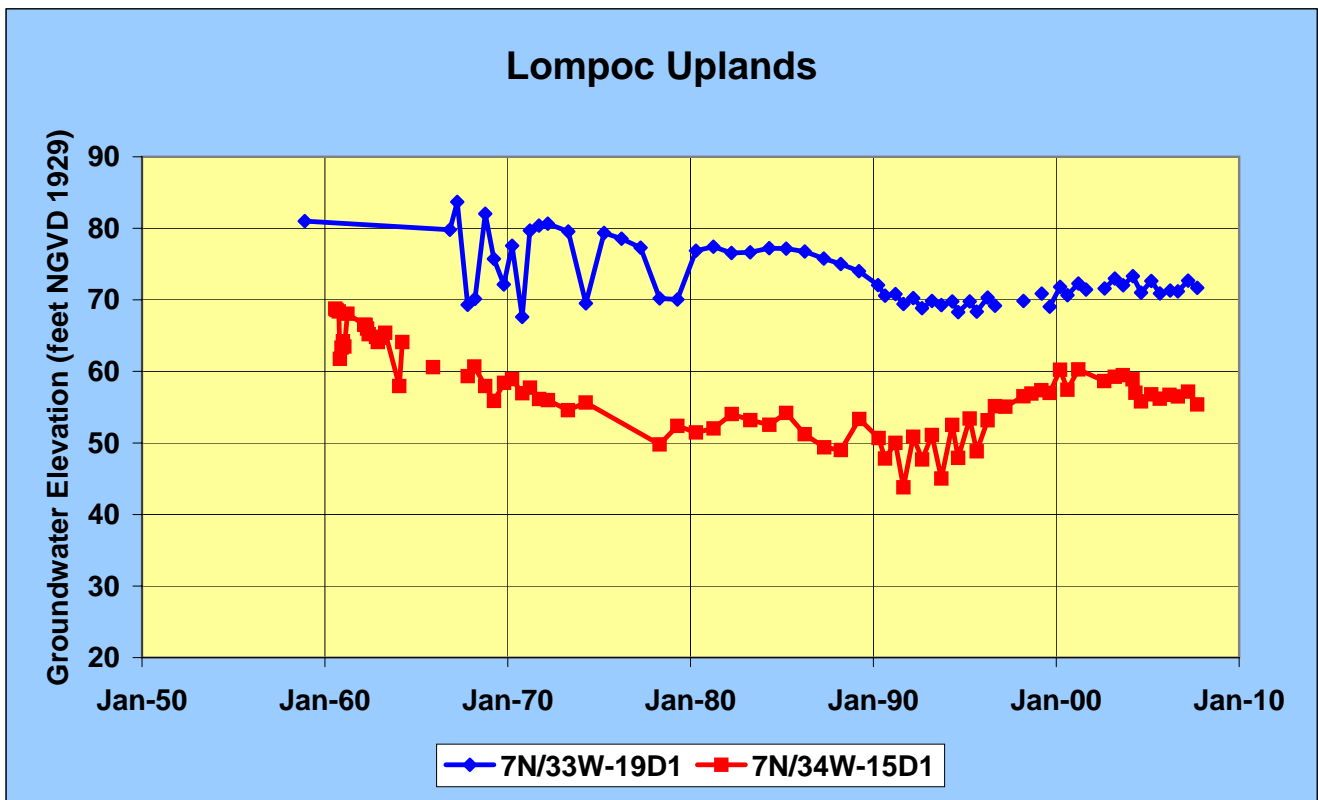


Figure 14. Hydrographs of Groundwater Levels at Selected Wells Throughout the Basin

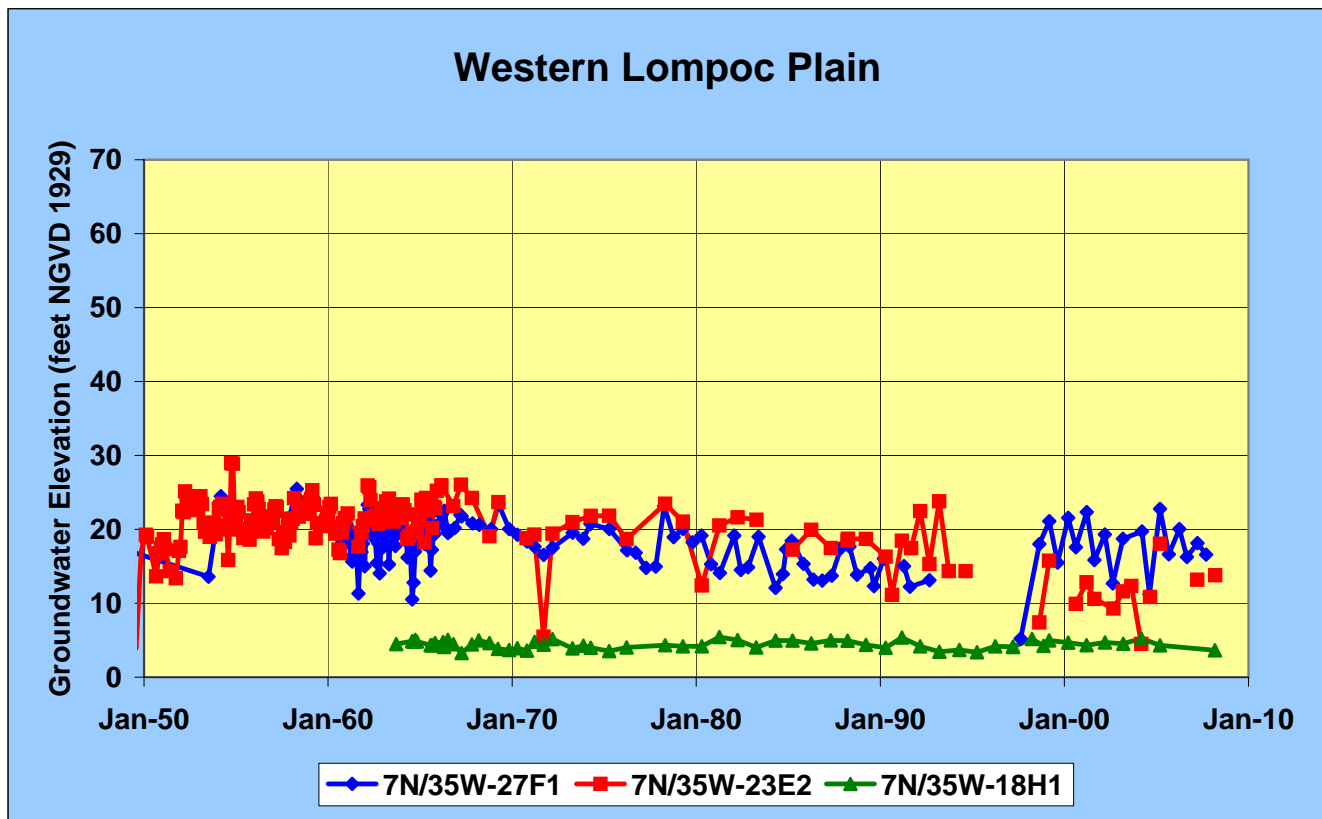
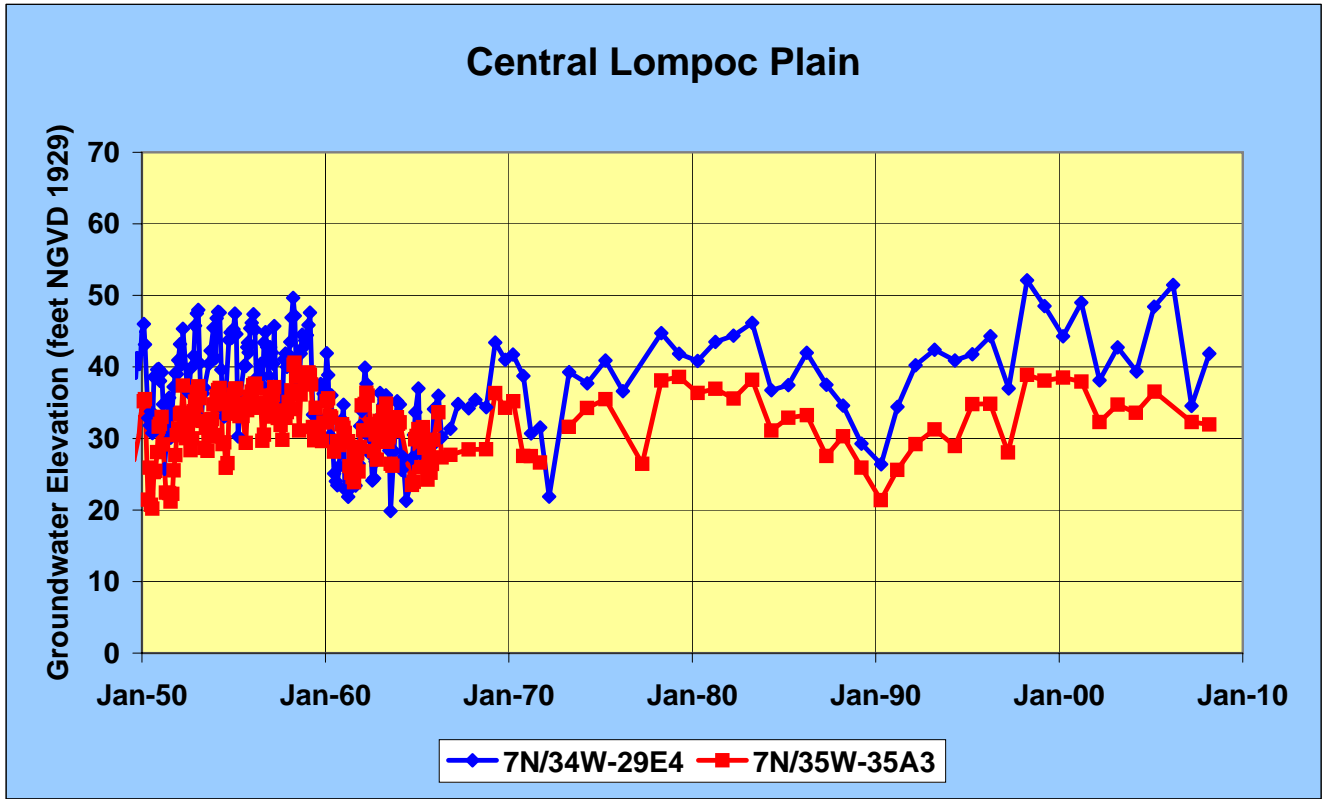


Figure 14 — continued

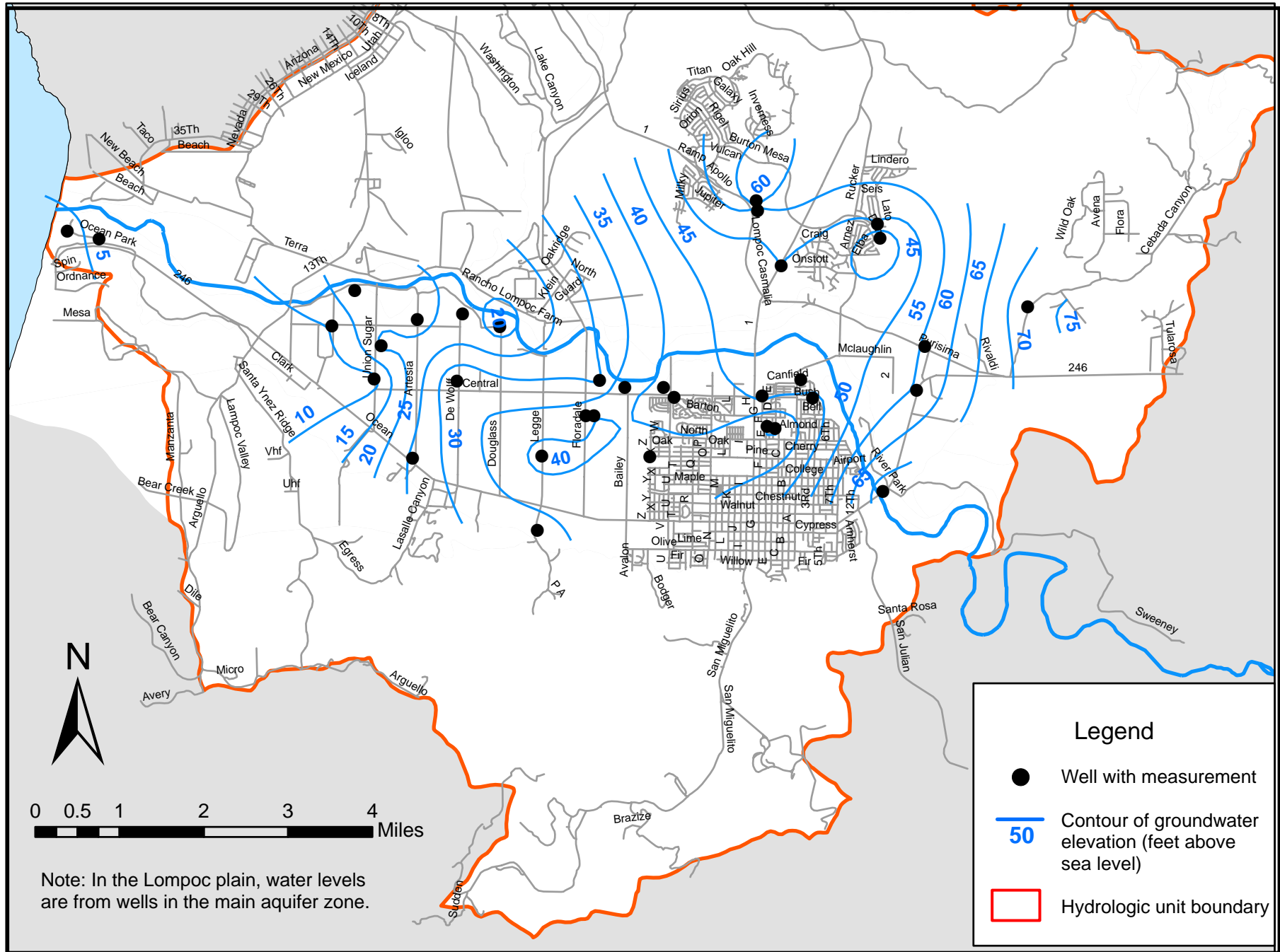


Figure 15a. Contours of Groundwater Elevation in Spring 1989

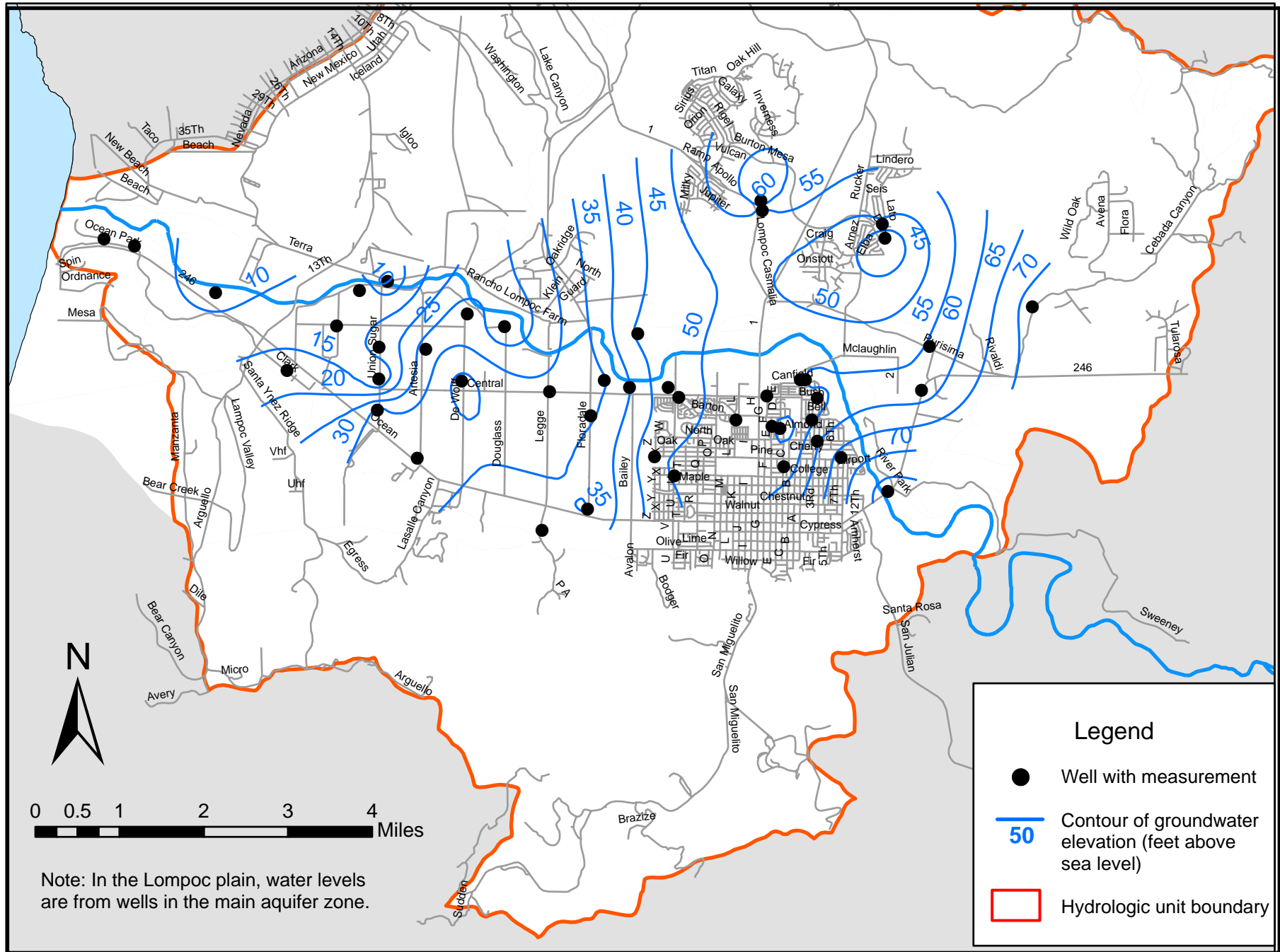


Figure 15b. Contours of Groundwater Elevation in Spring 2007

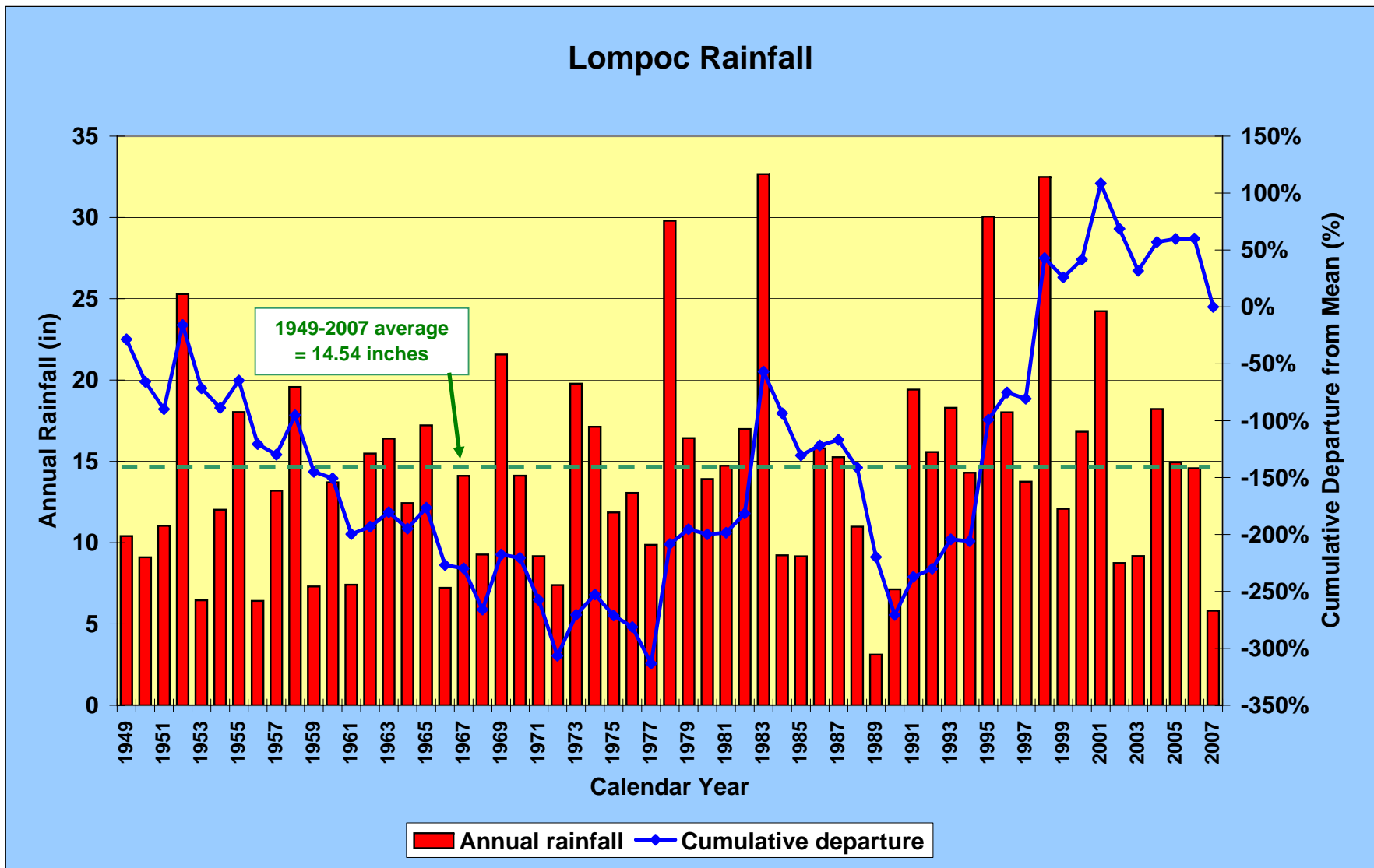


Figure 16. Annual Rainfall in Lompoc

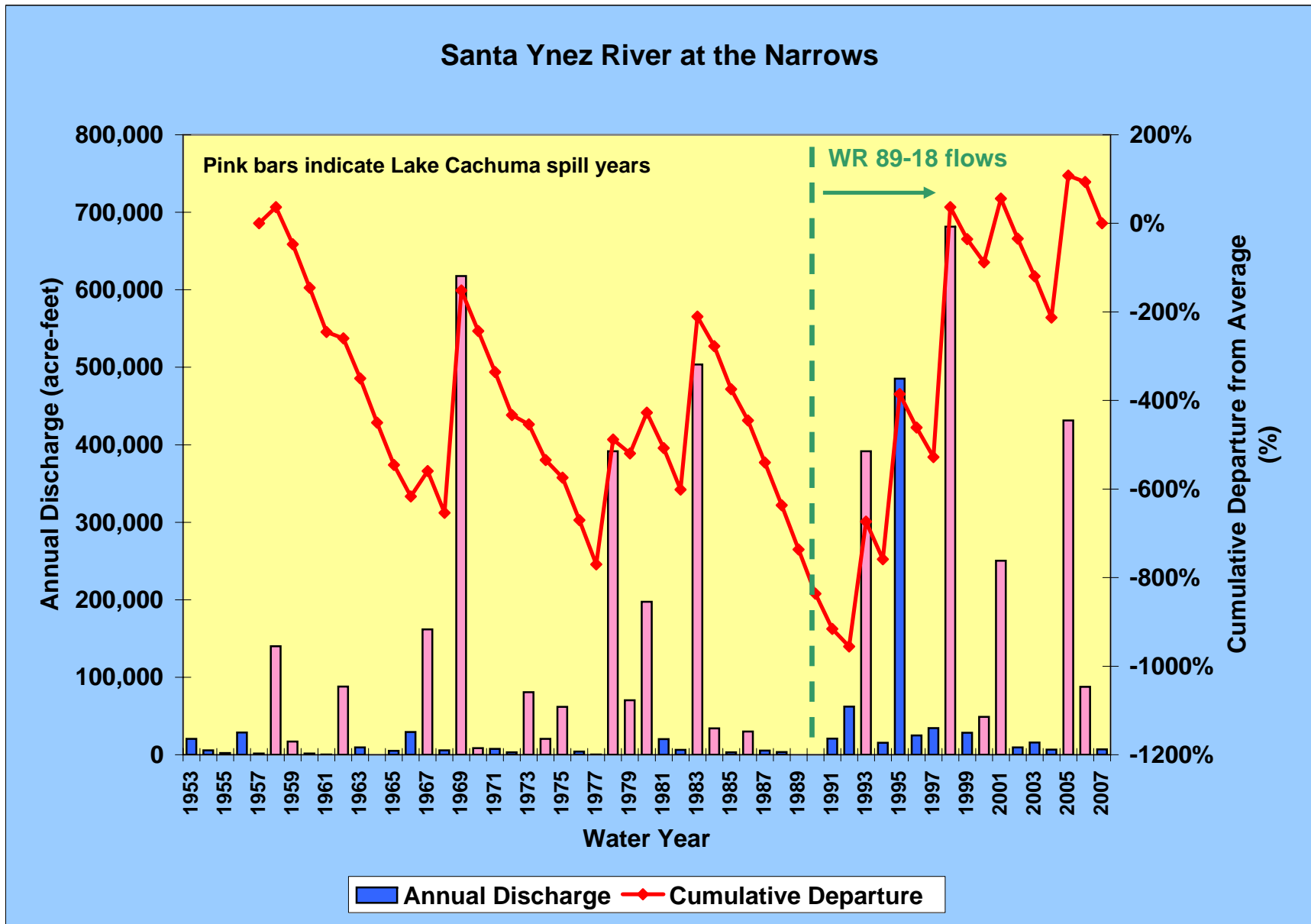


Figure 17. Annual Discharge in the Santa Ynez River at the Narrows, Water Years 1953-2007

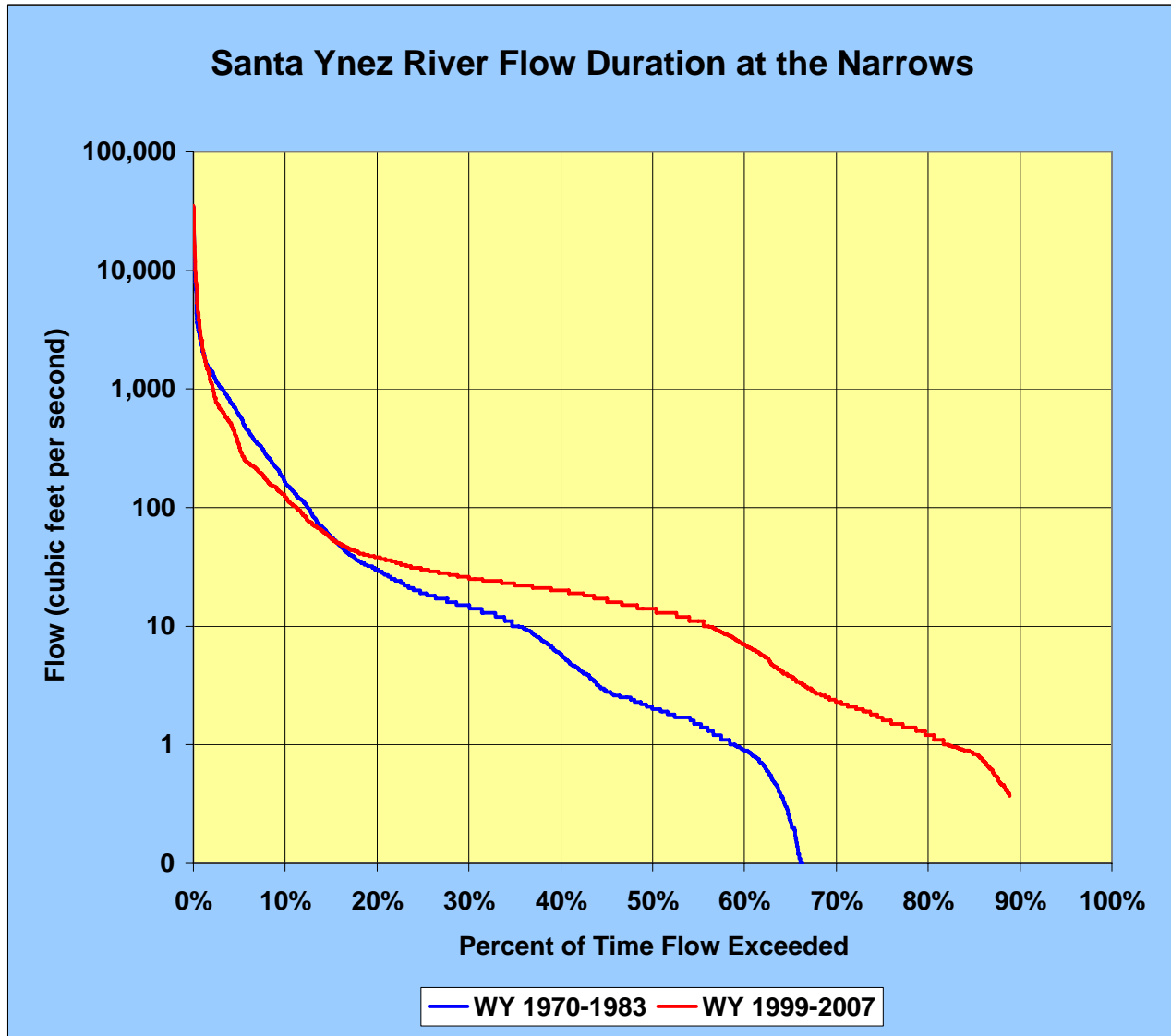


Figure 18. Flow Duration in the Santa Ynez River at the Narrows, Before and After WR 89-18

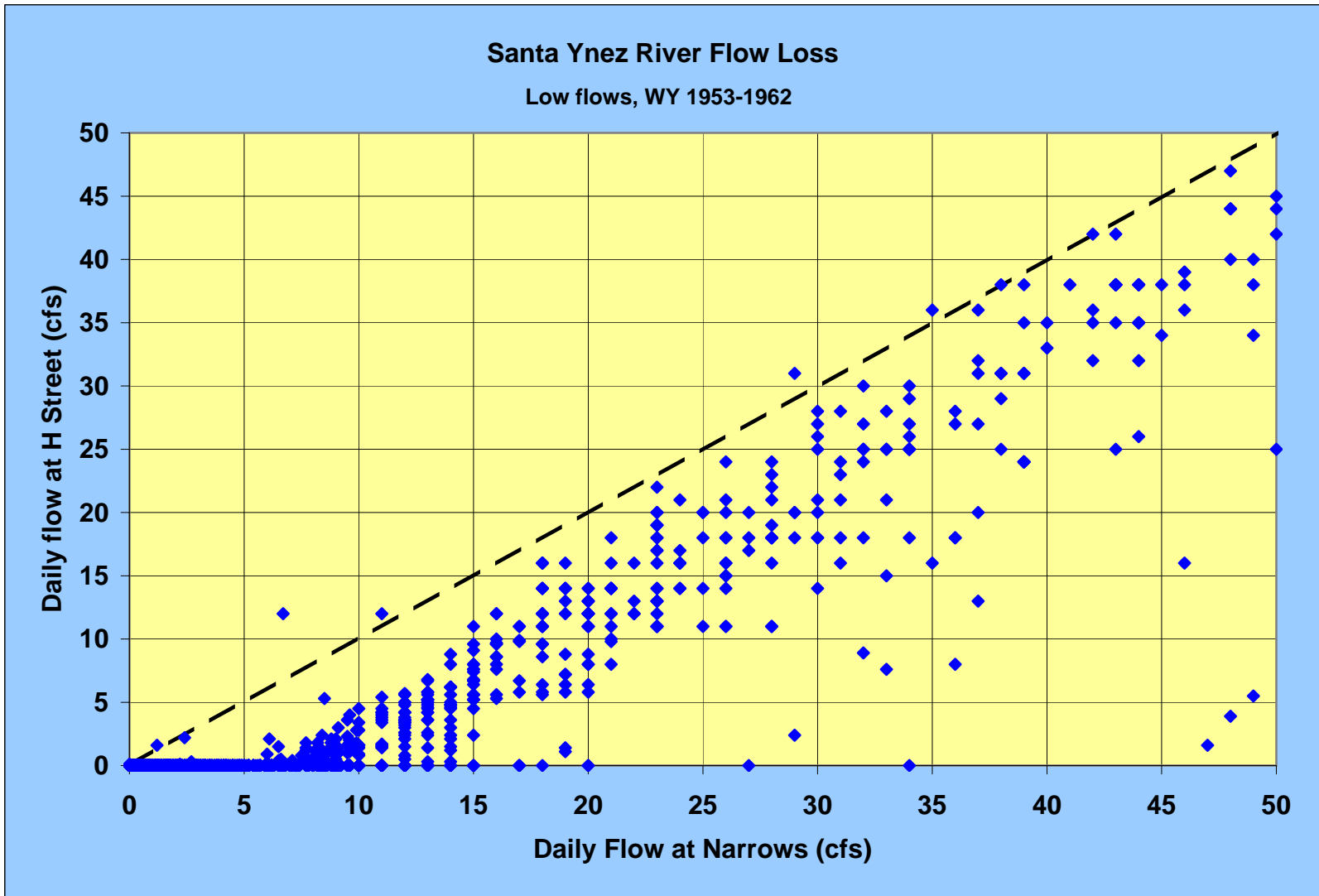


Figure 19. Comparison of Low Flows in the Santa Ynez River at the Narrows and H Street

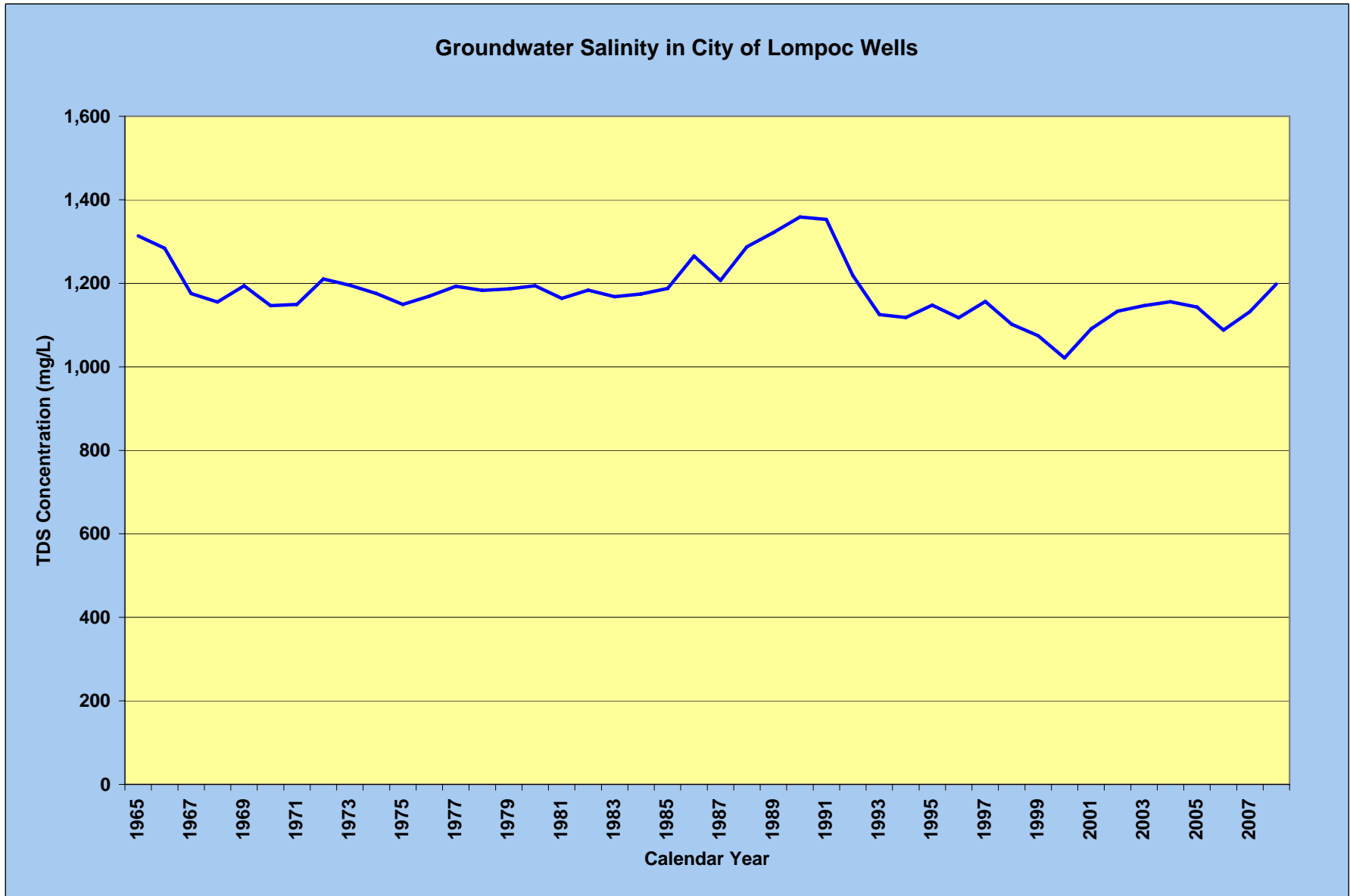


Figure 20. Average Groundwater Salinity in City of Lompoc Wells, 1965-2008

Table 1. Land Use in the Lompoc Region in 2006

Location	Farmland					Developed	Grazing	Other	Total
	Prime	Statewide	Unique	Local	Subtotal				
Lompoc plain									
Acres	6,827	485	238	614	8,165	3,420	1,243	1,873	14,701
%	46.4%	3.3%	1.6%	4.2%	55.5%	23.3%	8.5%	12.7%	100.0%
Upland									
Acres	354	110	290	1,110	1,864	3,718	23,527	25,574	54,682
%	0.6%	0.2%	0.5%	2.0%	3.4%	6.8%	43.0%	46.8%	100.0%
Total study area									
Acres	7,181	595	528	1,724	10,029	7,138	24,770	27,446	69,383
%	10.4%	0.9%	0.8%	2.5%	14.5%	10.3%	35.7%	39.6%	100.0%

Land use data from California Department of Conservation, Farmland Mapping and Monitoring Program,
<http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/Index.aspx>

Table 2. Principal Crops Grown on the Lompoc Plain in 1996

Crop	Acres	Percent
Truck crops (unspecified)	2,882	35.7%
Beans (green)	840	10.4%
Lettuce	805	10.0%
Asparagus	632	7.8%
Flowers, nursery	530	6.6%
Grain	294	3.6%
Walnuts	271	3.4%
Corn	241	3.0%
Mixed	231	2.9%
Cabbage	225	2.8%
Beans (dry)	218	2.7%
Celery	214	2.7%
Broccoli	197	2.4%
Cauliflower	107	1.3%
Mixed pasture	81	1.0%
Tomatoes	78	1.0%
Melons, squash, cucumber	60	0.7%
Artichokes	48	0.6%
Peas	33	0.4%
Cole crops	28	0.3%
Sudan grass	16	0.2%
Miscellaneous truck crops	16	0.2%
Peppers	15	0.2%
Total	8,063	100.0%

Source: California Department of Water Resources land use survey in 1996

Table 3. Existing and Proposed Land Cover in Areas Proposed for Intensified Development in the General Plan Update

Location of Land Use Change	Existing Condition					Developed Condition				
	Impervious		Irrigated		Non-irrigated	Impervious		Irrigated		Non-irrigated
	Connected	Dis-connected	Crop	Lawn		Connected	Dis-connected	Crop	Lawn	
Area 1: H Street corridor	87%	5%		4%	4%	87%	5%		8%	0%
Area A: Bailey Avenue		8%	92%		0%	50%	10%		20%	20%
Area B: River Area		2%	19%	8%	70%		5%	15%	9%	71%
Area C: Miguelito Canyon		8%	13%	2%	77%		9%		22%	69%
Area D: The Wye Alternative 2A					100%	87%	5%		8%	0%
Alternative 2B					100%	53%	14%		0%	33%

TABLE 4. CITY OF LOMPOC - SUMMARY OF WATER WELL INFORMATION

WELL CONSTRUCTION

Common Name	State Well No.	Location	Ground Surface Elevation (feet AMSL)	Floor Elevation (if vaulted)	Date Drilled	Log ¹	Hole Depth (feet)	Well Depth (feet)	Drilling Method	Construction ²	Seal/Conductor (feet)	Dia. (inches)	Wall Thickness	Material ³	Top of Screen bgs	Bottom of Screen bgs	Pump Setting (feet)	Well Modifications, Date
Well No. 1	07N/34W-34B01	3rd and North	101.5	91.6	01/63	L,C	195	195	Rotary	GP,L	33	14	0.25	S	99	195	140	12" SS liner, 1/67
Well No. 2	07N/34W-34F06	Airport and B	103.3	93.0	01/63	L,C	148	140	Rotary	GP,L	33	14	0.25	S	80	140	93	12" SS liner, ?
Well No. 3	07N/34W-27P04	North & D	-	-	01/63	L,C	170	168	Rotary	GP,L	27	14	0.25	S	96	168	--	destroyed
Well No. 3A	07N/34W-27Q02	Barton at Jasmine	99.0	88.6	02/69	L,C	190	185	Rotary	GP,L	47	14	10g	SS	95	175	132	None
Well No. 4	07N/34W-27P05	Water Plant	92.4	92.4	01/63	L,C	172	172	Rotary	GP,L	29	14	0.25	S	100	172	137	12" SS liner, v. slots, 1970
Well No. 5	07N/34W-27N05	West of F.S. #2	88.7	75.2	03/78	D	200	195	Rotary	GP,WW	50	14	0.25	SS	105	180	100	None
Well No. 6	07N/34W-27K07	End of Central Ave	100.8	-	02/87	D	189	185	Rotary	GP,L	68	16	0.25	SS	95	165	150	None
Well No. 7	07N/34W-34A05	7th and Pine	108.6	101.6	05/60	L,C	170	170	Cable	M	25	14	0.25	S	150	170	145	8" SS liner, v. slots, 8/88
Well No. 8	07N/34W-27F06	A and Canfield	94.2	-	09/91	D	210	200	Rotary	GP,L	110	18	0.31	SS	130	190	107	SS Liner (109-180), WW plug to 180, 1996
Well No. 9	07N/34W-27	Central Ave.	96.0	-	09/00	D,C	190	178	Rotary	GP,WW	80	16	0.25	SS	98	168	100	None

Notes: 1 - L= lithology, C=construction, D=DWR
 2 - GP=gravel packed, L=louvers, WW=wire-wrapped
 3 - S=Steel, SS Stainless Steel

WELL PERFORMANCE

Common Name	State Well No.	Oldest Q (gpm)	Date	Current Q (gpm)	Current Pumping Level (feet)	% of Original Discharge	Specific Capacity gpm/ft (oldest)	Date	Specific Capacity gpm/ft (current)	% of Original Specific Capacity	Total Dissolved Solids (mg/l) (2004)	Most Recent Video	Previous Documented	Rehabilitaion Efforts
Well No. 1	07N/34W-34B01	1130	1973	600	85	53%	28.3	1973	12.6	45%	1050	12/03	Wire brush ('03), Sonar Jet ('80,'83)	
Well No. 2	07N/34W-34F06	797	1973	607	55	76%	53.1	1973	67.4	127%	1520	2/04	Wire brush, Sonar Jet ('83), HypoChlorination	
Well No. 3A	07N/34W-27Q02	3000	1969	1460	72	49%	186.8		44.2	24%	1090	6/98	Wire brush ('01), Sonar Jet ('80)	
Well No. 4	07N/34W-27P05	950	1977	240	108	25%	12.7	2000	3.9	31%	1540	12/04	Wire brush ('04), Sonar Jet ('80, '82)	
Well No. 5	07N/34W-27N05	2950	1978	1667	34	57%	186.8	1978	111.0	59%	1890	?	No records of work	
Well No. 6	07N/34W-27K07	2560	1987	372	120	15%	19.6	1989	5.3	27%	1000	9/05	Wire brush ('03)	
Well No. 7	07N/34W-34A05	900	1960	230	97	26%	25.7	1960	4.2	16%	1050	3/05	Sonar Jet ('77, '81)	
Well No. 8	07N/34W-27F06	2143	1993	312	103	15%	55.4	1993	5.2	9%	1050	8/02	Wire brush, Enerjet Jet ('96, prior to liner)	
Well No. 9	07N/34W-	2200	2000	1600	66	73%	53.7	2000	94.1	175%	1470	?	No records of work	

Table 5. Current and Potential Water Conservation Savings from Plumbing Retrofits

Retrofit Type	Annual Savings per Household ¹ (acre-feet)	Number of Households Retrofitted 1990-2008 ²	Current Total Savings (ac-ft/yr)	Potential Additional Savings ³ (ac-ft/yr)
Plumbing				
Toilet	0.03934	7,149	281	211
Showerhead	0.00000	3,568	0	0
Faucet aerator	0.00000	4,788	0	0
Appliance				
Clothes washer	0.05205	432	22	411
Dishwasher	0.00786	255	2	42
Total			306	663

Notes:

¹ The calculations for water saved per retrofit are as follows:

	gal/yr	ac-ft/yr
Toilet:		
[(58%)(24.2 gal/day)+(42%)(50.2 gal/d)](365 day/yr)	12,819	0.03934
Source: CUWCC (2005) and current single/multi percentages		
Clothes washer:		
[(58%)(21.6 gal/day)+(42%)(80.8 gal/d)](365 day/yr)	16,959	0.05205
Source: CUWCC (2005) and current single/multi percentages		
Dishwasher:		
(2560 gal/yr)	2,560	0.00786
Source: 2005 UWMP (p. 42)		
Showerheads		
(5.5 gal/day)(365 day/yr)	2,008	0.00616
Source: CUWCC (2005)		
Faucet aerators		
(1.5 gal/day)(365 day/yr)	548	0.00168
Source: CUWCC (2005)		

Notes:

- A. City billing records indicate that 7,520 service connections are single-family residential. The total number of dwelling units in 2000 was 13,059. By difference, the approximate number of multi-family dwelling units is 5,480, or 42% of the total number of households.
- B. Where CUWCC listed separate factors for single-family and multi-family households, a weighted average was used. Also, the mid-points of ranges of values was used.
- C. CUWCC (2005) refers to: A&N Technical Services, Inc. March 2005. A guide to data and methods for cost-effectiveness analysis of urban water conservation best management practices. Encinitas, CA. Prepared for California Urban Water Conservation Council, Sacramento, CA.
- D. These calculations do not account for "decay", which occurs due to future natural replacement of plumbing fixtures with non-conserving fixtures.

² Toilet, clothes washer and dishwasher retrofits equals the number of retrofit rebates issued through as reported in the City's quarterly conservation report. The number of showerhead and faucet aerator retrofits as of 2005 was estimated in the Urban Water Management Plan update.

³ Potential savings for plumbing retrofits equals the number of households in 1990 (12,504) minus the number of households retrofitted to date, multiplied by the savings per household. Homes constructed since 1990 are required by code to have low-flow plumbing fixtures. To the extent that some pre-1990 households have installed low-flow fixtures without claiming the rebate, the potential additional savings shown here are overstated. Potential savings for appliance retrofits depends on the number of appliances in existing homes that do not meet current low-flow standards. As of 2006, approximately 60% of homes had dishwashers, and 87% of models available for sale in North America met the low-flow standard adopted by CUWCC (up from about 0% in the 1990s). As of 2003, approximately 73% of homes in California had clothes washers, and 20% of new washers were high-efficiency models. (State law required all new washers to be high-efficiency models beginning in 2007. The retrofit opportunity consists of accelerating the replacement of pre-2007 low-efficiency washers, which have an estimated life of 14 years.

Table 6. Land Cover and Groundwater Recharge under Existing and Developed Conditions for Areas of Proposed Land Use Changes

Land use changes		Existing Condition					Developed Condition					
		Land Use Cover Type				Average Annual Recharge (ac-ft/yr)	Land Use Cover Type				Average Annual Recharge (ac-ft/yr)	
		Impervious		Irrigated			Non-irrigated	Impervious		Irrigated		
Location	Acres	Con-nected	Discon-nected	Crop	Lawn	Non-irrigated		Con-nected	Discon-nected	Crop	Lawn	Non-irrigated
Area 1: H Street corridor	258	87%	5%	4%	4%	29	90%	2%	8%	0%	31	
Area A: Bailey Avenue	267		8%	92%		317	50%	10%	20%	20%	105	
Area B: River Park	536		2%	19%	8%	246		5%	15%	9%	71%	242
Area C: Miguelito Canyon	522		8%	13%	2%	202		9%		22%	69%	249
Area D: The Wye Alternative 2A	10					1.5	87%	5%	8%	0%	1.6	
Alternative 2B	10					1.5	53%	14%	0%	33%	2.2	
Total	1,593					795					628	
Groundwater recharge rate (in/yr)		0.0	14.5	14.2	14.2	1.8	0.0	14.5	14.2	14.2	1.8	