LODI GENERAL PLAN
DRAFT ENVIRONMENTAL IMPACT REPORT

SCH# 2009022075

CITY OF LODI NOVEMBER 2009

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Executive Summary

This Draft Environmental Impact Report (EIR) evaluates the potential impacts of the proposed City of Lodi General Plan.[1] The proposed Plan was developed in response to policy direction provided by the City Council and the Planning Commission as well as community concerns identified through public participation and outreach program, including newsletters, community workshops and public meetings between 2006 and 2009. The City of Lodi is the "lead agency" for this EIR, as defined by the California Environmental Quality Act (CEQA), and therefore required to evaluate the potential effects of the Plan in an EIR.

This EIR is a program EIR that examines the potential effects resulting from implementing designated land uses and policies in the proposed General Plan. The impact assessment evaluates the General Plan as a whole and identifies the broad, regional effects that may occur with its implementation. An EIR is intended to inform decision-makers and the general public of the potential significant environmental impacts of a proposed project. Impacts have either been found less than significant through the application of proposed General Plan policies or significant and unavoidable. The EIR also evaluates reasonable alternatives to the proposed project that may reduce or avoid one or more significant environmental effects. By law, alternatives must include a "No Project" alternative that represents the result of not implementing the project and a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives, but would avoid or substantially lessen any of the significant effects of the project (CEQA Guidelines 15126.6(a)). Based on the alternatives analysis, an environmentally superior alternative must be identified.

As a programmatic document, this EIR does not assess site-specific impacts. In order to place many of the proposed General Plan policies into effect, the City would adopt or approve specific actions, such as zoning regulations, zoning map amendments, development impact fees, specific plans, and capital improvement programs, that would be consistent with the policies and implementation measures of the Plan and therefore reflected in this EIR. Any future development project made possible by the General Plan will be subject to individual, site-specific environmental review, as required by State law. Project-level environmental review will need to focus on project-scale impacts. Cumulative and citywide impacts (such as traffic), would not need to be evaluated, provided the data and assumptions used in this EIR remain current and valid.

E.1 PROPOSED PROJECT

The City of Lodi is situated in the San Joaquin Valley between Stockton, six miles to the south, Sacramento, 35 miles to the north; and along State Route 99.

[1] Throughout this document, the term "proposed Lodi General Plan" is used interchangeably with "proposed Plan" or the "proposed project."

The proposed Lodi General Plan is intended to replace the existing General Plan, which was last updated in 1991. The proposed General Plan is comprised of goals, policies, a land use diagram, and other graphic figures and maps (e.g. open space systems, a transportation network, and public facilities) to guide future development within the city's boundaries, through the year 2030.

The Plan includes the seven elements required by State law, including Land Use, Transportation/ Circulation, Housing, Open Space, Conservation, Noise, and Safety. It also includes two optional elements, Growth Management/Infrastructure and Community Design/Livability. (The Housing Element is not included as part of this project, since it is updated more frequently and therefore follows a separate timeline.)

KEY PRINCIPLES OF THE PROPOSED GENERAL PLAN

Eleven key principles emerged through the public input process, as the General Plan took shape. Maps and policies in the General Plan are structured around these principles, which represent the proposed Plan objectives:

1. **Compact Urban Form.** The Plan enhances Lodi's compact urban form, promoting infill development downtown and along key corridors, while also outlining growth possibilities directly adjacent to the existing urban edge. The City's overall form will be squarish, reinforcing the centrality of downtown, with virtually all new development located within three miles from it.
2. **Mokelumne River as the City's Northern Edge.** The Lodi community has expressed a desire to see the river remain as the city's northern edge. The southern bank of the river (within the city) is occupied by residential uses and streets do not reach the river. Therefore, connectivity across the river to knit the urban fabric would be challenging if growth were to extend northward.
3. **Enhanced Mixed-Use Centers and Corridors.** The Plan designates downtown as a mixed-use center, with a mix of commercial and residential uses. Stretches of major commercial corridors are depicted with a mixed use designation to enable continued investment in these areas and enhancement of vacant and underutilized parcels.
4. **Walkable, Livable Neighborhoods.** The Plan envisions new neighborhoods with a variety of uses, diversity of housing types, and short blocks, organized around mixed-use centers. This pattern provides retail, housing, offices, parks, and other uses.
5. **Street Connectivity and Urban Design.** The Plan provides community design strategies for improving street connectivity, particularly in terms of access to downtown, neighborhoods, jobs, and shopping.
6. **Preservation of Existing Neighborhoods.** Existing development in a vast majority of the Planning Area is proposed to remain as is, in terms of land use and density. Lodi residents are proud of their vibrant neighborhoods. They enjoy the small-town character of the city and would like to ensure that Lodi's high quality-of-life is enhanced as the city grows.
7. **Agricultural Preservation Along Southern Boundary.** In order to preserve agriculture and maintain a clear distinction between Lodi and Stockton, the Plan acknowledges the Armstrong Road Agricultural/Cluster Study Area along the south edge of Lodi, from Interstate 5 (I-5) to State Route (SR) 99, and south to Stockton's Planning Area boundary.

8. **Employment-Focused Development in the Southeast.** The area east of SR-99 toward the south is designated as a growth area for office, business park and commercial uses. This area has excellent regional access, and is adjacent to existing urbanized areas.
9. **Enhanced Bicycle and Pedestrian Connections.** Lodi already has an expansive bicycle network and good pedestrian facilities, including sidewalks, signals, landscaping and street furniture, particularly downtown. Improvements to pedestrian and bicycle pathways in new and existing neighborhoods are identified in the General Plan.
10. **Recreation Path along Irrigation Canal Right-of- Way.** The Woodbridge Irrigation District Canal runs through the city, passing through residential neighborhoods. A public recreation trail is envisioned to enable walking, jogging, and biking.
11. **Phasing Future Development.** The Plan identifies urban reserve areas along the west and east edges of the city to provide additional area for development, if needed. These urban reserve areas ensure that the city conforms to its Growth Management Ordinance and grows at a reasonable rate.

These themes and the policies proposed to implement them are described in greater detail in Chapter 2: Project Description of this EIR.

ESTIMATED DEVELOPMENT POTENTIAL OF THE PROPOSED GENERAL PLAN

Although the proposed General Plan applies a 20-year planning horizon, the Plan is not intended to specify or anticipate when full development will actually occur; nor does the designation of a site for a certain use necessarily mean the site will be built or redeveloped with that use in the next 20 years. The Land Use Element of the proposed General Plan provides a more detailed analysis of proposed General Plan development.

Table ES-1 describes housing units, population and jobs resulting from existing development, approved projects, and the proposed General Plan. The table provides a total column, representing projected buildout under the proposed Plan, and a percent increase column for each characteristic, representing the percent change of the proposed Plan, over and above existing and approved development.

Housing Units

Lodi currently contains 23,353 housing units. Approximately 3,700 housing units have recently been approved or are under construction. The proposed General Plan accommodates 10,100 new residential units. Together, this results in the potential for 37,200 housing units. Approximately half of the housing units will be low-density housing (i.e. single-family), a quarter medium-density, and the remaining quarter high-density and mixed-use residential (containing a mix of density levels).

Population

Lodi currently contains approximately 63,400 residents. The proposed General Plan could accommodate 26,400 additional residents. Accounting for the current population as well as new residents anticipated from recently approved projects (approximately 9,700 residents), full development of the General Plan could result in a total of 99,500 residents, representing an annual growth rate of 2% (not shown).

Employment

Lodi currently contains 24,700 jobs. Total additional employment accommodated in the General Plan by new commercial, office, industrial, and mixed-use land designations could allow for 23,400 new jobs in Lodi. Recently approved or completed development projects are expected to produce an additional 2,900 jobs. In sum, Lodi could expect up to 51,000 jobs under the General Plan.

Table ES-1: General Plan Population and Employment Potential

	Existing	*Alternative A*	*Alternative B*	*No Project*	*Proposed General Plan*
Housing Units	23,353	34,000	39,100	30,900	37,200
Households	22,185	32,300	37,145	29,355	35,340
Population	63,362	91,000	104,400	82,600	99,500
Employed Residents	32,000	46,000	52,700	41,700	50,300
Jobs	24,700	41,000	47,000	32,700	51,000
Jobs / Employed Residents Ratio[1]	0.8	0.9	0.9	0.8	1.0

1. Alternatives and General Plan values represent total development potential: existing + approved projects (not shown) + net new.

Source: Dyett & Bhatia, 2009.

E.2 ALTERNATIVES TO THE PROPOSED GENERAL PLAN

The following alternatives are described and evaluated in this EIR:

- *Alternative A.* Alternative A fills in growth up to the existing Sphere of Influence (SOI) boundary and extends the urban area south to Armstrong Road. The bulk of new growth would be contained in the mile-wide band between Harney Land and Armstrong Road, including the Planned Residential Reserve designation between Hogan Land and Armstrong Road. This alternatives represent lower development potential compared with the proposed General Plan and Alternative B, but higher than the No Project Alternative.
- *Alternative B.* In Alternative B, new development is concentrated on the west side of the city, beyond the existing SOI. Commercial and business uses would be located in the southeast, but in a smaller area than in Alternative A. A small commercial node on Highway 12, adjacent to a site for a Lodi campus of San Joaquin Delta College, is also shown. This alternative produces the largest increase population, but allows fewer jobs compared with the proposed General Plan.
- *No Project Alternative.* The No Project Alternative represents the continuation of land use development under the 1991 General Plan. In this scenario, new development results largely from the development of Planned Residential and Planned Residential Reserve areas, in the west and south, respectively. At buildout, this alternative would result in fewer housing units, residents, and jobs, compared with the proposed General Plan and the other alternatives.

Table ES-2 summarizes key characteristics of the resident and worker populations at full development under the proposed General Plan and each of the EIR alternatives. A detailed comparison of alternatives and associated impacts is provided in Chapter 4: Alternatives of this EIR.

Table ES-2: Comparison of Net New Development of the Proposed General Plan and Alternatives

	Alternative A	*Alternative B*	*No Project*	*Proposed General Plan*
Residential (Units)	6,900	12,000	3,800	10,100
General Commercial (SF)	778,000	1,608,000	298,000	3,932,000
Neighborhood Commercial (SF)	73,000	310,000	773,000	245,000
Business Park/Office (SF)	3,659,000	5,563,000	99,000	5,597,000
Industrial (SF)	1,511,000	1,936,000	4,251,000	7,322,000
Park/Detention Basin (Acres)	100	231	47	210
Public/Schools (Acres)	51	98	62	67

Source: Dyett & Bhatia, 2009.

E.3 SUMMARY OF IMPACTS & ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table ES-3 presents the summary of the proposed General Plan impacts identified in the EIR and the proposed General Plan policies that reduce these impacts. Because many of the Plan's policies are designed to avoid or minimize impacts, the Plan is self-mitigating with respect to most of the impacts identified in the EIR. However, in the issue areas of Traffic and Circulation, Agricultural Resources, Climate Change and Greenhouse Gases, Air Quality, and Noise, significant unavoidable impacts are identified. Even with mitigation, these impacts would not be reduced to levels that are not significant. Detailed discussions of the impacts and proposed policies that would reduce impacts are in Chapter 3. The significance of each impact with implementation of the proposed General Plan policies is also shown in Table ES-3. The level of significance is determined by comparing the impact to the significance criteria described in Chapter 3.

CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives analyzed in an EIR. Alternative A has been selected as the environmentally superior alternative. After the No Project, Alternative A has the least impact, relative to the proposed General Plan and Alternative B in the six environmental areas that have significant impacts. Alternative A and Alternative B meet many of plan objectives as described in Chapter 2: Project Description. However, the proposed General Plan achieves all these objectives to the highest extent, specifically exceeding the alternatives in the following three objectives:

- **Objective #1: Compact Urban Form.** The proposed Plan ensures the most compact urban form, by prioritizing infill development downtown and along the city's major corridors during Phase 1.

- **Objective #7: Agricultural Preservation Along Southern Boundary.** The proposed Plan and Alternative B also preserve an agricultural preservation buffer south of Hogan Lane (Alternative A and the No Project scenario both allow limited development through the Planned Residential Reserve designation).
- **Objective #11: Phasing Future Development.** The proposed Plan segments development into three phases, providing a framework for how and where urban growth should proceed. Urban reserve areas ensure that the city conforms to its Growth Management Ordinance and grows at a reasonable rate.

Although Alternative A has been chosen as the environmentally superior alternative, it does not in all cases adequately meet the three objectives described above (out of the 11 defined in Chapter 2: Project Description). Most critically, regarding Objective #11, Alternative A puts more growth pressures on other cities in the region and unincorporated portions of San Joaquin County. Alternative B conforms to the City's Growth Management Ordinance, but does not provide environmental impact reduction benefits and does not achieve of the plan objectives. The proposed General Plan achieves all plan objectives while establishing policies to reduce environmental impacts to the greatest extent possible.

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
3.1	Land Use and Housing			
3.1-1	The proposed General Plan would not physically divide any established communities and would increase connectivity locally and regionally.	N/A	Beneficial	N/A
3.1-2	The proposed General Plan would conflict with an applicable land use plan, policy, or regulation.	LU-P1, LU-P17, CD-P2, CD-P3, CD-P4, CD-P6, CD-P9, CD-P11, CD-P31, GM-P10	Less than Significant	None required
3.2	Traffic and Circulation			
3.2-1	The proposed General Plan would result in a substantial increase in vehicular traffic that would cause certain facilities to exceed level of service standards established by the governing agency.	T-G1, T-P1, T-P2, T-P3, T-P4, T-PNEW, T-NEW, T-P8, T-NEW, T-P9, T-P10, T-P13, T-P14, T-P15, T-P16, T-P17, T-P18, T-P19, T-P20, T-P22, T-P24, T-P25, T-P27, T-P-28, T-P29, T-P43, T-P44, T-P45	Significant and Unavoidable	No feasible mitigation is currently available.
3.2-2	The proposed General Plan may adversely affect emergency access.	T-P1, T-P2, T-P8, T-P9, T-P10	Significant and Unavoidable	No mitigation measures are feasible.
3.2-3	The proposed General Plan may conflict with adopted policies, plans, or programs supporting alternative transportation modes.	T-G1, T-P8, T-P9, T-P10, T-P13, T-P14, T-P15, T-P16, T-P17, T-P18, T-P19, T-P20, T-P22, T-P24, T-P25, T-P27, T-P28, T-P29, T-P43, T-P44, T-P45, T-G2, T-G3, T-G4, T-G5, T-P11, T-P12, T-P21, T-P23, T-P26, T-P30, T-P38, T-P39	Significant and Unavoidable	No feasible mitigation is currently available.
3.3	Agriculture and Soil Resources			
3.3-1	Buildout of the proposed General Plan would convert substantial amounts of Important Farmland to non-agricultural use.	C-G1, C-G2, C-P1, C-P2, C-P3, C-P4, C-P5, C-P6, C-P7, C-P8, GM-G1, GM-P2	Significant and Unavoidable	Not directly mitigable aside from preventing development altogether
3.3-2	Buildout of the proposed General Plan would result in potential land use incompatibilities with sites designated for continued agriculture use.	C-P1, C-P2, C-P3, C-P4, C-P5, C-P6, C-P7, C-P8, GM-G1, GM-P2, CD-G1	Less than Significant	None required

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
3.4	Biological Resources			
3.4-1	Buildout of the proposed General Plan could have a substantial adverse effect, either directly or through habitat modifications, on special status and/or common species.	C-P9, C-P10, C-P11, C-P12, C-P13, C-P14, C-P15, C-P16, C-P32, P-P9, P-P10, P-P11, P-P12	Less than Significant	None required
3.4-2	Buildout of the proposed General Plan could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	C-P9, C-P10, C-P11, C-P12, C-P13, C-P14, C-P15, C-P16, C-P32, P-P9, P-P10, P-P11, P-P12	Less than Significant	None required
3.4-3	Buildout of the proposed General Plan could 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, etc.).	C-P9, C-P10, C-P11, C-P12, C-P13, C-P14, C-P15, C-P16, C-P32, P-P9, P-P10, P-P11, P-P12	Less than Significant	None required
3.4-4	Buildout of the proposed General Plan could 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	C-P9, C-P10, C-P11, C-P12, C-P13, C-P14, C-P15, C-P16, C-P32, P-P9, P-P10, P-P11, P-P12	Less than Significant	None required
3.5	Cultural Resources			
3.5-1	Buildout of the proposed General Plan may alter a historic resource.	CD-P10, C-G6, C-G7, C-P20, C-P21, C-P22, C-P23, C-P24, C-P25	Less than Significant	None required
3.5-2	Buildout of the proposed General Plan could disrupt or adversely affect a prehistoric or historic archeological, paleontological, or culturally significant site.	C-G5, C-G6, C-P17, C-P18, C-P19	Less than Significant	None required

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
3.6	Climate Change and Greenhouse Gases			
3.6-1	Implementation of the proposed General Plan would increase total carbon dioxide equivalent emissions in Lodi, compared to existing conditions.	LU-G1, LU-G2, LU-G3, LU-G1, LU-G4, LU-P2, LU-P3, LU-P6, LU-P18, LU-P25, LU-P26, LU-P27, GM-G1, GM-G2, GM-G3, GM-P1, GM-P2, GM-P3, GM-P4, GM-P6, CD-G1, CD-P1, CD-G-4, CD-G-5, CD-P31, CD-P21, CD-P24, T-G2, T-G4, T-P13, T-P14, T-P15, T-P16, T-P17, T-P18, T-P19, T-P23, T-P25, T-P28, T-P29, GM-P11, GM-P13, GM-P14, GM-P15, CD-G8, CD-G9, CD-P38, CD-P39, CD-P40, CD-P32, C-P39, C-PNEW, C-PNEW, C-P37, C-P38, C-P40, C-P42, GM-P19, CD-P15, CD-P16, CD-P19, C-P43, C-P44, C-P45, C-P41, C-G9, C-G10, C-P36, T-G8, T-P43, T-P44, T-P45, GM-P17, GM-P18	Overall Significant Cumulative Impact, Project Contribution Cumulatively Considerable	No feasible mitigation measures are currently available
3.6-2	Buildout of the proposed General Plan could result in a substantial increase in per capita energy consumption in the city which would suggest more wasteful, inefficient, or unnecessary consumption of energy.	LU-G1, LU-G2, LU-G3, LU-G1, LU-G4, LU-P2, LU-P3, LU-P6, LU-P18, LU-P25, LU-P26, LU-P27, GM-G1, GM-G2, GM-G3, GM-P1, GM-P2, GM-P3, GM-P4, GM-P6, CD-G1, CD-P1, CD-G-4, CD-G-5, CD-P31, CD-P21, CD-P24, T-G2, T-G4, T-P13, T-P14, T-P15, T-P16, T-P17, T-P18, T-P19, T-P23, T-P25, T-P28, T-P29, GM-P11, GM-P13, GM-P14, GM-P15, CD-G8, CD-G9, CD-P38, CD-P39, CD-P40, CD-P32, C-P39, C-PNEW, C-PNEW, C-P37, C-P38, C-P40, C-P42, GM-P19, CD-P15, CD-P16, CD-P19, C-P43, C-P44, C-P45, C-P41, C-G9, C-G10, C-P36, T-G8, T-P43, T-P44, T-P45, GM-P17, GM-P18	Less than Significant	None required

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
3.7	Hydrology and Water Quality			
3.7-1	Buildout of the proposed General Plan could alter existing drainage patterns of the area in a manner which would result in substantial erosion or siltation on- or offsite or increase sediment loads thereby affecting water quality, but this impact would be mitigated by existing State and local regulations and proposed General Plan policies.	C-P-26, C-P-27, C-P-28, C-P-29, C-P-30, C-P-31, C-P-32, C-P-33, C-P-34, C-P-35	Less than Significant	None required
3.7-2	Implementation of the proposed General Plan would may result in increased nonpoint source pollution entering storm water runoff and entering the regional storm drain system or surrounding water resources (from either construction or long-term development), but this impact would be mitigated by existing State and local regulations and proposed General Plan policies.	C-P-26, C-P-27, C-P-28, C-P-29, C-P-30, C-P-31, C-P-32, C-P-33, C-P-34, C-P-35	Less than Significant	None required
3.8	Air Quality			
3.8-1	Implementation of the proposed General Plan could result in a cumulatively considerable net increase of criteria pollutants which may conflict with or violate an applicable air quality plan, air quality standard or contribute substantially to an existing or projected air quality violation.	C-P46. C-P47, C-P48, C-P49, C-P50, C-P51, C-P52, C-P53, C-P54, C-P55, C-P56, C-P57, T-G4, T-G5, T-P14, T-P15, T-P16, T-P17. T-P18, T-P19, T-P20, T-P21, T-P22, T-P23, T-P24, T-P25, T-P26 T-P27, T-P28 T-P29, T-P38, T-P39, T-P43, T-P44, T-P45	Significant and Unavoidable	No feasible mitigation measures are currently available.
3.8-2	Buildout of the proposed General Plan could expose sensitive receptors to substantial pollutant concentrations.	C-P46. C-P47, C-P48, C-P49, C-P50, C-P51, C-P52, C-P53, C-P54, C-P55, C-P56, C-P57, T-G4, T-G5, T-P14, T-P15, T-P16, T-P17. T-P18, T-P19, T-P20, T-P21, T-P22, T-P23, T-P24, T-P25, T-P26 T-P27, T-P28 T-P29, T-P38, T-P39, T-P43, T-P44, T-P45	Significant and Unavoidable	No feasible mitigation measures are currently available.

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
3.9	Flood Hazards			
3.9-1	Buildout of the proposed General Plan could expose people or structures to a risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	S-P1, S-P2, S-P4, S-P5, S-P6, S-P7, S-PNEW, S-PNEW	Less than Significant	None required
3.10	Seismic and Geologic Hazards			
3.10-1	Implementation of the proposed General Plan has low to moderate potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death resulting from rupture of a known earthquake fault, ground shaking, landslides or liquefaction, though these risks are minimized through compliance with State regulations and proposed General Plan policies.	S-P16, S-P17, S-P18, S-P19, S-P20	Less than Significant	None required
3.10-2	Implementation of the proposed General Plan has moderate potential to result in substantial soil erosion or unstable soil conditions from excavation, grading or fill, though impacts would be mitigated with proposed General Plan policies.	S-P16, S-P17, S-P18, S-P19, S-P20	Less than Significant	None required
3.10-3	Implementation of the proposed General Plan has low potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death resulting from settlement and/or subsidence of the land, or risk of expansive soils, and policies in the proposed General Plan would further mitigate this impact.	S-P16, S-P17, S-P18, S-P19, S-P20	Less than Significant	None required

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
3.11	Noise			
3.11-1	Implementation of the proposed General Plan could result in a substantial permanent increase in ambient noise levels.	N-P1, N-P2, N-P3 N-P4, N-P5, N-P6, N-P7, N-P8, N-P9, N-P10, N-PNEW	Significant and Unavoidable	No feasible mitigation measures are currently available.
3.11-2	New development in the proposed General Plan would potentially expose existing noise-sensitive uses to construction-related temporary increases in ambient noise.	N-PNEW, N-PNEW	Less than Significant	None required
3.11-3	New development in the proposed General Plan could cause the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	N-P1, N-P2, N-P3 N-P4, N-P5, N-P6, N-P7, N-P8, N-P9, N-P10, N-PNEW, N-PNEW, N-PNEW	Less than Significant	None required
3.12	Hazardous Materials, and Toxics			
3.12-1	Implementation of the proposed General Plan has the potential to 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, though existing federal, State, and local regulations and proposed General Plan policies would sufficiently reduce the impact.	S-P8, S-P9, S-P10A. S-P10B, S-P11, S-P12, S-P13, S-P14, S-P15, S-P18, S-P22, S-P23, S-P24, S-P25	Less than Significant	None required
3.12-2	Implementation of the proposed General Plan has the potential to locate land uses on sites which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.	S-P8, S-P9, S-P10A. S-P10B, S-P11, S-P12, S-P13, S-P14, S-P15, S-P18, S-P22, S-P23, S-P24, S-P25	Less than Significant	None required
3.12-3	Implementation of the proposed General Plan has the potential to create a significant hazard to the public or the environment through the routine	S-P8, S-P9, S-P10A. S-P10B, S-P11, S-P12, S-P13, S-P14, S-P15, S-P18, S-P22, S-P23, S-P24, S-P25	Less than Significant	None required

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
	transport, use, or disposal of hazardous materials.			
3.12-4	Implementation of the proposed General Plan has the potential to result in the handling of hazardous materials or wastes within one-quarter mile of an existing or proposed school or other sensitive use.	S-P8, S-P9, S-P10A. S-P10B, S-P11, S-P12, S-P13, S-P14, S-P15, S-P18, S-P22, S-P23, S-P24, S-P25	Less than Significant	None required
3.13	Infrastructure			
3.13-1	New development under the proposed General Plan would increase the demand for water beyond projections in the Lodi Urban Water Management Plan.	GM-G2, GM-G3, GM-P7, GM-P8, GM-P9, GM-P10, GM-P11, GM-P12, GM-P13, GM-P14, GM-P15, GM-P16, GM-P17, GM-P18	Less than Significant	None required
3.13-2	New development under the proposed General Plan may exceed wastewater treatment capacity of existing infrastructure.	GM-G2, GM-G3, GM-P7, GM-P8, GM-P9, GM-P10	Less than Significant	None required
3.13-3	New development under the proposed General Plan would cause an increase in waste generation.	GM-P19, C-PNEW	Less than Significant	None required
3.14	Public Facilities			
3.14-1	New development under the proposed Lodi General Plan will increase the demand for school facilities.	GM-NEW, GM-NEW, GM-NEW, GM-P20	Less than Significant	None required
3.14-2	New development in the proposed General Plan requires police and fire protection services that exceed current staffing and facilities.	GM-G4, GM-P22, GM-P23, S-P22, S-P23, S-P24, S-P25	Less than Significant	None required
3.15	Parks and Recreation			
3.15-1	Future development as a result of the proposed General Plan may result in failure to meet all of the City's park standard goals and increase the use of existing parks and recreation facilities, which would accelerate physical deterioration.	P-G3, P-P1, P-P3, P-P5, P-P7, P-P19, P-P20	Less than Significant	None required

Table ES-3: Summary of Impacts and Proposed General Policies that Reduce the Impact

#	*Impact*	*Proposed General Policies that Reduce the Impact*	*Significance*	*Mitigation*
3.15-2	Implementation of the proposed General Plan would result in increased accessibility of parks and recreation facilities from residential neighborhoods.	P-G3, P-P1, P-P3, P-P5, P-P7, P-P19, P-P20	Beneficial	N/A
3.16	Visual Resources			
3.16-1	Future proposed development in Lodi has the potential to affect scenic vistas within the Planning Area	CD-P20, CD-P22, CD-P23	Less than Significant	None required
3.16-2	New development and redevelopment activities have the potential to change Lodi's visual character, particularly where incompatibilities with existing development in scale and/or character may exist.	CD-G1, CD-G2, CD-G3, CD-G6, CD-G7, CD-P2, CD-P3, CD-P4, CD-P5, CD-P6, CD-P7, CD-P8, CD-P10, CD-P11, CD-P12, CD-P15, CD-P16, CD-P17, CD-P18, CD-P19, CD-P24, CD-P26, CD-P28, CD-P29, CD-P30, CD-P31, CD-P32, CD-P34, GM-G1, GM-P1, GM-P2, C-P20, C-P23, C-P24	Less than Significant	None required
3.16-3	Development under the proposed General Plan has the potential to adversely affect visual resources in the short-term during periods of construction by blocking or disrupting views.	None	Less than Significant	None required
3.16-4	Development under the proposed General Plan has the potential to create new sources of light or glare which would adversely affect day or nighttime views in the area.	CD-P33	Less than Significant	None required

1 Introduction

This Program Environmental Impact Report (EIR) has been prepared on behalf of the City of Lodi in accordance with the California Environmental Quality Act (CEQA). This chapter outlines the purpose of and overall approach to the preparation of the EIR on the proposed Lodi General Plan. The City of Lodi is the lead agency responsible for ensuring that the proposed General Plan complies with CEQA.

1.1 PURPOSE OF THE EIR

The EIR for the proposed General Plan has three purposes:

1. To meet CEQA requirements for analysis of environmental impacts by including a complete and comprehensive programmatic evaluation of the physical impacts of the proposed General Plan and its alternatives.
2. To inform residents of Lodi and members of the City Council and Planning Commission of the environmental impacts prior to the Commission and Council taking action on the Plan. This information will assist City officials in reviewing and adopting the proposed Plan.
3. To assist local decision-makers in determining appropriate amendments to Lodi's land use regulations and other implementation actions, based on a balanced assessment of the environmental impacts of the proposed General Plan.

The Draft EIR identifies additional policy measures, determined during the environmental analysis, that are necessary to further reduce potential impacts. These proposed policy measures have been assigned with the suffix "NEW" (e.g. T-PNEW). Proposed policies that have been recommended for revisions are assigned with the suffix "EDIT" (e.g. T-P1EDIT). These policies will be added to/revised in the proposed General Plan following review and certification of the EIR. The proposed General Plan consists of policies and proposals to guide the future growth of the City of Lodi. This Draft EIR evaluates the potential impacts of the adoption of the proposed Plan. This EIR will also be used as a reference for subsequent environmental review of specific plans, infrastructure improvements, zoning amendments, impact fees and development proposals.

CEQA requires that the agency with the primary responsibility over the approval of a project (the lead agency) evaluate the potential impacts of the project in an EIR. The City is required to prepare an EIR on the General Plan in order to provide the City Council, as the ultimate decision maker, with an informational document for use in evaluating the proposed Plan. After adoption, the EIR will serve the additional function of providing direction to the City in implementation of the new Plan.

This Draft EIR will be used by Lodi residents, elected officials, and City staff during the public review process. The Draft EIR and Final EIR, which includes responses to public comments received during the 45-day comment period, must be certified by the Lodi City Council prior to adoption of the proposed Lodi General Plan. The proposed Plan and the EIR have been prepared concurrently and policies in the proposed Plan take into consideration the EIR discussion of impacts.

1.2 GENERAL PLAN PROCESS AND PUBLIC INVOLVEMENT

The General Plan update was initiated in October 2006. In order for the General Plan to accurately address community needs and values, a comprehensive public process of obtaining the input of residents, business and property owners, and City officials was central to the update process. This process involved the sharing of information and ideas between elected and appointed officials, City staff, planning consultants, and community members. Community members and stakeholders participated in the planning process through several different medium over the course of three years, including a citywide survey, public workshops and meetings, stakeholder interviews, newsletters, and a project website.

Four working papers documenting existing conditions, trends, planning issues, and implications were prepared during the General Plan preparation process:

- Working Paper #1: Land Use, Transportation, Environment, and Infrastructure (July 2007) provides baseline information on existing conditions in the city, focusing on the physical environment and built form.
- Working Paper #2: Urban Design and Livability (October 2007) analyzes neighborhood and citywide form and reports residents' perceptions of the interrelationship of livability and urban design.
- Working Paper #3: Growth and Economic Development Strategy (July 2007) presents economic growth trends and market demand for various land uses.
- Working Paper #4: Greenbelt Conservation Strategies (September 2007) describes the viability, size, location, and possible implementation strategies for a greenbelt.

This technical analysis was supplemented with community input. A community workshop was held in June 2007, in which participants were given a chance to brainstorm their visions for the future of Lodi and share their thoughts on the specific issues of citywide land use, community design and development, and transportation. Input was also solicited through a citywide survey, interviews with stakeholders, and meetings with decision-makers.

A Sketch Plan report was prepared in May 2008, presenting alternative land use scenarios for development. The report described impacts of different growth scenarios on traffic, the City's fiscal health, and infrastructure. An open house was held following the release of the report to inform community members about the effects of various development scenarios and to solicit feedback on a preferred alternative. In addition, meetings with more than 20 business and community groups were held in summer and fall 2008.

Following community feedback, a Preferred Plan was prepared. This preferred land use diagram provided the starting point for development of General Plan policies. Background technical reports and interim planning documents are available for download on the City's website: http://www.lodi.gov/community_development/general_plan/reports.htm.

The proposed General Plan will be considered by the Planning Commission and City Council at public hearings following public review of this Draft EIR. If approved, the proposed Plan will become the City's new General Plan. As such, it will guide land use decision-making in the City to the year 2030, unless amended.

1.3 EIR PROCESS AND PUBLIC REVIEW

CEQA regulations require an early and open process for determining the scope of issues that should be addressed prior to implementation of a proposed action. CEQA also establishes the process for distribution of EIRs and for public comments on Draft EIRs.

NOTICE OF PREPARATION

The City of Lodi initiated the EIR scoping process in conjunction with the General Plan update process. A Notice of Preparation (NOP) for the EIR on the Lodi General Plan was circulated in February 2009 and the City received comments during a 30-day review period. The NOP and comments received in response to the NOP are contained in Appendix A and B of this Draft EIR. As required by CEQA, the City sent a copy of the NOP to the State Clearinghouse within the California Office of Planning and Research. The Clearinghouse is responsible for monitoring compliance of state agencies in providing timely responses. The City also filed the NOP with the county clerk in San Joaquin County.

The NOP provides formal notification to all agencies involved with the approval of the General Plan, and to other interested organizations and members of the public, that an EIR will be prepared for the project. The NOP is intended to encourage interagency communication concerning the proposed action and to provide sufficient background information about the proposed action so that agencies, organizations, and individuals can respond with specific comments and questions on the scope and content of the EIR.

PUBLIC SCOPING

Consistent with AB 1532, which modified Section 21083.9 of the CEQA statutes, a public scoping meeting was held on March 17, 2009, to solicit comments on the scope and content of the EIR. No comments were received during the public scoping meeting.

DRAFT EIR REVIEW AND FINAL EIR

This Draft EIR is open to public comment during a 45-day period. Comments generated from public review of the Draft EIR during this period will be included in the Final EIR. The Final EIR will also include responses to these comments. After reviewing and considering the Final EIR and other evidence presented in the public record, the City Council will determine whether the Final EIR was completed in conformance with CEQA and whether to certify the Final EIR as being complete and adequate. Certification of the EIR will require preparation of findings pursuant to CEQA Guidelines.

1.4 EIR APPROACH AND ASSUMPTIONS

APPROACH

The proposed Plan EIR is a Program EIR, defined in the CEQA Guidelines Section 15168 as: "...an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) As logical parts in the chain of contemplated actions; (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways."

Program EIRs can be used as the basic, general environmental assessment for an overall program of projects developed over a 20-year planning horizon. A Program EIR has several advantages. First, it provides a basic reference document to avoid unnecessary repetition of facts or analysis in subsequent project-specific assessments. Second, it allows the lead agency to look at the broad, regional impacts of a program of actions before its adoption and eliminates redundant or contradictory approaches to the consideration of regional and cumulative impacts.

As a Program EIR, this document focuses on the overall effects of the proposed General Plan in the Planning Area. Individual development projects will continue requiring individual environmental assessment. The project-level environmental review will need to focus on project-scale impacts. Cumulative and citywide impacts (such as traffic), would not need to be evaluated, provided the data and assumptions used in this EIR remain current and valid.

The nature of general plans is such that many proposed policies are intended to be general, with details to be later determined during implementation. Thus, many of the impacts can only be described in general or qualitative terms. In order to place many of the proposed General Plan policies into effect, the City will adopt or approve specific actions, such as zoning regulations, zoning map amendments, development impact fees, specific plans, capital improvement programs, and development projects. These actions would need to be consistent with the policies and implementation measures of the Plan, which are reflected in this EIR.

This EIR shows how the impacts of future development in Lodi will be mitigated through implementation of the policies and programs of the proposed Plan. Any residual impact after implementation of these proposed policies and programs is measured against the significance criteria established for each impact area. The significance criteria is an identifiable quantitative, qualitative, or performance level of a particular environmental effect in which non-compliance indicates that the effect is significant.

CEQA mandates that lead agencies adopt mitigation monitoring and reporting programs for projects identified as having significant impacts where mitigation measures have been identified. Mitigation monitoring and reporting programs are intended to ensure compliance during project implementation. These programs provide the additional advantage of providing staff and decision-makers with feedback as to the effectiveness of mitigation measures, as well as the experience and information to shape future mitigation measures.

However, the proposed General Plan is intended to be self-mitigating, in that the policies and programs of the proposed Plan are designed to mitigate environmental impacts. Impacts have either been addressed through new General Plan policies or are significant and unavoidable. The "No Project Alternative" discusses the result of not implementing the proposed General Plan or any of the alternatives. An environmentally superior alternative is also identified as part of the alternatives analysis to inform decision-makers on this project.

ASSUMPTIONS

This EIR represents the best effort to evaluate the potential environmental effects of the proposed General Plan given its long-term planning horizon. However, conditions will change. The assumptions used are the best available at the time of preparation and reflect existing knowledge of patterns of development and travel patterns.

The General Plan EIR is based on the following key assumptions:

- *Full Implementation.* This EIR assumes that all policies in the proposed General Plan will be fully implemented and all development will be consistent with the proposed General Plan Land Use Diagram. Key elements of the proposed General Plan include the designation of mixed-use centers and a mixed-use Downtown; the addition of new neighborhoods to the south and west and new employment areas to the east; enhanced livability through improvements to pedestrian connectivity and added open spaces; and phased development over time, as the market demands.
- *Full Development Potential.* The impact analysis considers full development potential to mean 90% of the maximum potential of the proposed General Plan, outside of the urban and industrial reserve areas. The Urban Reserve areas on the west and east edges of the city, are assumed to build out at 75% and 50% of the maximum potential, respectively. The actual number of parcels that undergo land use changes may be lower than these assumptions.
- *2030 Planning Horizon.* For purposes of impact analysis, this EIR assumes that development of the proposed General Plan will occur by 2030. It is understood that development under the proposed General Plan will be incremental and timed in response to market conditions. For a full explanation and projection of potential development, see Section 2.4: General Plan Development Potential.

1.5 ISSUES ADDRESSED IN THE EIR

The issues evaluated in this EIR were determined during the initial scoping phase of the project. Comments on the NOP, along with input received during public workshops and meetings helped to identify the major planning and environmental issues and concerns in the General Plan and helped establish the framework and focus of the environmental analysis.

The first step toward completion of this Draft EIR was the initial analysis of the environmental setting. This analysis compiled specific information on the current conditions, the characteristics of the City, and the major issues it faces. Information on the environmental setting provides background information regarding relevant issues and is used to evaluate potential impacts. Based on the initial analysis of the environmental setting, as well as the NOP comments and public meetings, the following issues are analyzed in this EIR:

1. Land Use and Housing
2. Traffic, Circulation, and Parking
3. Agricultural Resources
4. Biological Resources
5. Cultural Resources
6. Climate Change and Greenhouse Gases
7. Hydrology and Water Quality
8. Air Quality
9. Flood Hazards
10. Seismic and Geologic Hazards
11. Noise
12. Hazardous Materials and Toxics

13. Infrastructure
14. Public Facilities
15. Parks and Recreation
16. Visual Resources

Each potential impact is addressed in Chapter 3: Settings, Impacts, and Mitigation Measures.

1.6 ORGANIZATION OF EIR

The Draft EIR is organized into the following main chapters following the Introduction:

- *Chapter 2: Project Description.* This chapter includes a detailed description of the proposed General Plan, including objectives and overall initiatives. The Land Use Diagram, the proposed land use classification system, development potential estimates, and key policies for each element are presented.
- *Chapter 3: Settings, Impacts, and Mitigation Measures.* This chapter analyzes the environmental impacts of the proposed General Plan. Impacts are organized by major topic. Each topic area includes a description of the environmental setting, significance criteria, and impacts remaining after implementation of all General Plan policies. For certain topics that are cumulative in nature—namely transportation, greenhouse gas emissions, and air quality—cumulative impacts are also discussed.
- *Chapter 4: Analysis of Alternatives.* This chapter compares the impacts of the proposed General Plan with land use alternatives, including a No Project Alternative and two alternatives that include varying amounts of new development.
- *Chapter 5: CEQA Required Conclusions.* Chapter 5 provides a summary of significant environmental impacts, including unavoidable, irreversible, growth-inducing, and cumulative impacts (for those topics not cumulative in nature and therefore not discussed within the respective analysis in Chapter 3).

1.7 DOCUMENTS INCORPORATED BY REFERENCE

Section 15150 of the CEQA Guidelines permits documents of lengthy technical detail to be incorporated by reference in an EIR. Specifically, Section 15150 states that an EIR may " ... incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public ...." No documents have been incorporated by reference in this EIR.

2 Project Description

The project analyzed in this EIR is the proposed Lodi General Plan. A city's general plan can be described as its constitution for development; it establishes the framework for decisions on how to grow, how to provide public services and facilities, and how to protect and enhance the environment. The proposed General Plan is intended to address growth and development over the next 20 years.

Under California Government Code Section 65300 et seq., cities are required to prepare a general plan that establishes policies and standards for future development, housing affordability, and resource protection for the entire planning area. By law, a general plan must be an integrated, internally consistent statement of City policies. Section 65302 requires that a general plan include the following seven elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. Additional elements may be included in the general plan as well, at the discretion of the City. Optional elements in the proposed Lodi General Plan include Community Design and Livability, and Growth Management and Infrastructure. (The Housing Element is not included as part of this project, since it is updated more frequently and therefore follows a separate timeline.) All elements have equal weight, and no one element supersedes another. Cities may amend the general plan four times a year (each amendment may include any number of changes), and cities are encouraged to keep the plan current through regular updates.

This chapter provides background information regarding the Lodi Planning Area regional location and boundaries, proposed Plan objectives and key themes, potential development, key Plan policies, and a summary of implementation responsibilities. Additional details are provided in the Lodi General Plan itself. This project description provides the basis for the environmental analysis in Chapter 3.

2.1 REGIONAL LOCATION AND PLANNING BOUNDARIES

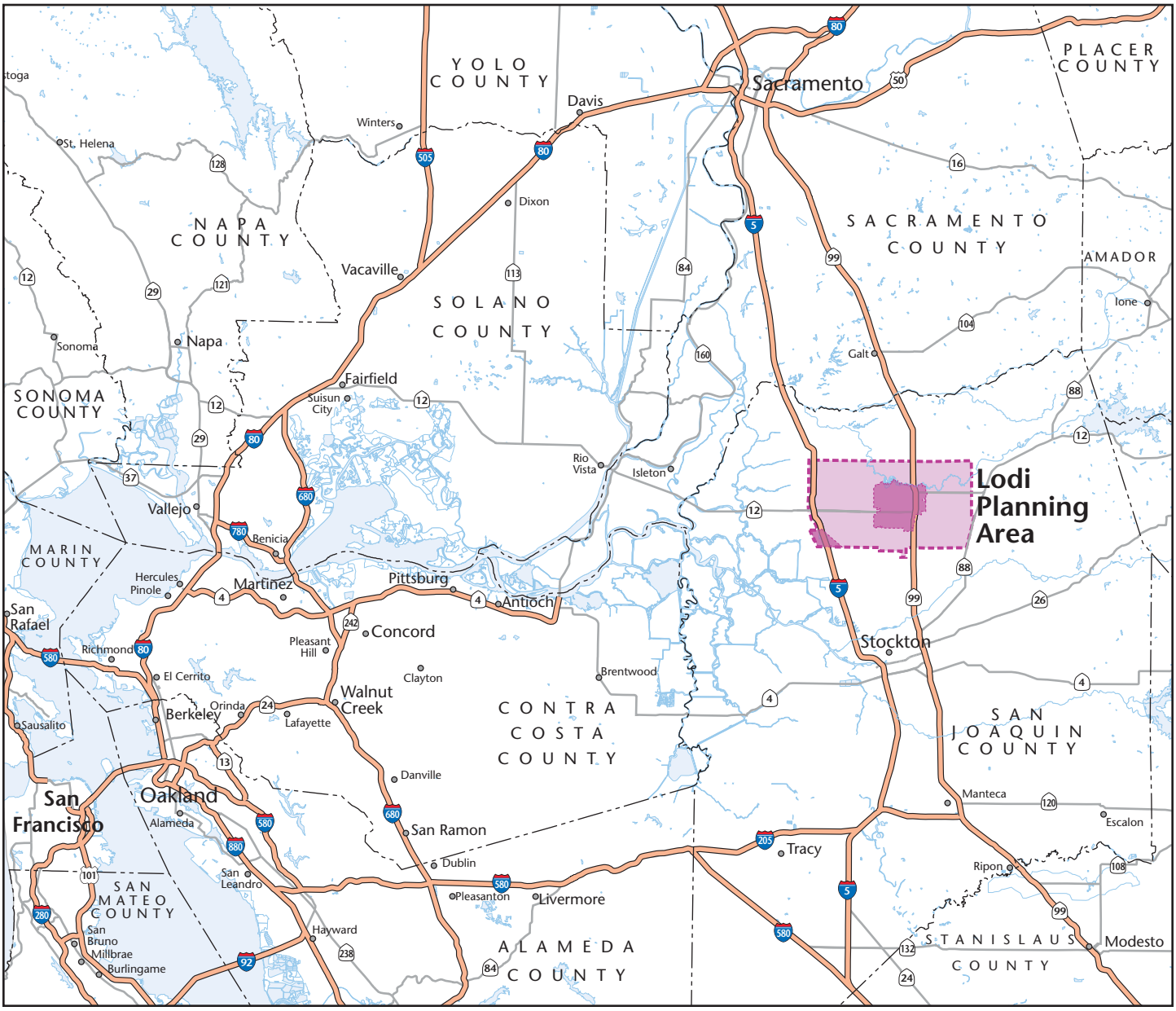
Lodi is situated in the San Joaquin Valley between Stockton, 6 miles to the south; Sacramento, thirty-five miles to the north; and along State Route (SR) 99. The city is located on the main line of the Union Pacific Railroad and is within 5 miles of I-5 via SR-12. The regional setting is depicted in Figure 2.1-1.

This section and the corresponding figure, Figure 2.1-2, describe three levels of planning boundaries: the Planning Area, Sphere of Influence (SOI), and city limits.

PLANNING AREA

State law requires that each city adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which …bears relation to its planning." The Lodi Planning Area covers 79.4 square miles, or 50,827 acres. The Planning Area includes all land within the existing city limits and SOI, plus adjacent areas that are physically or visually related to the city. The Planning Area boundaries are formed by natural features, roads, and City of Stockton boundaries. This land area is dominated by vineyards and agriculture.

Development in the Planning Area is concentrated in the urbanized areas: within Lodi city limits and Woodbridge—a community contiguous to Lodi and within Lodi's SOI; and in Flag

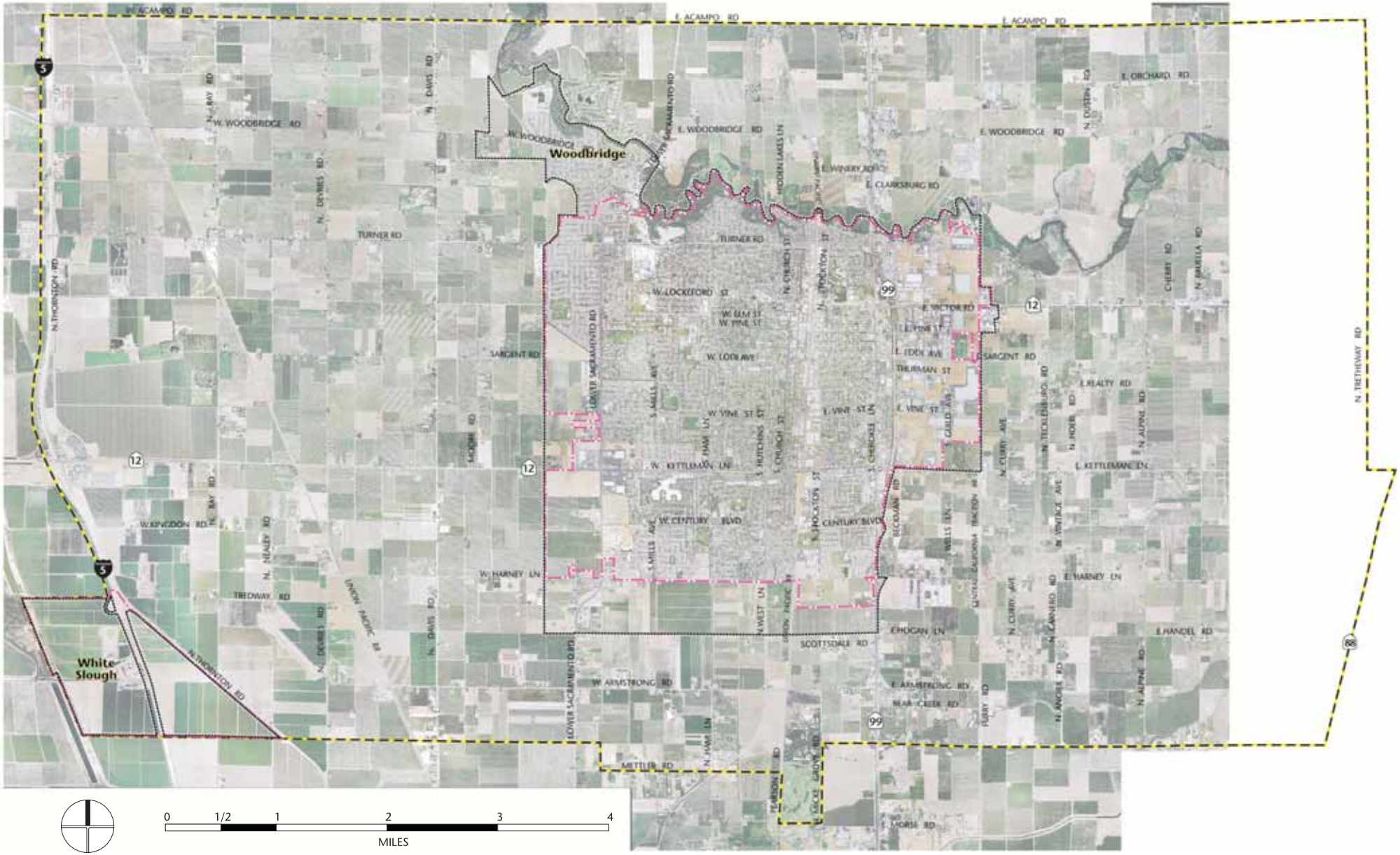


Lodi City Limits

Lodi Planning Area

0 5 10 20
MILES

Figure 2.1-1
Regional Location



Planning Area

Lodi Sphere of Influence

City Limits

Figure 2.1-2

Planning Area

City, an unincorporated commercial center at the junction of I-5 and SR-12. The Planning Area extends beyond areas contemplated for development, in order to provide adequate physical context for parts of the impact analysis. This Planning Area is largely unchanged from the Planning Area for Lodi's current (1991) General Plan.

SPHERE OF INFLUENCE

As described in Government Code Section 56076, the SOI is "a plan for the probable physical boundaries and service area of a local government agency." In other words, the SOI represents the potential expansion area for a city's growth. Lodi's current (2008) SOI includes, in addition to Woodbridge, lands west and east of city limits where developments have been recently approved, as well as a small pocket in the northeast portion. Lodi's SOI covers 16.6 square miles, or 10,623 acres of land.

CITY LIMITS

The city limits are the boundaries within which the City of Lodi has regulatory authority. The Mokelumne River forms the northern edge of the city; Harney and Hogan lanes form the southern edge. The Central California Traction Line (CCT) railroad (north of Kettleman Lane) and SR-99 (south of Kettleman Lane) form the eastern boundary. The western boundary extends approximately one-half mile west of Lower Sacramento Road. Lodi's incorporated limits (exclusive of White Slough Water Pollution Control Facility) encompass an area of about 12 square miles.

2.2 PURPOSE AND OBJECTIVES OF THE GENERAL PLAN

CEQA Guidelines Section 15124(b) requires a description of project purpose and objectives.

PLAN PURPOSE

The proposed General Plan is intended to respond directly to changes experienced in Lodi since the City last fully updated and adopted a General Plan in 1991. Since that time, there has been growth in the City and numerous State and federal laws guiding Plan policies have been updated. As such, there is a need to take stock of the existing situation and plan for development in line with a vision.

Plan policies focus on what is concrete and achievable and set forth actions to be undertaken by the City. The Plan is both general and long-range. It is designed to be used on an ongoing basis as State law requires a variety of City regulations and actions to be consistent with the General Plan. Nonetheless, the General Plan does not and cannot cover all aspects of City government. There are some instances where detailed studies are necessary before Plan policies can be implemented.

PLAN OBJECTIVES

The proposed General Plan is a document required under State law to address issues related to physical development and conservation of resources. The proposed General Plan focuses on meeting current community requirements and future needs. It is forward looking and is designed to address the challenge of accommodating growth while enhancing Lodi's quality of life. Specific objectives in the proposed General Plan are as follows:

1. **Compact Urban Form.** The Plan enhances Lodi's compact urban form, promoting infill development downtown and along key corridors, while also outlining growth possibilities di-

rectly adjacent to the existing urban edge. The City's overall form will be squarish, reinforcing the centrality of downtown, with virtually all new development located within three miles from it.

2. **Mokelumne River as the City's Northern Edge.** The Lodi community has expressed a desire to see the river remain as the city's northern edge. The southern bank of the river (within the city) is occupied by residential uses and streets do not reach the river. Therefore, connectivity across the river to knit the urban fabric would be challenging if growth were to extend northward.
3. **Enhanced Mixed-Use Centers and Corridors.** The Plan designates downtown as a mixed-use center, with a mix of commercial and residential uses. Stretches of major commercial corridors are depicted with a mixed use designation to enable continued investment in these areas and enhancement of vacant and underutilized parcels.
4. **Walkable, Livable Neighborhoods.** The Plan envisions new neighborhoods with a variety of uses, diversity of housing types, and short blocks, organized around mixed-use centers. This pattern provides retail, housing, offices, parks, and other uses.
5. **Street Connectivity and Urban Design.** The Plan provides community design strategies for improving street connectivity, particularly in terms of access to downtown, neighborhoods, jobs, and shopping.
6. **Preservation of Existing Neighborhoods.** Existing development in a vast majority of the Planning Area is proposed to remain as is, in terms of land use and density. Lodi residents are proud of their vibrant neighborhoods. They enjoy the small-town character of the city and would like to ensure that Lodi's high quality-of-life is enhanced as the city grows.
7. **Agricultural Preservation Along Southern Boundary.** In order to preserve agriculture and maintain a clear distinction between Lodi and Stockton, the Plan acknowledges the Armstrong Road Agricultural/Cluster Study Area along the south edge of Lodi, from Interstate 5 (I-5) to State Route (SR) 99, and south to Stockton's Planning Area boundary.
8. **Employment-Focused Development in the Southeast.** The area east of SR-99 toward the south is designated as a growth area for office, business park and commercial uses. This area has excellent regional access, and is adjacent to existing urbanized areas.
9. **Enhanced Bicycle and Pedestrian Connections.** Lodi already has an expansive bicycle network and good pedestrian facilities, including sidewalks, signals, landscaping and street furniture, particularly downtown. Improvements to pedestrian and bicycle pathways in new and existing neighborhoods are identified in the General Plan.
10. **Recreation Path along Irrigation Canal Right-of- Way.** The Woodbridge Irrigation District Canal runs through the city, passing through residential neighborhoods. A public recreation trail is envisioned to enable walking, jogging, and biking.
11. **Phasing Future Development.** The Plan identifies urban reserve areas along the west and east edges of the city to provide additional area for development, if needed. These urban reserve areas ensure that the city conforms to its Growth Management Ordinance and grows at a reasonable rate.

These objectives provide the foundation for the guiding policies and implementing policies that make up the General Plan.

2.3 THE PROPOSED GENERAL PLAN

The proposed General Plan includes the following elements: Land Use; Growth Management and Infrastructure; Community Design and Livability; Transportation; Parks, Recreation, and Open Space; Conservation; Safety; Noise; and Housing. The City's existing (1991) General Plan addresses the same set of topics. The existing and proposed plans share many similarities in terms of their overall vision, including the provision of land to support new growth and planning for adequate infrastructure and services. The proposed General Plan initiates several new ideas, including a separator along the southern edge of the city between Lodi and Stockton; new growth areas to the east and west; and the addition of mixed use land use designations to create new neighborhoods and revitalize existing corridors.

GENERAL PLAN LAND USE DIAGRAM

The land use framework of the proposed General Plan is illustrated in the General Plan Diagram (Figure 2.3-1), which is a graphic representation of the themes and policies in the Plan. It designates the proposed general location, distribution, and extent of land uses through full development of the proposed General Plan. The Diagram is not parcel-specific. The Diagram is to be used and interpreted only in conjunction with the text and other figures contained in the proposed General Plan. As required by State law, land use classifications—shown as color/graphic patterns, letter designations, or labels on the diagram—specify a range for housing density and building intensity for each type of designated land use. These density/intensity standards allow circulation and public facility needs to be determined.

The following descriptions apply to land uses indicated on the proposed General Plan Land Use Diagram and will represent an adopted component of the Plan. These land use classifications are meant to be broad enough to give the City flexibility in implementing City policy, but clear enough to provide sufficient direction to carry out the proposed General Plan. The City's Zoning Ordinance will contain more detailed provisions and standards. Densities and intensities are described for each land use category. Residential densities are expressed as dwelling units per acre. Non-residential densities are expressed by floor area ratio (FAR), which describes the ratio of building square footage to land square footage—in other words, the intensity of development on a site.

Land Use Classifications

Residential

Low-Density Residential

This classification is intended for residential developments at densities of two to eight units per acre. This density is typical of old and new single-family neighborhoods with detached homes, such as Old Lodi and Sunwest. Most existing housing in Lodi falls under this category and the majority of new residential development will continue to be built within this density range.

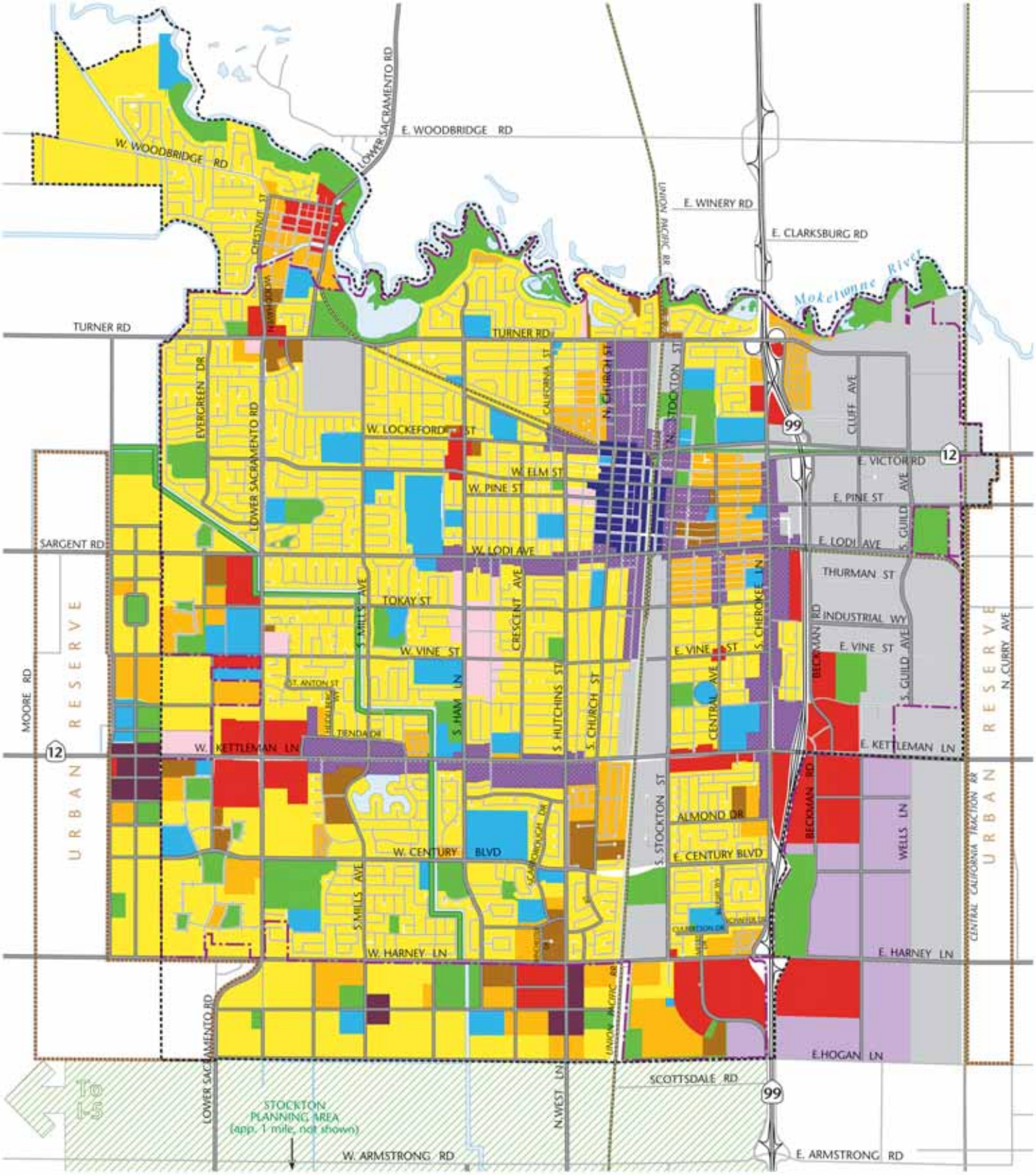


Figure 2.3-1
Land Use Diagram

Medium-Density Residential

This classification is intended for residential developments at densities ranging from eight to 20 units per acre. This density range accommodates a variety of housing types, including detached or attached (townhomes) single-family houses, and two or three-story multifamily units. This type of housing exists in the eastern neighborhoods, along Church Street, south of Kettleman Lane. Medium-Density Residential is planned between single-family neighborhoods and higher density housing in new growth areas. This designation is also applied east and northwest of downtown.

High-Density Residential

This classification is intended for residential developments at densities of 15 to 35 units per acre. This density range includes townhomes and stacked multi-family housing. This type of development in Lodi is generally dispersed around downtown and along Kettleman Lane. Within new growth areas of the General Plan, High-Density Residential is located near parks, public facilities and Mixed-Use Centers. This designation is also applied to a small area just east of downtown.

Commercial/Office/Industrial

General Commercial

The classification provides sites for retail uses, including citywide shopping centers with off-street parking, neighborhood shopping with clusters of street-front stores, and hotels. This category includes large-parcel retail uses around Lower Sacramento Road and Kettleman Lane and highway-oriented commercial development near the exits of SR-99, as well as smaller-scale retail uses, including around the intersection of Vine Street and Central Avenue. The maximum FAR for this designation is 0.6.

Office

This classification describes administrative, financial, business, professional, and medical offices, including Lodi Memorial Hospital. Support commercial uses are also permitted, subject to limitations described in the Zoning Ordinance. The maximum FAR for this designation is 0.6.

Business Park

This classification is intended for office activities that generate high employment yield per acre. It accommodates campus-like environments for corporate headquarters and other office parks. This category includes the Blue Shield call center and designated sites in the southeast portion of the city for new employment opportunities. This designation may also provide for light industrial and production facilities such as Lustre-Cal. The maximum FAR for this designation is 1.0.

Industrial

The Industrial classification includes a mix of manufacturing, production, warehousing, general service, storage, and distribution activities. This category includes the General Mills factory and existing uses along the railroad and east of SR-99. Industrial sites are available within and adjacent to the existing cluster of industrial uses in the east side of the city. The maximum FAR for this designation is 0.6.

Mixed Use

Downtown Mixed Use

Downtown Mixed Use is intended for a variety of commercial, office, public, and medium- and high-density residential uses on infill sites in the vicinity of Lodi's downtown. This classification encompasses an expanded downtown area, across the railroad tracks and extending past Main Street. The maximum FAR for this designation is 3.0, which includes all residential and non-residential uses combined.

Mixed Use Corridor

The Mixed-Use Corridor classification includes a variety of office and general commercial uses, as well as low-, medium-, and high-density residential along the city's major corridors: Kettleman and Cherokee lanes and Lodi Avenue. The maximum FAR for this designation is 1.2.

Mixed Use Center

This classification identifies new mixed-use neighborhood centers in the new growth areas of the General Plan. This category provides for a variety of residential, office, neighborhood commercial, and public uses. The maximum FAR is 1.0 and the maximum height is 40 feet.

Public and Open Space

Public/Quasi-Public

This classification is applied to properties owned by government entities or quasi-public users. This designation includes government facilities, public and private schools, and libraries. The maximum FAR for this designation is 1.0.

Parks/Open Space

This classification is intended for all parks and open spaces. This designation includes improved and unimproved parks, recreation complexes, trails, drainage basins, and cemeteries.

Urban Reserve

The Plan identifies Urban Reserve areas to provide additional area for development, if sufficient capacity to accommodate growth in the initial phases is not available. Along the western edge of the city, the Urban Reserve designation represents future land area for residential and commercial land use. (Although specific land uses have not been delineated on the Land Use Diagram, land use mixes will be similar to the new land area designated just to the east and described later in this chapter). Along the eastern edge, the Urban Reserve designation provides additional area for industrial uses, taking advantage of railroad and highway access.

Summary of Density and Intensity

Table 2.3-1 provides a summary of density and intensity standards in the proposed General Plan.

Table 2.3-1: Standards for Density and Intensity of Development

Land Use Classification	*Residential Density (du/ac)*	*Maximum Floor Area Ratio*
Residential		
Low-Density Residential	2-8	n/a
Medium-Density Residential	8-20	n/a
High-Density	15-35	n/a
Commercial, Office, and Industrial		
General Commercial	n/a	0.6
Office	n/a	0.6
Business Park	n/a	1.0
Industrial	n/a	0.6
Mixed-Use		
Downtown Mixed Use	8-35	3.0
Mixed Use Corridor	2-35	1.2
Mixed Use Center	8-35	1.0

Source: Dyett & Bhatia, 2009.

2.4 GENERAL PLAN DEVELOPMENT POTENTIAL

Although the proposed General Plan applies a 20-year horizon (through the year 2030), the Plan is not intended to specify or anticipate when full development would actually occur; nor does the designation of a site for a certain use necessarily mean the site will be built within the next 20 years. What the proposed General Plan does is provide adequate land to accommodate anticipated housing and job needs in Lodi. This section describes the implications of the proposed General Plan in terms of land use, future population, housing units and jobs at full development of the proposed General Plan. The impact analysis considered full development potential to mean 90% of the maximum potential of the proposed General Plan, outside of the urban and industrial reserve areas (also called Phase 3). These areas are assumed to build out at 75% and 50% of the maximum potential, respectively. The Growth Management and Infrastructure Element (summarized in Section 2.5) describes this phasing of growth, with the completion of Phase 3 representing full development of the proposed General Plan.

LAND USE DEVELOPMENT POTENTIAL

The proposed General Plan designates 3,524 acres of new urban area. (This acreage includes parks and open space, as well as an Urban Reserve should the initial phases of development build out). The Plan also focuses infill development efforts in and around downtown and along the city's existing corridors; within these areas, approximately 543 gross acres (64 net acre) have been identified for reuse. By comparison, the existing (1991) General Plan would allow 1,718 acres of new urban area through the Planned Residential and Planned Residential Reserve designations. In other words, this is the amount of land identified in the 1991 General Plan that still remains for development. The city currently contains about 5,639 acres of urban area, including vacant sites.

In order to urbanize new areas as depicted in the proposed General Plan, the City will need to expand its city limits and/or pursue annexation to expand the boundaries of the city's SOI.

Table 2.4-1 shows citywide development potential, in acres, of the proposed Land Use Diagram. These acreage values represent the distribution of land uses that would result if the proposed General Plan were developed as written. The values include vacant and underutilized land that may be developed/redeveloped; currently agricultural land identified for potential urbanization; and existing uses on the ground. Under the proposed General Plan, Low-Density Residential would be the most prevalent land use in terms of overall acreage. With 3,747 acres, low density housing represents one-third of the proposed General Plan. Industrial land has the second highest share with 1,461 acres (13%). The Urban Reserve areas constitute 1,260 acres or 10% of the proposed General Plan area.

Table 2.4-1: General Plan Land Use Acreage Potential

General Plan Land Use	*Acres*	*Percent*
Low Density Residential	3,747	33%
Medium Density Residential	596	5%
High Density Residential	166	1%
Business Park	410	4%
Commercial	589	5%
Office	94	<1%
Industrial	1,461	13%
Downtown Mixed Use	68	<1%
Mixed Use Center	76	<1%
Mixed Use Corridor	475	4%
Public/Quasi-Public	473	4%
Open Space	715	6%
Urban Reserve	1,260	11%
Right-of-Way	1,088	10%
Total	11,219	100%

Source: Dyett & Bhatia, 2009.

POPULATION AND EMPLOYMENT GROWTH

Table 2.4-2 describes housing units, population and jobs resulting from existing development, approved projects, and the proposed General Plan (which includes all phases of development, including the Urban Reserve areas). The table provides a total column, representing projected development under the proposed Plan, and a percent increase column for each characteristic, representing the percent change of the proposed Plan, over and above existing and approved development.

Housing Units

Lodi currently contains 23,353 housing units. Approximately 3,700 housing units have recently been approved or are under construction. The proposed General Plan accommodates 10,100 new residential units. Together, this results in the potential for 37,200 housing units. Approximately half of the housing units will be low-density housing (i.e. single-family), a quarter medium-density, and the remaining quarter high-density and mixed-use residential (containing a mix of density levels).

Population

Lodi currently contains approximately 63,400 residents. The proposed General Plan could accommodate 26,400 additional residents. Accounting for the current population as well as new residents anticipated from recently approved projects (approximately 9,700 residents), full development of the General Plan could result in a total of 99,500 residents, representing an annual growth rate of 2% (not shown in table). This growth rate is consistent with the City's adopted Growth Management Ordinance which regulates the amount and timing of residential growth in the city through a permit allocation process. The City may only approve a maximum number of housing units that equates to a 2% growth in population annually (although, unused permit allocations may roll over to the following year).

Employment

Lodi currently contains 24,700 jobs. Total additional employment accommodated in the General Plan by new commercial, office, industrial, and mixed-use land designations could allow for 23,400 new jobs in Lodi. Recently approved or completed development projects are expected to produce an additional 2,900 jobs. In sum, Lodi could expect up to 51,000 jobs under the General Plan.

Table 2.4-2: General Plan Population and Employment Potential

Characteristic	*Existing (2008)*	*Approved Developments*	*Net New General Plan*	*Total*	*% Increase (Above Existing & Approved)*
Housing Units	23,353	3,700	10,100	37,200	38%
Population	63,400	9,700	26,400	99,500	36%
Jobs	24,700	2,900	23,400	51,000	85%

1. Total General Plan includes existing, approved/under construction, and net new resulting from General Plan.

Source: Dyett & Bhatia, 2009; California Department of Finance, 2008; San Joaquin Council of Governments, 2004.

Jobs/Housing Balance

The General Plan projects a more balanced jobs/employed residents ratio compared with the city's past ratio, as shown in Table 2.4-3. In 2008, Lodi had a jobs/employed residents ratio of 0.8, meaning that the city did not have quite enough jobs for all the working people who lived there, even if the match between job skills required and job skills offered had been perfect. The proposed General Plan designates land area for substantial employment growth, should market opportunities exist, resulting in an improved ratio of 1.0. This latter ratio suggests that the city would have about as many jobs as employed residents.

Table 2.4-3: Jobs/Employed Residents, Existing and Potential

	Existing (2008)	*Total*
Jobs	24,700	51,000
Employed Residents[1]	32,000	50,251
Jobs/Employed Residents Ratio	0.8	1.0

1. The total General Plan jobs/employed residents ratio uses the same proportion of employed residents in the total population (51%) to estimate existing and future values. It also includes jobs resulting from approved projects.

Sources: Dyett & Bhatia, 2009; California Employment Development Department, 2008; San Joaquin Council of Governments, 2004.

2.5 KEY POLICY DIRECTION

Policy direction for each of the proposed General Plan elements is described in this section.

LAND USE

The Land Use Element seeks to accommodate anticipated population expansion, while maintaining the city's small-town identity and compact form, and providing for economic growth. New growth areas accommodate residential, business park, retail, and industrial expansion. The Element also establishes mixed-use development areas, co-located with parks and public facilities, to create new neighborhood centers. Lastly, economic development strategies seek to expand retail and tourism opportunities, including the local wine industry. Guiding policies include:

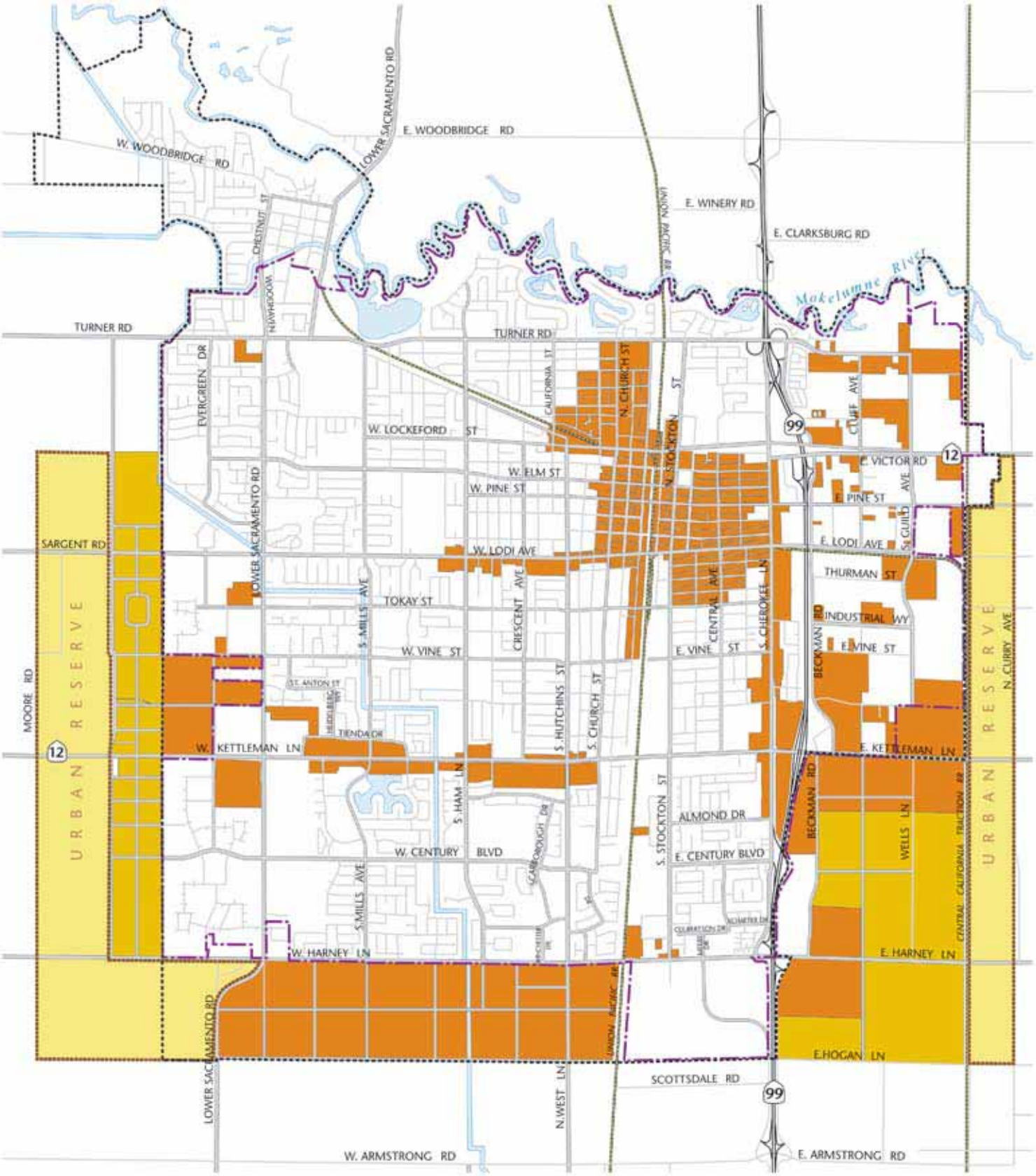
- Create a balanced and sustainable land use pattern that provides for a diversity of uses and satisfies existing and future needs.
- Encourage the continued development of downtown as a mixed-use activity center with a range of commercial, residential, and civic uses.
- Promote revitalization of key commercial spines of the community with focused, mixed-use development.
- Foster development of walkable new neighborhoods, with a mix of uses and diversity of housing types.
- Maintain land use patterns that maximize residents' access to parks, open space, and neighborhood shopping centers.
- Ensure the continued economic sustainability of the community and fiscal health of the City government.
- Strengthen the City's economic base and provide employment opportunities for residents to achieve a more balanced jobs/housing ratio.

GROWTH MANAGEMENT AND INFRASTRUCTURE

The Growth Management and Infrastructure Element seeks to maintain and preserve the city's compact urban form, open spaces, and agricultural lands while accommodating growth needs. While policies to regulate the location, pace, and timing of growth are included (see bulleted policies below), these will not restrict Lodi's ability to meet its housing need obligations or long-

range growth projections by regional agencies. This Element defines three phases of development, as shown in Figure 2.5-1, so that growth can proceed efficiently and logically. The combination of all three phases represents full development of the proposed General Plan. Key policies and strategies include:

- Ensure contiguous, paced, and orderly growth by identifying phases for development. Allow development in subsequent phases only once thresholds of reasonable development in prior phases have been achieved.
- Define Lodi's southern boundary and establish limits on development to the south through the establishment of the Armstrong Road Agricultural/Cluster Study Area as a greenbelt and/or community separator. Cooperate with San Joaquin County and the San Joaquin County Local Agency Formation Commission to ensure maintenance of this area as greenbelt (with agricultural, open space, or large-lot rural residential use).
- Target new growth into identified areas, extending south, west, and southeast. Ensure contiguous development by requiring development to conform to phasing described in Figure 2.5-1. Enforce phasing through permitting and infrastructure provision. Development may not extend to Phase 2 until Phase 1 has reached 75% of reasonable development, and development may not extend to Phase 3 until Phase 2 has reached 75% of reasonable development. In order to respond to market changes in the demand for various land use types, exemptions may be made to allow for development in future phases before these thresholds in the previous phase have been reached.
- Use the Growth Management Allocation Ordinance as a mechanism to even out the pace and direction of growth.
- Provide infrastructure—including water, sewer, stormwater, and solid waste/recycling systems—that is designed and timed to be consistent with projected capacity requirements and development phasing.
- Prepare master plan documents as necessary during the planning period to address the infrastructure needs of existing and projected growth, and to determine appropriate infrastructure provision for each phase.
- Promote conservation of resources in order to reduce the load on existing and planned infrastructure capacity, and to preserve existing environmental resources.
- Provide public facilities—including police and fire services, schools, and libraries commensurate with the needs of the existing and future population.
- Support efforts to provide superior public and private educational opportunities for all segments of the population.



Phase I
Phase II
Phase III
Urban Reserve
Sphere of Influence (2008)
City Limits (2008)

40 acres
10 acres

0 1/2 1 2
MILES

Figure 2.5-1
Development Phases

COMMUNITY DESIGN AND LIVABILITY

The Community Design and Livability Element explores the physical factors that make Lodi a desirable place to live and work. It envisions a compact and sustainable city form, walkable neighborhoods, a revitalized downtown and corridors, multiple new recreational opportunities, and continued high quality of life. Topics addressed include city form and identity; downtown; neighborhoods and corridors; streets, connectivity and accessibility; and site planning and green building. These are reflected in the following guiding policies:

- Enhance Lodi's identity and livability by maintaining a compact urban form, with clear edges and delineation between urban and rural uses.
- Promote downtown as the symbolic center of the city, with a greater mix of uses, and building types, and an expanded extent that embraces the Eastside. Promote downtown as a tourist destination.
- Respect and maintain Lodi's small-town character, its existing neighborhoods, the historic downtown, and historic buildings.
- Structure new neighborhoods to promote walkability, and ensure they are integrated with the surrounding urban fabric.
- Foster a well connected street network that enhances accessibility to jobs, services, parks, schools, and shopping, particularly at the scale of pedestrians and bicyclists.
- Foster redevelopment of key corridors as vital spines, with nodes of mixed-use, higher intensity, pedestrian- and bicycle-friendly development.
- Promote a mix of uses, densities, and building typologies in new development.
- Promote sustainable development practices and conservation of resources to reduce environmental impact and ensure long-term sustainability.
- Encourage green building and construction in new development and renovations.

TRANSPORTATION

The Transportation Element describes existing and proposed improvements for each mode and type of transportation facility (roadway, pedestrian, bicycle, transit, goods, and parking) and policies to achieve a multi-modal transportation network. The Plan seeks to both expand the street and facilities network to accommodate new neighborhoods, as well as to improve connections to existing neighborhoods and downtown. Guiding policies include:

- Plan, develop, and maintain a comprehensive, coordinated transportation system to ensure the safe, efficient, and convenient movement of people and goods.
- Maintain and update street standards that provide for the design, construction, operation, and maintenance of City streets based on a "complete streets" concept that enables safe, comfortable, and attractive access for pedestrians, bicyclists, motorists, and transit users of all ages and abilities, in a form that is compatible with and complementary to adjacent land uses.
- Develop neighborhood streets that encourage walking, biking, and outdoor activity through sound engineering and urban design principles that limit potential speeding
- Provide for safe and convenient pedestrian, bicycle, and transit circulation.

- Ensure the adequate provision of both on-street and off-street parking, taking into account the effect of parking management techniques on urban design, economic vitality, and walkability.
- Improve railroad crossings to minimize safety hazards and allow for additional capacity improvements.
- Provide efficient and direct circulation for local truck traffic, with minimal disruption to residential neighborhoods.
- Encourage reduction in vehicle miles traveled as part of a strategy to reduce greenhouse gas emissions.

PARKS, RECREATION, AND OPEN SPACE

The General Plan builds on Lodi's existing parks and recreation facilities, to provide a high level of park and recreation services. The city currently contains 280 acres of parks and basins within 24 City parks. With five planned parks by the City, three approved development projects contributing open spaces, and the proposed General Plan identifying 210 acres of parks and basins, the city could expect a total of 654 acres of parks and basins under the Plan. Policies and standards are as follows:

- Provide and maintain park and recreation facilities for the entire community.
- Protect natural resource areas, native vegetation, scenic areas, open space areas, and parks from encroachment or destruction.
- Improve connectivity between parks and recreation facilities.
- Expand non-vehicular paths and trails and bikeways.
- Provide eight acres of parks and drainage basins per 1,000 new residents, with four acres serving as parkland only.
- Provide a park within a quarter-mile of each residence.

CONSERVATION

The Conservation Element establishes policies for the conservation of natural resources including agricultural and soil resources; biological resources; cultural and historic resources; hydrology and water quality; energy and climate change; and air quality. Key policies and strategies are described below, by topic area.

Agricultural and Soil Resources

- Promote preservation and economic viability of agricultural land surrounding Lodi.
- Adopt an agricultural conservation program establishing a mitigation fee to protect and conserve agricultural lands.
- Maintain the quality of the Planning Area's soil resources and reduce erosion to protect agricultural productivity.

Biological Resources

- Protect sensitive wildlife species and their habitats.

- Protect, restore and enhance local watercourses and associated plant, wildlife, and fish species, particularly in the Mokelumne River and floodplain areas.
- Continue to coordinate with the San Joaquin Council of Governments and comply with the terms of the Multi Species Habitat Conservation and Open Space Plan to protect critical habitat areas that support endangered species and other special status species.
- Explore the purchase of or establishment of a joint agreement for open space preservation and habitat enhancement in the Woodbridge Irrigation District's property located north of the Mokelumne River. Ensure the open space preservation and enhancement of this property, while exploring opportunities for public access.

Cultural and Historic Resources

- Encourage the identification, protection, and enhancement of archaeological resources.
- Preserve and enhance districts, sites, and structures that serve as significant, visible connections to Lodi's social, cultural, economic, and architectural history.
- Promote community awareness and appreciation of Lodi's history, culture and architecture.
- Conduct a comprehensive survey of historic resources (structures and districts) in Lodi, including consideration of potentially eligible historic resources.
- Pursue status as a Certified Local Government through the National Parks Service and California Office of Historic Preservation in order to access technical assistance services and funding opportunities for historic preservation.

Hydrology and Water Quality

- Protect and improve water quality in the Mokelumne River, Lodi Lake, and major drainage ways.
- Monitor water quality regularly to ensure that safe drinking water standards are met and maintained in accordance with State and EPA regulations and take necessary measures to prevent contamination. Comply with the requirements of the Clean Water Act with the intent of minimizing the discharge of pollutants to surface waters.
- Require, as part of watershed drainage plans, Best Management Practices, to reduce pollutants to the maximum extent practicable.

Energy and Climate Change

- Conserve energy and reduce per capita energy consumption.
- Reduce greenhouse gas emissions by 15% over 2008 levels by 2020, to slow the negative impacts of global climate change.
- Prepare and adopt a comprehensive climate action plan (CAP). The CAP should include the following provisions:
  - An inventory of citywide greenhouse gas emissions,
  - Emissions targets that apply at reasonable intervals through the life of the CAP,
  - Enforceable greenhouse gas emissions control measures,
  - A monitoring and reporting program to ensure targets are met, and
  - Mechanisms to allow for revision of the CAP, as necessary.

Air Quality

- Support land use, transportation management, infrastructure, and environmental planning programs that reduce vehicle emissions and improve air quality.
- Minimize the adverse effects of construction related air quality emissions and Toxic Air Contaminants on human health.
- Use the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guide for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The City shall consult with the SJVAPCD during CEQA review for projects that require air quality impact analysis and ensure that the SJVAPCD is on the distribution list for all CEQA documents.
- Assess air quality mitigation fees for all new development, with the fees to be used to fund air quality programs.

SAFETY

The Safety Element identifies the natural and manmade hazards that exist within the city and seeks to mitigate their potential impacts to ensure the continued health and safety of Lodi community members. The Element addresses flooding and drainage; potentially hazardous materials and operations; seismic and geologic hazards; fire hazards; and emergency management with the following policies and strategies:

- Ensure a high level of public health and safety.
- Prevent loss of lives, injury, illness, and property damage due to flooding, hazardous materials, seismic and geological hazards, and fire.
- Protect the public from disasters and provide guidance and response in the event a disaster or emergency.
- Minimize vulnerability of its infrastructure and water supplies/distribution systems.
- Prohibit new development, except for public uses incidental to open space development, within Zone A (100-year flood zone).
- Update Zoning Ordinance and development review process as needed to reduce peak-hour stormwater flow and increase groundwater recharge.
- Ensure compatibility between hazardous material users and surrounding land use through the development review process. Separate hazardous waste facilities from incompatible uses including, but not limited to, schools, daycares, hospitals, public gathering areas, and high-density residential housing through development standards and the review process.
- Support grade-separated railroad crossings, where feasible, and other appropriate measures adjacent to railroad tracks to ensure the safety of the community.
- Maintain and periodically update the City's Emergency Preparedness Plan, including review of County and State emergency response procedures that must be coordinated with City procedures.
- Ensure that major access and evacuation corridors are available and unobstructed in case of major emergency or disaster. Continue to identify appropriate road standards, includ-

ing minimum road widths and turnouts to provide adequate emergency access and evacuation routes.

- Continue to use the San Joaquin County Hazard Mitigation Plan to reduce hazard risk and coordinate with the County on its update and implementation, consistent with the Federal Emergency Management Agency and the Disaster Act of 2000.

NOISE

The Noise Element identifies the noise sources that exist within the city, describes noise impact that may result from the proposed General Plan, and establishes policies to mitigate potential impacts through both preventative and responsive actions. Policies and strategies include:

- Protect humans, the natural environment, and property from manmade hazards due to excessive noise exposure.
- Protect sensitive uses, including schools, hospitals, and senior care facilities, from excessive noise.
- Control and mitigate noise at the source where feasible, as opposed to at receptor end.
- Encourage the control of noise through site design, building design, landscaping, hours of operation, and other techniques for new development deemed to be noise generators.
- Use the noise and land use compatibility matrix and allowable noise exposure levels as review criteria for all new land uses. Incorporate noise attenuation measures for all projects that have noise exposure levels of "conditionally acceptable" and higher.

2.6 GENERAL PLAN IMPLEMENTATION

The proposed General Plan provides specific policy guidance for implementation of plan concepts in each of the elements and establishes a basis for coordinated action by the City, adjacent jurisdictions, and regional and state agencies. The policies in each element of the Plan provide details that will guide program development.

Implementing the proposed General Plan will involve the City Council, the Planning Commission, other City boards and commissions, and City departments. The City also will need to consult with San Joaquin County and other public agencies about implementation proposals that affect their respective areas of jurisdiction. The principal responsibilities that City officials and staff have for Plan implementation are briefly summarized below; details on their powers and duties are in the Lodi Municipal Code.

CITY COUNCIL

The City Council establishes local laws, sets policies, approves programs, appropriates funds, and supervises the operations of City government. The City Council appoints the City Manager who is their key staff advisor and has overall responsibility for the day-to-day implementation of the Plan. The City Council also appoints the Planning Commission and other boards and commissions established under the Municipal Code.

The City Council is responsible for adoption of the proposed General Plan and any amendments to it. The City Council will set implementation priorities and approve the Zoning Map and Updated Zoning Ordinance, consistent with the Plan, and a Capital Improvement Program and

budget to carry out the Plan. The Council also approves development projects consistent with the proposed General Plan.

PLANNING COMMISSION

Acting as the City zoning body, the Planning Commission has the power to advise the City Council on many critical actions related to the proposed General Plan including to: prepare, review, and revise the Plan; implement the Plan through the administration of specific plans and Zoning and Subdivision ordinances; annually review the City's Capital Improvement Program for consistency with the Plan; promote the public awareness of the Plan and relevant regulations; consult and advise with public officials and agencies, public utility companies, civic, educational, professional, and other organizations, and community members concerning implementation of the Plan; and promote the coordination of local plans and programs with those of other public agencies.

CITY ATTORNEY OFFICE

The City Attorney is the legal advisor for the City Council, the City Manager, City officials, and department heads. The City Attorney represents the City in litigation and reviews all legal documents, including ordinances, resolutions, leases, contracts, and deeds, and approves each as to form.

COMMUNITY DEVELOPMENT DEPARTMENT

The Community Development Department has primary responsibility for administering the laws, regulations and requirements that pertain to the physical development of the City. Tasks include administering planning and building permit procedures, providing public information, performing building and code enforcement inspections, maintaining complete public records on planning and building projects and issuing necessary permits, certificates, approvals and enforcement citations. Finally, the Department will have the primary responsibility for preparing the annual report on the Plan.

ELECTRIC UTILITY DEPARTMENT

The Electric Utility Department is responsible for acquiring power supply and managing a system of poles, transformers, and lines to distribute that supply throughout the City. The Department will lead implementation of energy conservation programs and renewable energy policies as specified in the proposed General Plan.

FINANCE DEPARTMENT

The Finance Department is responsible for managing all financial aspects of City finance operations. The Department provides financial and other support services to include: financial planning, preparation of the Financial Plan and Budget document, accounting, cashier services, investment, billing and tax administration, purchasing, collection services and mail processing. The Department is responsible for preparation and management of the Annual Budget and Annual Financial Report. The Department also complies with a host of State and Federal requirements involving filing of reports and information regarding City finances.

FIRE DEPARTMENT

The Lodi Fire Department provides a wide range of emergency and non-emergency services to the citizens of the community. These services include: fire suppression, emergency medical

services, hazardous materials response, technical rescue, fire prevention, public education, and related safety services. Along with the Police Department, the Fire Department is responsible for implementing public safety policies described in the Growth Management and Infrastructure, and Safety elements.

PARKS AND RECREATION

The Parks and Recreation Department manages the City's parks, open space, and recreation facilities and operates year-round leisure, and community services programs. The Department will have the lead role the programming of park and open spaces and other implementing policies outlined in the Parks, Open Space, and Recreation Element. Assisting the Department in an advisory capacity is the Council-appointed Parks and Recreation Commission.

POLICE DEPARTMENT

The Police Department's basic responsibility is to protect and serve the public and property within the City of Lodi. The Department has several specialized units, such as investigations, narcotics, gang intelligence, drug suppression, crime prevention, K-9, Special Weapons and Tactics, and traffic units. Along with the Fire Department, the Police Department is responsible for implementing public safety policies described in the Growth Management and Infrastructure, and Safety elements.

PUBLIC WORKS DEPARTMENT

The Public Works Department is composed of five divisions providing a variety of services in the City in terms of infrastructure, utilities, and transit. The department also oversees the solid waste collection franchise and manages most property acquisitions. The Department will take the lead in the implementation of many of the proposed Plan's sustainability initiatives. It will also have specific implementation responsibilities for portions of the Land Use; Growth Management and Infrastructure; Transportation; Conservation; Community Design and Livability; and Safety elements.

OTHER COMMISSIONS

The City has established a number of other boards and committees, some of which will be involved in Plan implementation in their respective areas of expertise. These may include the: Greater Lodi Area Youth Commission, Library Board of Trustees, Lodi Arts Commission, Lodi Improvement Committee, Lodi Senior Citizens Committee, Parks and Recreation Commission, Site Plan and Architectural Review Committee, and Budget and Finance Committee. The proposed General Plan does not envision any substantive change in the responsibilities assigned to these boards and commissions. They will be administering new or amended regulations adopted pursuant to Plan policies, and their actions will need to be consistent with the General Plan.

2.7 THE PLAN AND REGULATORY SYSTEM

The City will use a variety of regulatory mechanisms and administrative procedures to implement the proposed General Plan. Under California law, Lodi is required to have the Zoning Ordinance be consistent with the General Plan. In fact, the consistency requirement is the keystone of Plan implementation. Without a consistency requirement, there is no assurance that Plan policies will be implemented and that environmental resources earmarked for protection in the Plan will be preserved. Other regulatory mechanisms, including subdivision approvals, building and housing

codes, capital improvement programs, and environmental review procedures also will be used to implement Plan policies. The General Plan will also serve as a basis for action on individual development applications, which must be found to be consistent with the General Plan if they are to be approved.

ZONING REGULATIONS

The City's Zoning Ordinance (contained in Title 17 of the Municipal Code) will translate plan policies into specific use regulations, development standards, and performance criteria that will govern development on individual properties. The proposed General Plan establishes the policy framework, while the Zoning Ordinance prescribes standards, rules, and procedures for development. The Zoning Map will provide more detail than the General Plan Diagram.

The use regulations and development standards for existing zoning districts will need to be amended to conform to Plan policies. The City will bring both the Zoning Ordinance and the Zoning Map into conformance with the proposed General Plan. When the Plan is amended in the future, the Zoning Ordinance and Zoning Map also may need to be amended to maintain consistency between the Plan and zoning.

SUBDIVISION REGULATIONS

No subdivision of land may be approved under California law and the City's Subdivision Regulations unless its design and proposed improvements are found to be consistent with the General Plan. The City's Subdivision Regulations (contained in Title 16 of the Municipal Code) will need to be updated to conform to the updated General Plan policies.

BUILDING AND HOUSING CODES

No building permit may be issued under California law (Gov. Code Section 65567) unless the proposed development is consistent with the City's open space plan (contained in the Parks, Open Space, and Recreation Element and the Conservation Element).

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3.1 Land Use and Housing

This section presents the environmental setting and impact analysis on land use and housing in the Lodi General Plan.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Land Use Evolution

Lodi's current land uses are arranged in an overall pattern defined by Lodi's historic growth. Like many early farming communities, the city first developed along the Oakland-Sacramento Central Pacific Railroad when the Town of Mokelumne, as the city was originally called, was founded. Agriculture was always at the heart of Lodi's economy, which in the early years included wheat, watermelons, and especially grapes. The original City limits, set in 1906 when the City was first incorporated, were bordered by Lockeford Street, Hutchins Street, Cherokee Lane, and a line 1,600 feet south of Lodi Avenue. Today, this area encompasses downtown, City Hall, and historic residential neighborhoods.

Stores developed on the west side of the railroad around Sacramento, Pine, and Elm streets, and a flour mill anchored the east side at Main at Locust streets. Industrial uses continued to grow around the rail lines, and commercial uses around the railroad depot, where downtown is today. Residential areas developed in piecemeal in the areas between the central industrial and commercial core and the outlying agricultural lands. Over time, commercial development stretched out along corridors—such as Kettleman and Cherokee lanes—with residential development emerging between them. Industries located along the Union Pacific Railroad and its spurs, and later expanded eastward, in the area now extending between SR-99 and the Central California Traction Railroad. In recent years, larger retail establishments have developed along the western portion of Kettleman Lane.

Existing Land Use

Lodi Sphere of Influence

Lodi's Sphere of Influence (SOI) currently encompasses a total of 16.6 square miles of land, 5,666 acres of which are within City limits, 1,040 acres in White Slough, and 354 acres in Woodbridge. The remaining SOI area—1,616 acres—is located to the south and the west of City limits, and is largely agricultural. The unincorporated area of Woodbridge encompasses 535.5 acres, roughly equivalent to nine percent of Lodi's City urban area. Woodbridge is primarily a residential community, with a historic town center on Lower Sacramento Road.

Lodi City Limits

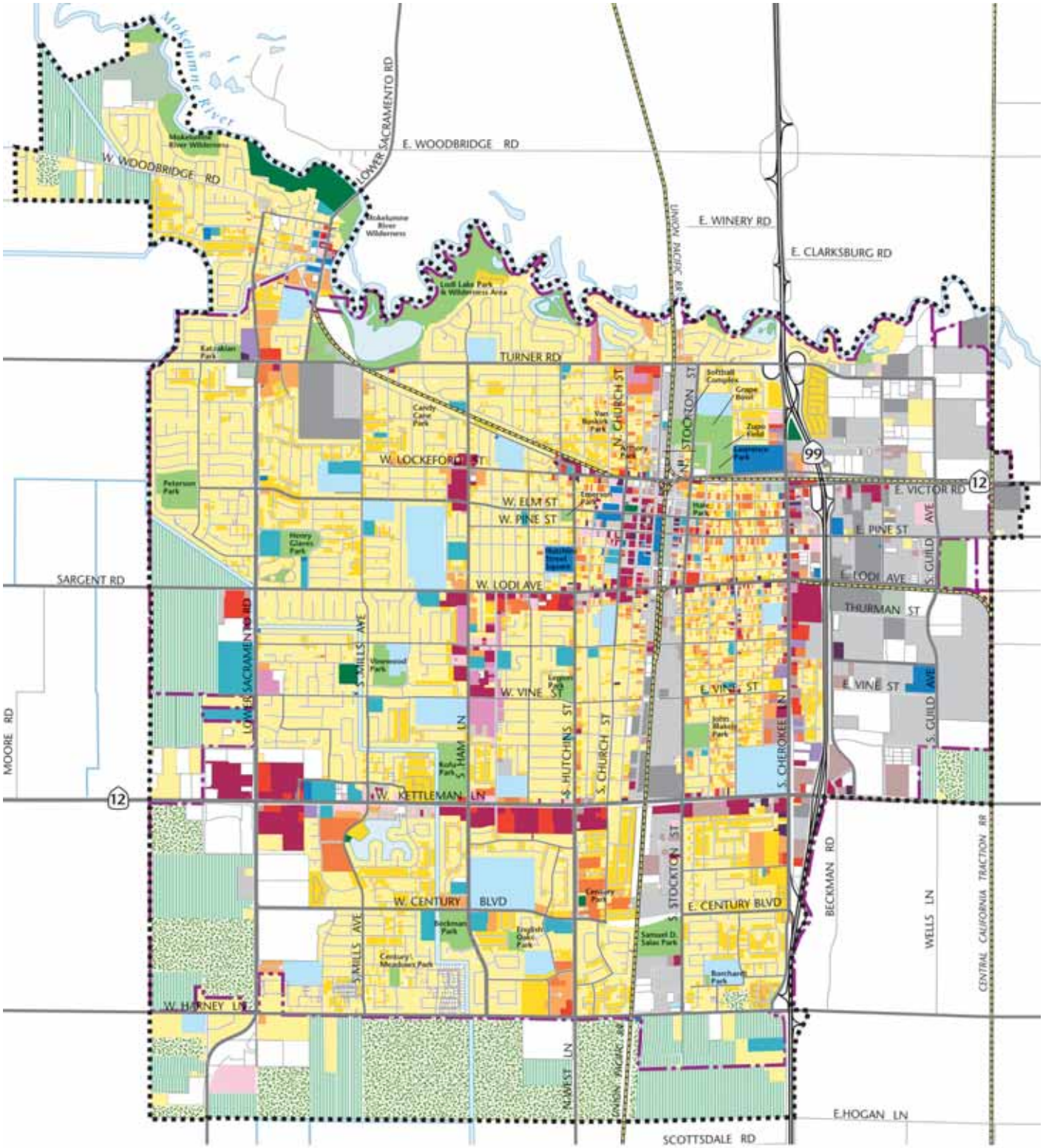
Currently, residential uses dominate the urban area, with some historic neighborhoods near downtown, and newer subdivisions spread between commercial corridors and extending west and south to the city's edge. Underutilized and vacant lands form a transitioning edge along the southern, western, and eastern perimeter of the city, but has begun filling up with new developments. Beyond the City limits, prime agricultural lands surround the city.

Major land uses currently developed in Lodi's city limits (excluding White Slough, streets and other rights of way) are residential (50%); public and quasi-public including schools (13%); industrial (12%); commercial, including retail and office (9%); vacant land (7%); miscellaneous land, including County, State, and parking areas (6%); agriculture and wineries (1%), utilities (<1%), and mixed-uses (<1%), as shown in Table 3.1-1. The distribution of existing land uses is shown in Figure 3.1-1.

Table 3.1-1: Existing (2007) Land Use within City Limits, excluding White Slough

Existing Land Use	*Acres*	*Percent*
Residential	2,796	50%
Single-Family	2339	41%
Duplex	101	2%
Multi-Family	289	5%
Mobile homes	46	1%
Senior Housing	20	<1%
Agriculture	55	1%
Agriculture	48	1%
Vineyard	7	<1%
Commercial	526	9%
Hotels/motels	19	0%
Commercial	298	5%
General Commercial/Shopping Center	103	2%
Office	82	1%
Medical Office, clinics, hospitals	25	<1%
Mixed Use	31	1%
Industrial	693	12%
Light Industrial	500	9%
Heavy Industrial	181	3%
Storage/Warehouse	12	<1%
Public/Quasi-Public	757	13%
Public/Quasi-Public and Parks/Open Space	463	8%
Schools	294	5%
Other	781	14%
Utilities	38	1%
Miscellaneous (County, State, parking lots)	328	6%
Vacant	416	7%
Total	**5,639**	**100%**

Source: Dyett & Bhatia, 2007.



- Low Density Residential
- Medium Density Residential
- High Density Residential
- Very High Density Residential
- Neighborhood Commercial
- General Commercial
- Commercial-Light Industrial
- Office
- Medical Office
- Hotels, Motels
- Mixed Use
- Public/Civic/Institutional
- Quasi Public
- Schools
- Light Industrial
- Heavy Industrial
- Open Space
- Commercial Recreation
- Parking
- Utilities
- Vineyards
- Agriculture
- Vacant

- Sphere of Influence(2008)
- City Limits (2008)

40 acres
10 acres

0 1/2 1 2
MILES

Figure 3.1-1
Existing Land Use

There are currently 23,353 housing units in Lodi, as shown in Table 3.1-2. Lodi's housing stock is comprised primarily of low density housing, with 71% of units characterized as single-family attached or detached homes. Multi-family developments with two to four units represent 8% of the housing stock and those with five or more units 19%.

Table 3.1-2: Housing Units, by Type

	2008	
	Number	*Percent*
Single-Family Detached	15,127	65
Single-Family Attached	1,487	6
2 to 4 Units	1,768	8
5 or More Units	4,506	19
Mobile Homes	465	2
Total	**23,353**	**100**

Source: Department of Finance, 2008.

REGULATORY SETTING

Land uses in Lodi are regulated by several existing City plans, including the General Plan and area plans and guidelines. In addition, plans of adjacent communities and regional bodies affect land use in Lodi.

Lodi 1991 General Plan

The 1991 General Plan is a document of objectives and recommended policies, which have governed all development for past 18 years. The General Plan is broken down into subgroups that reflect the seven elements required by the State—land use, housing, circulation, noise, conservation, open space, and safety—and an additional element on urban design and cultural resources. State law requires all elements to be consistent with one another. The 1991 General Plan established the two-percent growth ordinance to manage development in Lodi.

The citywide land use goals laid out in the 1991 Plan update are as follows:

- Provide for orderly, well-planned, and balanced growth consistent with the limits imposed by the City's infrastructure and the City's ability to assimilate new growth;
- Preserve agricultural land surrounding Lodi and discourage premature development of agricultural land with nonagricultural uses, while providing urban needs;
- Provide adequate land in a range of residential densities to met the housing needs of all income groups expected to reside in Lodi;
- Promote and retain development in downtown Lodi;
- Provide adequate land and support for the development of office, commercial, and industrial uses that provide goods and services to Lodi's residents, create jobs, and enhance the economy.
- Provide adequate land for development of public and quasi-public uses to support existing and new residential, commercial, and industrial uses.

The City has since updated the Parks, Recreation, and Open Space (1994) and Housing (2004) elements in separate comprehensive documents.

Growth Management Allocation Ordinance

In 1991, the City adopted a Growth Management Allocation Ordinance to regulate the location, amount, and timing of residential development. Under the ordinance, the maximum number of housing units approved by the City reflects a 2% maximum increase in population annually. Unused permits roll on to the next year. The ordinance establishes a residential density allocation system to promote a mix of housing densities. For example, in 2005, the 2% Growth Management Allocation Ordinance translated to a maximum of 450 residential building permits; 65% of the approved permits were for low density housing units (under seven units/acre), 10% medium density units (7-20 units/acre), and 25% high-density units (over 20 units/acre). Because in most years demand has been less than available permits, an inventory of available permits has built up, standing at a total of 3,268 available units in addition to the annual 2% allocation in 2007.

Lodi 2003-2009 Housing Element

The 2003-2009 Housing Element contains a profile of the community and existing housing stock; analyzes resources and constraints; and establishes a housing strategy of goals and policies. The Element relates to land use in several key ways. The Housing Element encourages senior and affordable housing near transit and services. It supports the reconstruction of existing housing in the Eastside area and in commercially or industrially designated areas in the event such housing is destroyed or damaged. It also supports special housing needs of persons with disabilities, lower-income large families, seniors, single-parent households, farmworkers, and persons in need of temporary shelter.

Eastside Mobility and Access Plan (2006)

In 2004, the California Department of Transportation awarded the City with a grant to fund this plan. The purpose is to provide improvements to Lodi's Eastside neighborhood, especially focusing on design guidelines, connectivity, transit service and amenities, vehicular circulation and parking, streetscape elements, and community identity. The study area includes the Lodi Station on Sacramento Street and Pine Street, and Sacramento Street, Lodi Avenue, Central Avenue, and Tokay Street.

Central City Revitalization Program (1994)

The purpose of this plan is to ensure the dramatic economic and physical improvement of the historic central area of Lodi by instigating a revitalization effort. The Plan concentrates on Lodi's "Old Town" area, which includes Downtown, the Eastside Neighborhood, and parts of Cherokee Lane. The plan recommends a revitalization strategy, public movements, incentive programs, and priority actions.

Downtown Development Standards and Guidelines (1997)

Following the Central City Revitalization Program, this set of guidelines was created to ensure that high quality design was maintained for all new construction and rehabilitation projects in the downtown district. It augments the requirements of the City's Zoning Code. More specifically, it promotes buildings and renovations that strengthen the "Main Street" character of downtown and the pedestrian-friendly environment through site, street, and architectural standards.

San Joaquin County General Plan (1992)

This is a countywide General Plan applying to unincorporated areas that contains broad goals, policies, and implementation actions on development and resource management for the years 1992 to 2010. Lodi is one of the seven cities addressed in this General Plan. Unincorporated communities in the Lodi area include Acampo, Collierville, Coopers Corner, Victor, and Woodbridge. The County is in the process of updating its General Plan.

In summary, the County General Plan recognizes the County's growth pressures and the concurrent need to preserve agricultural, environmental, and biological assets. Its strategies support growth mostly around incorporated urban areas, infill in rural communities, and preservation of rural areas and the Mokelumne River confluence. Based on the 2010 projections, the Lodi area, including unincorporated communities, will comprise roughly 10 percent of the county's growth. It also recognizes growth pressures from Stockton in the south.

The Plan shows Lodi's growth boundaries at Mokelumne River to the north, Harney Lane to the south, preserving agricultural lands beyond these limits. Land around Lodi is mostly designated as "general agricultural," aimed at preserving "areas suitable for agriculture...where soils are capable of producing a wide variety of crops and/or supporting grazing." Areas immediately north of the Mokelumne River are labeled "resource conservation," and are planned to remain as open space. Several parcels around the intersection of Harney Lane and Lower Sacramento Road are designated Very Low Density Residential. The area between the SOI boundary and city limits, north of W. Kettleman Lane and south of W. Vine Street is designated Low Density Residential.

San Joaquin County Airport Land Use Plan (2009)

The 2009 San Joaquin County Airport Land Use Plan provides information on existing and future operations, potential hazards, and land use compatibility. There are two airports in the Planning Area: Kingdon Airpark is located about seven miles southwest of the city; and Lodi Airpark is located five miles southwest of the city.

2035 Stockton General Plan (2007)

Stockton approved the 2035 General Plan Update in 2007. One major issue addressed in this plan is the expansion of Stockton's SOI to account for the city's tremendous growth in recent years. The Plan defines a Planning Area up to Armstrong Road, with a ½- to one-mile band of "Open Space/Agriculture." It defines the portion of land north of Eight Mile Road (up to the SOI/Area of Interest boundary) as "Village," a designation given to new growth areas along the edges of the city. Key features of a village will include a mix of single-family and multi-family development and a village center. The village center is comprised of neighborhood commercial, higher density residential, schools, public, and open space uses.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

A significant land use impact would occur with full implementation of the proposed General Plan if it would do one or more of the following:

- Physically divide an established community;
- Displace substantial numbers of existing housing or people; or
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

Changes in land use are not, in and of themselves, environmental impacts. Land use changes are impacts only relative to the prior use of the site (e.g., displacement of homes) or the surrounding usage and character (i.e., division of an established community).

METHODOLOGY & ASSUMPTIONS

This analysis considers current and proposed General Plan policies and goals, existing and proposed land uses within Lodi, and applicable regulations and guidelines.

The impact analysis considered full development potential to mean 90% of the maximum potential of the proposed General Plan, outside of the urban and industrial reserve areas. The Urban Reserve areas on the west and east edges of the city, are assumed to build out at 75% and 50% of the maximum potential, respectively. The actual number of parcels that undergo land use changes may be lower than these assumptions.

The full development potential for 2030 under the proposed General Plan would result in increased development of residential units, square footage of commercial, office, and industrial uses, as well as public facilities and parks and open spaces compared to existing conditions. This development potential is described in Table 3.1-3. (Parks and open space are described in greater detail in Section 3.15: Parks and Recreation; public/quasi-public facilities—in particular schools—are described in Section 3.14: Public Facilities.)

Table 3.1-3: Proposed General Plan Development Potential, by Land Use

Land Use	*Net New General Plan*
Residential (units)	10,100
Business Park (sf)	4,572,000
Office (sf)	1,025,000
General Commercial (sf)	3,932,000
Neighborhood Commercial (sf)	245,000
Industrial (sf)	7,322,000
Parks and Open Spaces (acre)	210
Public/Quasi-Public (acre)	67

Source: Dyett & Bhatia, 2009.

Table 3.1-4 compares net new development accommodated in the proposed General Plan to existing conditions. Land use categories have been collapsed to allow for comparison. The potential percent increase from approved and proposed General Plan development, over and above existing development, is shown in the last column. The most marked increase is in the Business Park and Office categories where newly allocated land could increase office development more than six-fold. Commercial and Industrial land uses could also see substantial gains, with potential square footage increases of 127% and 82%, respectively. Parks and open space could see a doubling in acreage, while Public/Quasi-Public could see a 14% increase. Finally, the potential increase in residential units is comparatively more modest, with a 59% increase in units possible under the proposed General Plan and through approved projects, over and above existing developments. (Note that the jobs/employed residents ratio is discussed in Chapter 2).

Table 3.1-4: Potential Change in Land Use Development Potential, by Existing, Approved, and Net New General Plan

Land Use	*Existing*	*Approved Development*	*Net New General Plan*	*Total*[1]	*Percent Increase*
Residential (units)	23,353	3,711	10,100	37,200	59%
Business Park and Office (sf)	959,167	268,000	5,597,000	6,824,000	611%
General & Neighborhood Commercial (sf)	3,954,135	861,700	4,177,000	8,993,000	127%
Industrial (sf)	8,939,804	0	7,322,000	16,262,000	82%
Parks and Open Spaces (acre)	276	73	210	559	102%
Public/Quasi Public (acre)	658	24	67	749	14%

[1]Totals may not sum precisely due to rounding.

Source: City of Lodi, Fehr and Peers, Dyett & Bhatia, 2009.

The Land Use Diagram, as shown in the Chapter 2: Project Description, Figure 2.3-1, designates the proposed location, distribution, and extent of activities that may take place throughout the city. Land use classifications—shown as color/graphic patterns on the diagram—allow for a range of activities within each classification.

SUMMARY OF IMPACTS

The proposed General Plan does not physically divide any established community. Rather, by improving connectivity within and between existing and proposed neighborhoods, the Plan provides more linkages within the city and the region.

The proposed General Plan does not directly displace any housing units, businesses, or people. Redevelopment of existing uses will likely occur; however, such development will take place over time as the market allows and as the City pursues annexation. Overall, the proposed Plan designates 3,524 acres of new urban growth area. The majority of existing uses within this land area are agricultural, with some single-family residential uses. In addition to new growth areas, the Plan focuses infill development efforts on 673 acres, in and around downtown and along the city's existing corridors, including Lodi Avenue, Cherokee Lane, and Kettleman Lane. Within these areas, approximately 64 net acres have been identified for potential redevelopment for a range of land uses. In total, the proposed Plan assumes that, of the 10,100 new housing units projected under the Plan, approximately 700 units (7%) could be constructed as infill development. Given that the proposed General Plan does not displace housing units, businesses,

or people, there is no adverse impact on housing. Plan policies seek to preserve existing neighborhoods and retain and attract businesses.

The proposed General Plan will be the guiding document in Lodi. Adopted plans, regulations, and other implementing tools will be amended to conform to the General Plan. The proposed General Plan does not contain provisions that conflict with local district plans.

IMPACTS AND MITIGATION MEASURES

Impact

3.1-1 The proposed General Plan would not physically divide any established communities and would increase connectivity locally and regionally. *(Beneficial)*

The proposed General Plan does not physically divide any established community. Rather, by improving connectivity within and between existing and proposed neighborhoods, the Plan provides more linkages within the city and the region. Therefore, the potential impact is expected to be beneficial.

Proposed General Plan Policies that Increase Connectivity

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

The following proposed General Plan policies seek to increase connections in Lodi:

Land Use Element Policies

LU-P-6 Locate new medium- and high-density development adjacent to parks or other open space, in order to maximize residents' access to recreational uses; or adjacent to mixed-use centers or neighborhood commercial developments, to maximize access to services.

LU-P-7 Encourage new neighborhood commercial facilities and supermarkets in locations that maximize accessibility to all residential areas.

LU-P-17EDIT Establish land use regulations and development standards in the Zoning Code to reinforce Downtown's assets and traditional development pattern. These should include:

- Extending the Downtown Mixed Use classification to parcels along Main Street on the Eastside to improve connectivity, while retaining the respective identities of downtown and the Eastside.
- Establishing maximum set-backs or build-to lines for development in areas designated Downtown Mixed Use.

- Requiring retail, eating and drinking establishments, or other similar active uses—except for sites designated Public—at the ground level. Alleyway corners shall be "wrapped" with retail uses as well.

Community Design and Livability Element Policies

CD-G4 Structure new neighborhoods to promote walkability, and ensure they are integrated with the surrounding urban fabric.

CD-G5 Foster a well connected street network that enhances accessibility to jobs, services, parks, schools, and shopping, particularly at the scale of pedestrians and bicyclists.

CD-G6 Foster redevelopment of key corridors as vital spines, with nodes of mixed-use, higher intensity, pedestrian- and bicycle-friendly development.

CD-P2 Ensure that Zoning and Subdivision ordinances include measures that guide infill development to be compatible with the scale, character and identity of adjacent development.

CD-P17 Develop a wayfinding and signage scheme along the city's major corridors and streets that utilizes public art and street elements, such as banners and light fixtures. The scheme should reinforce the City's identity and linkages to downtown. Include Kettleman Lane, Lodi Avenue, Cherokee Lane, Sacramento Street, Central Avenue, and Stockton Street in the wayfinding scheme.

CD-P19 Develop requirements for street trees in all new growth areas that maximize shade to minimize urban heat island impacts. Require all subdivisions in new growth areas to prepare a street plan demonstrating maximum connection to existing streets, specifically incorporating streets shown in Figure 4-4 [of the proposed General Plan] and intermediate street connections. Ensure that new development on the west side enables expansion of the street grid for future growth, beyond this General Plan horizon. Existing and emerging development at the City's edges has not been designed to enable future extensions, producing disconnected neighborhoods.

CD-P20 Prohibit gated development, and avoid cul-de-sacs. Where cul-de-sacs are provided, require pedestrian and bicycle connection at the terminus of the cul-de-sac to adjacent street.

CD-P21 Limit maximum block lengths in new neighborhoods to 600 feet, with pedestrian/bicycle connection no more than 400 feet apart (where resulting from connection at end of cul- de-sac), and 400 feet between through streets along Neighborhood Mixed Use Centers.

CD-P24 Use bike lanes, trails, or linear parks to improve connectivity throughout the city and in particular between housing located south of Kettleman and amenities located north of Kettleman, as shown in Figure 4-7 [of the proposed General Plan]. These pathways should employ easy and safe crossings and connect to destinations such as downtown, shopping centers, parks, and/or schools.

CD-P27 Require new development to connect with nearby uses and neighborhoods; include paths to connect to the rest of the city; exhibit architectural variety and visual interest; conform to scale requirements; and relate housing to public streets.

CD-P31 Integrate new Mixed Use Centers into the city's existing fabric and proposed new development. Provide a network of streets and connections that expands circulation opportunities for pedestrians and bicyclists and ensures connections by multiple modes between the new centers, and existing neighborhoods.

Update Subdivision ordinance to require:

- Master plans for new development that show publicly accessible parks, and a connected street grid.
- Blocks that do not exceed 600 feet in length unless additional pedestrian connections or public space is included.
- Street trees on public streets.
- Sidewalks on public streets.

Transportation Element Policies

T-P9 Foster walkable streets through streetscape improvements, continuous sidewalks on both sides of streets, and encouraging pedestrian access wherever feasible. Update the Subdivision Ordinance to include requirements for sidewalks, street trees, and lighting. Where sidewalks do not exist within existing developments, explore a program to provide sidewalks by reducing the curb-to-curb road width, in cases where safety and traffic flow are not compromised.

T-P13 In new development areas, include pedestrian connections to public transit systems, commercial centers, schools, employment centers, community centers, parks, senior centers and residences, and high-density residential areas.

T-P15 Design streets in new developments in configurations that generally match and extend the grid pattern of existing city streets. This is intended to disperse traffic and provide multiple connections to arterial streets. Require dedication, widening, extension, and construction of public streets in accordance with the City's street standards. Major street improvements shall be completed as abutting lands develop or redevelop. In currently developed areas, the City may determine that improvements necessary to meet City standards are either infeasible or undesirable.

Mitigation Measures

None required.

Impact

3.1-2 The proposed General Plan would conflict with an applicable land use plan, policy, or regulation. *(Less than Significant)*

Since a General Plan updates policies and land use designations for future development, by its nature it is often inconsistent with existing regulations. These existing regulations will need to be updated to effectively implement the new General Plan. Amendments may also be needed from time to time to conform to State or federal law passed since adoption, and to eliminate or modify policies that may become obsolete or unrealistic due to changed conditions. For example, the City's Zoning Ordinance will translate plan policies into specific use regulations, development standards and performance criteria that will govern development on individual properties. The Zoning Ordinance will ultimately prescribe standards, rules and procedures for development and the Zoning Map will provide more detail than the General Plan Diagram.

In addition to its General Plan, Lodi maintains plans for some areas within the city to tailor appropriate development standards and policies to the individual character of neighborhoods. These plans are described in the regulatory setting. Although these plans do not necessarily address all of the topics required by State law for general or specific plans, they must be consistent with the General Plan. The proposed General Plan is generally consistent with these existing district plans.

The proposed General Plan is also consistent with the City's Growth Management Ordinance. The General Plan Land Use Diagram (as shown in Figure 2-1 of Chapter 2) defines adequate residential area to meet the maximum population permissible (2% annually) under the Ordinance.

Policy implementation is described in detail of Appendix A of the proposed General Plan. The Community Development Department has primary responsibility for administering the laws, regulations and requirements that pertain to the physical development of the city. Specific duties related to General Plan implementation would include preparing zoning and subdivision ordinance amendments, design guidelines, reviewing development applications, conducting investigations and making reports and recommendations on planning and land use, zoning, subdivisions, development plans and environmental controls.

In terms of regional plans, the proposed General Plan is generally consistent. The San Joaquin County designates the proposed Lodi General Plan's new urban areas as Agricultural. Through the annexation process, this discrepancy will be rectified. The city of Stockton defines the portion of land from its "area of interest" boundary to Armstrong Road as Open Space/Agriculture, which is consistent with Lodi's determination as the Armstrong Road Agricultural/Cluster Study Area.

Given that the proposed General Plan does not conflict with district plans, and that preparation of amendments where required is detailed in the proposed Plan, conflicts with existing local and regional plans and zoning ordinances are expected to have a less than significant impact.

Proposed General Plan Policies that Reduce the Impact

Land Use Element Policies

LU-P1 Update the City's Zoning Ordinance and Subdivision Regulations contained in the Municipal Code for consistency with the General Plan, including the General Plan Diagram. Zoning changes that will need to be made include:

- Establishment of new base districts, consistent with the land use classifications in the General Plan, such as for mixed-use centers, corridors and downtown; and
- New development regulations that reflect policy direction contained throughout the General Plan (e.g. parking standards).

LU-P17 Establish land use regulations and development standards in the Zoning Code to reinforce Downtown's assets and traditional development pattern. These should include:

- Extending the Downtown Mixed Use classification to parcels along Main Street on the Eastside to improve connectivity, while retaining the respective identities of downtown and the Eastside.
- Maximum set-backs or build-to lines for development in areas designated Downtown Mixed Use.
- Requiring retail, eating and drinking establishments, or other similar active uses—except for sites designated Public—at the ground level. Alleyway corners shall be "wrapped" with retail uses as well.

Community Design and Livability Element Policies

CD-P2 Ensure that Zoning and Subdivision ordinances include measures that guide infill development to be compatible with the scale, character and identity of adjacent development.

CD-P3 Ensure that the Zoning Ordinance includes measures to promote fine-grain development along retail and mixed-use streets, using horizontal and vertical building articulation that engages pedestrians and breaks up building mass.

CD-P4 Ensure that the Zoning Ordinance includes measures to promote durable and high quality building materials and high standards of construction for longevity and reduced maintenance costs over time, especially for buildings in high-pedestrian activity areas, such as downtown, along Mixed Use Corridors, and in Mixed Use Centers.

CD-P6 Update downtown regulations in the Zoning Ordinance:

- Establish a Downtown District to encompass the area shown as Downtown Mixed Use in the Land Use Diagram Figure 2-1 [of the General Plan].

- Require active uses—such as retail, eating and drinking establishments—at the ground level for the area shown in Figure 4-5 [of the General Plan].
- Update allowable uses to permit residential uses on upper levels on all streets in downtown.

CD-P9 Continue to use the Eastside Mobility and Access Plan as a means of connecting downtown and the Eastside neighborhood.

CD-P11 Establish development standards in the Zoning Ordinance for Mixed Use Corridors that create a pedestrian-scaled environment:

- Require a minimum percentage of the frontage of sites along Lodi and Central avenues to be devoted to active uses. Ensure that depth and height of the provided space is adequate to accommodate a variety of tenants and provide flexibility for the future.
- Maintain a consistent building base/streetwall along majority of site frontage along all Mixed Use Corridors except Kettleman and Cherokee lanes, with minimum height ranging from 15 to 25 feet, depending on the scale and character of the corridor, with taller streetwall along wider corridors.
- Along Sacramento Street, and Lodi and Central avenues, require new development to be built to the street edge, with parking located in the rear.
- Require buildings to be finely articulated and visually engaging.
- For properties located at key intersections—in particular the intersections of Lodi Avenue and Central Avenue, Lodi Avenue and School Street, and Lodi Avenue and Sacramento Street—require appropriate design features, including: buildings that punctuate the corner with design elements and/or projects that provide additional public or pedestrian amenities (such as the inclusion of plazas).

CD-P31 Integrate new Mixed Use Centers into the city's existing fabric and proposed new development. Provide a network of streets and connections that expands circulation opportunities for pedestrians and bicyclists and ensures connections by multiple modes between the new centers, and existing neighborhoods.

Update Subdivision ordinance to require:

- Master plans for new development that show publicly accessible parks, and a connected street grid.
- Blocks that do not exceed 600 feet in length unless additional pedestrian connections or public space is included.
- Street trees on public streets.
- Sidewalks on public streets.

Growth Management and Infrastructure Element Policies

GM-P10 Prepare master plan documents as necessary during the planning period to address the infrastructure needs of existing and projected growth, and to determine appropriate infrastructure provision for each phase. Existing master plan documents should be used until new master plans are developed, and updates should occur as follows:

- A sanitary sewer system master plan should be undertaken soon after General Plan adoption. In particular, this master plan should address how to best provide sewer service for the growth on the east side of the city and for infill development, and to determine if additional wastewater flows will need to be diverted into the proposed South Wastewater Trunk Line.
- A citywide stormwater master plan should be prepared soon after General Plan adoption to confirm or revise existing planning studies.
- A White Slough Water Pollution Control Facility master plan should be completed during the early stages of Phase 1, most likely in 2013 or 2014.
- A recycled water master plan was prepared in May 2008 and is current as of 2009. It may be appropriate to update this document when the next WSWPCF master plan is prepared, in 2013 or 2014, to evaluate the feasibility of constructing a scalping plant to provide recycled water for use within the city.
- A potable water supply and distribution master plan is not urgently needed, as of 2009. Future planning should be completed as necessary.
- The Urban Water Management Plan should be updated on a five year basis in compliance with State of California mandated requirements. Future plans should be developed in 2010, 2015, 2020, 2025, and 2030.

Mitigation Measures

None required.

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3.2 Traffic and Circulation

This section summarizes the current state of the transportation system in Lodi and the surrounding area and identifies the effects of the proposed General Plan on the city's transportation system. Issues addressed include roadways, transit, non-motorized (bicycle and pedestrian) facilities and rail and roadway freight transportation. Impacts are evaluated based on a comparison between existing conditions and future conditions associated with the development of the proposed Project. Alternatives to the proposed General Plan are addressed in Chapter 4: Analysis of Alternatives of this EIR.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Lodi is positioned in the northern part of San Joaquin County and is served by several modes of transportation including highway, transit, bicycle, pedestrian, and rail. The city is located at the confluence of several of Northern California's important interregional transportation facilities, including State Route 99 (SR 99), State Route 12 (SR 12), and the transcontinental railroad system (provided by Union Pacific Railroad [UPRR] and Burlington Northern Santa Fe [BNSF]).

The study area for transportation analysis for the proposed General Plan includes the city boundaries and the following areas. The study area is bounded by the Mokelumne River to the north and East Hogan Lane to the south. The western border of the study area lies approximately ½ mile west of Lower Sacramento Road, encompassing all major planned development on Lodi's Westside. To the east, the study area is roughly bounded by the CCTC rail line. This study area encompasses some transportation facilities in unincorporated areas of San Joaquin County that may be affected by the proposed General Plan, as well as some State facilities managed by Caltrans.

Streets and Highways System

A hierarchy of roadways provides for vehicle travel within the city of Lodi, including freeways, highways, expressways, arterials, collectors, and local streets (see Figure 3.2-4 which describes the proposed roadway network). Freeways are high-speed facilities that move intercity or regional traffic, with access generally limited to grade-separated interchanges. Highways are also higher-speed, regional facilities, but access is provided at-grade in most cases. In more rural areas the highway may allow access to individual parcels. Expressways are corridors with relatively high capacity and speed that can serve intra-city or intercity travel, typically allowing limited access to adjacent properties and providing signalized intersections at about ½-mile intervals. Arterials are relatively high-volume facilities that connect the regional roadway network to the local roadway network, while collector streets typically connect residential and local-serving commercial areas with the arterial system. The existing Lodi and surrounding area roadway network is described below.

Freeways, Highways and Expressways

SR 99 is a major north-south highway that traverses the San Joaquin Valley of California, originating near Red Bluff (south of Redding) in northern California and continuing south to Kern County, connecting Sacramento and points north with many Central Valley cities including Modesto, Merced, Fresno, and Bakersfield. It runs along the eastern side of the city, generally

providing two travel lanes in each direction through Lodi. Five interchanges—at Turner Road, Victor Road, Kettleman Lane, Cherokee Lane, and East Harney Lane—are provided along the

three-mile stretch of SR 99 within the city limits. The bi-directional average daily traffic volume on SR 99 ranges from 65,000 at Turner Road in north Lodi to 74,000 at Cherokee Lane in south Lodi.

SR 12 crosses the Central Valley, running east-west between State Route 49 to the east and State Routes 29 and 116 to the west. The 2.5-mile portion of SR 12 between South Lower Sacramento Road and SR 99 functions as a major arterial known as Kettleman Lane and traverses the city in an east-west direction south of the downtown area. SR 12/Kettleman Lane connects SR 99 to I-5 west of the city. SR 12 is concurrent with SR 99 between Kettleman Lane and Victor Road, and continues as SR 12 (Victor Road) to the east of SR 99. The section of SR 12 known as Kettleman Lane currently carries between 19,000 and 34,000 vehicles per day, and the segment known as Victor Road carries as many as 15,000 vehicles per day.

There are no expressways currently in Lodi, but there are plans for sections of Harney Lane and Lower Sacramento Road to be developed as expressway corridors.

Arterials

The primary function of arterial streets is to connect the regional roadway network with the local roadway network. In many cases, only limited access is provided to abutting parcels. Two to four travel lanes are typically provided on arterial streets in Lodi. Some of the key arterials include Lower Sacramento Road, Ham Lane, Hutchins Street, Harney Lane, Century Boulevard, Lodi Avenue and Turner Road.

Collectors

Collector streets serve to link residential and commercial areas to each other and to the arterial street system. Two travel lanes are typically provided on collector streets in Lodi. Key collectors include Church Street, Elm Street, Mills Avenue, Vine Street and Tokay Street.

ROADWAY LEVEL OF SERVICE

To measure and describe the operational status of a local roadway network, transportation engineers and planners commonly use a grading system called level of service (LOS). LOS is a description of a facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceed design capacity, resulting in long queues and delays).

The LOS thresholds used in this analysis are listed in Table 3.2-1. These thresholds are consistent with the Transportation Research Board's Highway Capacity Manual concepts and with general transportation planning practice in Lodi and neighboring jurisdictions.

Table 3.2-1: Average Daily Traffic Volumes and LOS Thresholds

Facility Type	*Number of Lanes*	*Daily Volume at LOS A*	*Daily Volume at LOS B*	*Daily Volume at LOS C*	*Daily Volume at LOS D*	*Daily Volume at LOS E*
Freeway	4	27,600	45,200	63,600	77,400	86,400
Freeway	6	41,400	67,800	95,400	116,100	129,600
Expressway	4	37,000	43,200	49,300	55,400	61,700
Expressway	6	55,500	64,800	74,000	83,100	92,600
Arterial	2	10,500	12,250	14,000	15,750	17,500
Arterial	4	21,000	24,500	28,000	31,500	35,000
Arterial	6	31,500	36,750	42,000	47,250	52,500
Collector	2	7,500	8,750	10,000	11,250	12,500
Collector	4	10,700	12,500	14,300	16,100	17,900

Source: Fehr & Peers, 2009.

Traffic generally moves smoothly, without much congestion, in Lodi. Most streets in Lodi operate at a LOS C or better, which is the threshold for acceptable operations consistent with the current Lodi General Plan. Table 3.2-4 in the Proposed Improvements and Projections section of this chapter shows existing LOS. Nine road segments currently operate at LOS D or E. Six are located along portions of SR 12 (Kettleman Lane), two along Harney Lane, and one segment along Victor Road. The service level was determined for each roadway and freeway segment by comparing the existing volume to the capacity of the segment.

Public Transportation

A variety of transit services are provided in Lodi, as shown on Figure 3.2-1, including fixed-route local bus service, intercity bus service, and demand responsive service. Lodi has a "multimodal" station (Lodi Station) located downtown at Pine and Sacramento streets, meaning that it serves as a transfer point for buses serving local and regional destinations, as well as for Amtrak rail service. The following provides a summary of the transit services currently available in the city.

Lodi Grapeline

The Lodi Grapeline provides local fixed-route and paratransit bus service in Lodi with a fleet of approximately 30 vehicles. There are five weekday and four weekend fixed routes, each beginning and ending at Lodi Station. The routes connect with San Joaquin Rapid Transit District (SJRTD) bus lines to Manteca, Lathrop, Tracy and Stockton, as well as South County Transit lines to Galt, Elk Grove and Sacramento, and Calaveras Transit lines to Calaveras and Amador counties. There are also three express routes that run during peak AM and PM hours throughout the week and mostly serve students traveling to school. Annual transit ridership is just over 307,000, which equates to approximately five annual transit trips per resident. The following routes provide local service in Lodi:

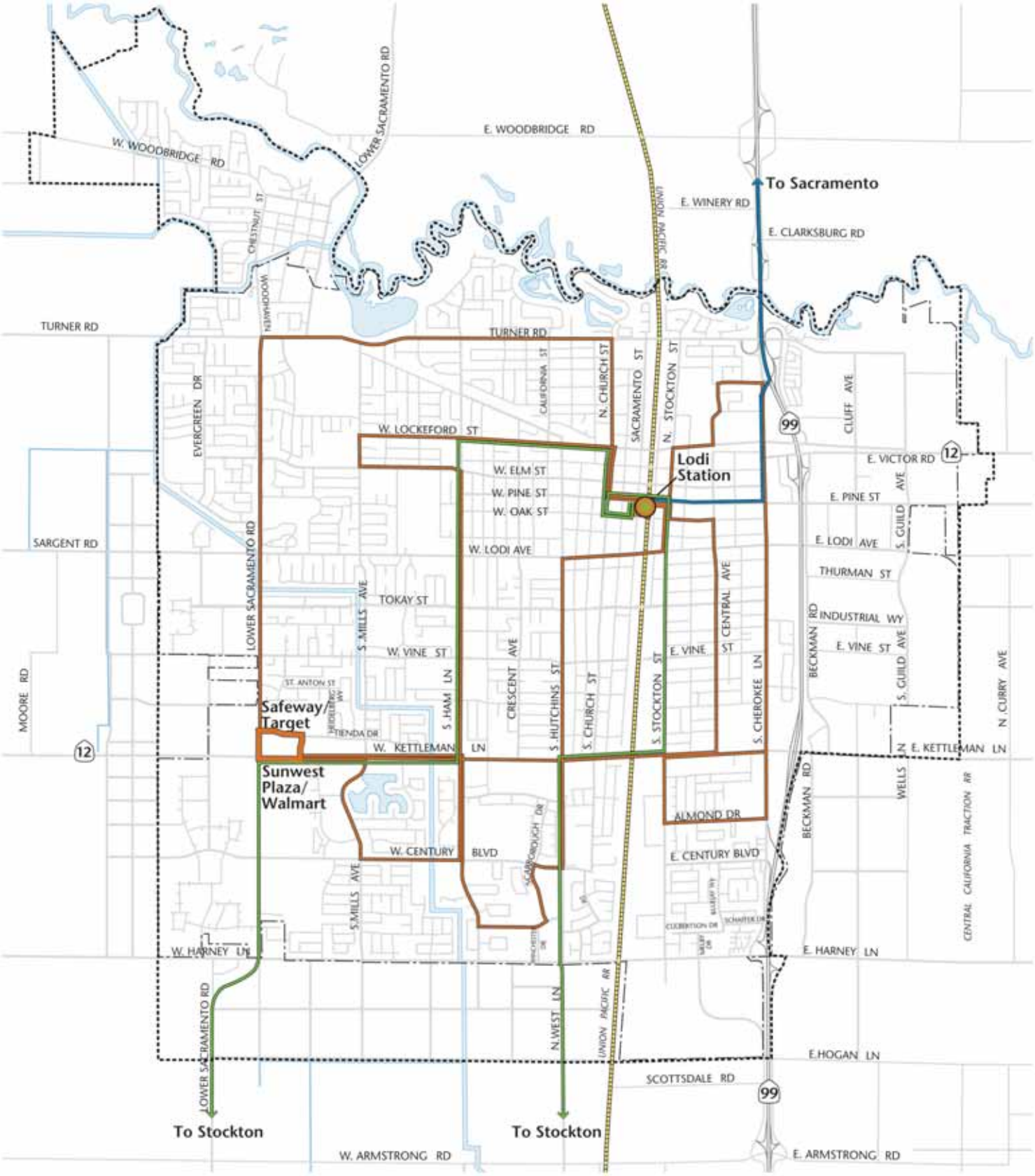


Figure 3.2-1
Existing Transit System

The Grapeline's Dial-a-Ride service provides door-to-door transportation to the general public including seniors, disabled, and Medicare passengers. This service is available on demand and by reservation; it is a shared ride transit service.

The City's VineLine (ADA-complementary paratransit service) provides door-to-door transportation to persons who are ADA certified and unable to get to or from the fixed-route bus stops. This service is available by reservation; it is a shared ride transit service.

The Grapeline's Short-Range Transit Plan, completed in 2009, is a 10-year planning document aimed at improving sustainable transportation services in Lodi. In the face of declining ridership, the plan does not propose any major service expansions but does prioritize a number of other investments, including automated fareboxes, improved bus shelters, and extensive vehicle replacements. The plan includes route modifications to reduce route redundancy and improve efficiency as well as provide a marketing program to increase awareness of GrapeLine and make the system more user-friendly.

San Joaquin Regional Transit District

The SJRTD provides two inter-city bus routes that connect major destinations in Lodi and Stockton. Route 23 runs between the Lodi Station and downtown Stockton, with transfers to local buses at several stops. Service is provided on weekdays from 5:20 AM to 10:00 PM on roughly one-hour headways. Route 24 runs between the Lodi Station and the Kaiser Permanente Hospital at Hammer Lane and West Lane in northwest Stockton. Service is provided on weekdays from 7:00 AM to 7:00 PM on one-hour headways. Three other SJRTD intercity routes connect Stockton with Lathrop, Manteca, Modesto, Ripon, and Tracy.

SJRTD Hopper Service is a flexible fixed-route service connecting Escalon, Lathrop, Manteca, and Woodbridge to Lodi, Stockton, and Tracy. This service replaces the SJRTD Countywide General Public Dial-A-Ride (DAR), Rural Elderly & Disabled DAR, and County Area Transit (CAT) Fixed-Route during Hopper service hours in the areas covered by the Hopper. Most buses will deviate up to ¾-mile for those passengers that are ADA-certified and are unable to reach the fixed-route stops. Advance reservations are required for all route deviations. However, buses will not deviate from stops in Lodi. Passengers requiring route deviation in Lodi may use the Lodi Dial-a-Ride system.

SJRTD Hopper Route 93 connects Lodi and Stockton with stops at the Community Center for the Blind, Delta College, Sherwood Mall, and other destinations. Service is provided approximately every two hours on weekdays from 8:30 AM to 6:00 PM, and on Saturdays and Sundays from 8:00 AM to 3:30 PM.

The SJRTD also provides an Interregional Commuter Service, which is a subscription commuter bus service designed to serve commuters who travel more than 50 miles each way to work. A total of 20 subscription buses connect San Joaquin County to Sacramento, the San Francisco Bay Area, and the Bay Area Rapid Transit system.

Altamont Commuter Express

The Altamont Commuter Express (ACE), operated by the San Joaquin Regional Rail Commission, is a heavy rail service that connects the Central Valley with Silicon Valley and other destinations in the San Francisco Bay Area. Currently, four AM outbound and four PM inbound trains provide service between Stockton and San Jose, with stops in Lathrop-Manteca, Tracy,

Vasco Road, Livermore, Pleasanton, Fremont, Great America, and Santa Clara. ACE service is oriented towards commuters, with operation Monday through Friday and limited or no service on weekends and holidays. Lodi passengers can access the ACE train in Stockton by taking the SJRTD route 23 bus and transferring to a local bus or walking several blocks to the station. The Regional Rail Commission is undertaking feasibility studies for a potential future service connecting Stockton and Sacramento; if that service used the rail alignment along SR 99, a stop would be offered at the Lodi station.

Intercity Bus

Greyhound Bus Lines, a national bus company, provides service to and from Lodi Station, with buses operating from approximately 5:45 AM to 9:15 PM. The office is open on weekdays only from 8:00 AM to 5:00 PM.

Amtrak

Lodi Station provides a Quik-Trak ticket kiosk for passengers traveling on the San Joaquin route, which connects Oakland and Sacramento to Bakersfield, with stops in Stockton, Turlock-Denair, Merced, Madera, Fresno, Hanford, Corcoran, and Wasco, as well as Antioch-Pittsburg, Martinez, Richmond, and Emeryville. Two trains provide service from Stockton to Sacramento with several Thruway bus connections offering even more travel options.

Carpooling and Vanpooling

The San Joaquin Council of Governments (SJCOG) operates Commute Connection, which provides referral services to those interested in joining a car or vanpool. Match lists can be obtained by calling or submitting an online application to Commute Connection.

Park-and-Ride Facilities

In Lodi, Caltrans has a free park-and-ride facility at SR-99 and Victor Road that provides about 30 parking spaces. A second park-and-ride facility is located just outside of Lodi at the I-5/SR-12 interchange with about 35 parking spaces. A third lot is planned at SR-99 and Harney Lane. Caltrans District 10 is performing feasibility studies for park-and-ride lots as part of all new interchange and interchange modification projects.

Non-Motorized Transportation

Lodi's generally level terrain makes bicycling and walking viable forms of mobility for both daily transportation and recreational purposes. The 2000 Census found that approximately 4% of Lodi residents report bicycling or walking to work. In addition, it is apparent from observations that both bicycling and walking are popular methods for children to travel to school and for recreation. Bicycle lanes are provided on several streets in Lodi, with more bicycle lanes and routes proposed in the City's Bicycle Transportation Master Plan. Further increasing the geographic area accessible for biking, all Lodi Grapeline buses have bicycle racks. The following discusses Lodi's existing bicycle and pedestrian systems.

Bicycle Network

The city's existing network of bicycle facilities includes on-street bicycle lanes and bicycle routes. Bicycle facilities are generally divided into three categories:

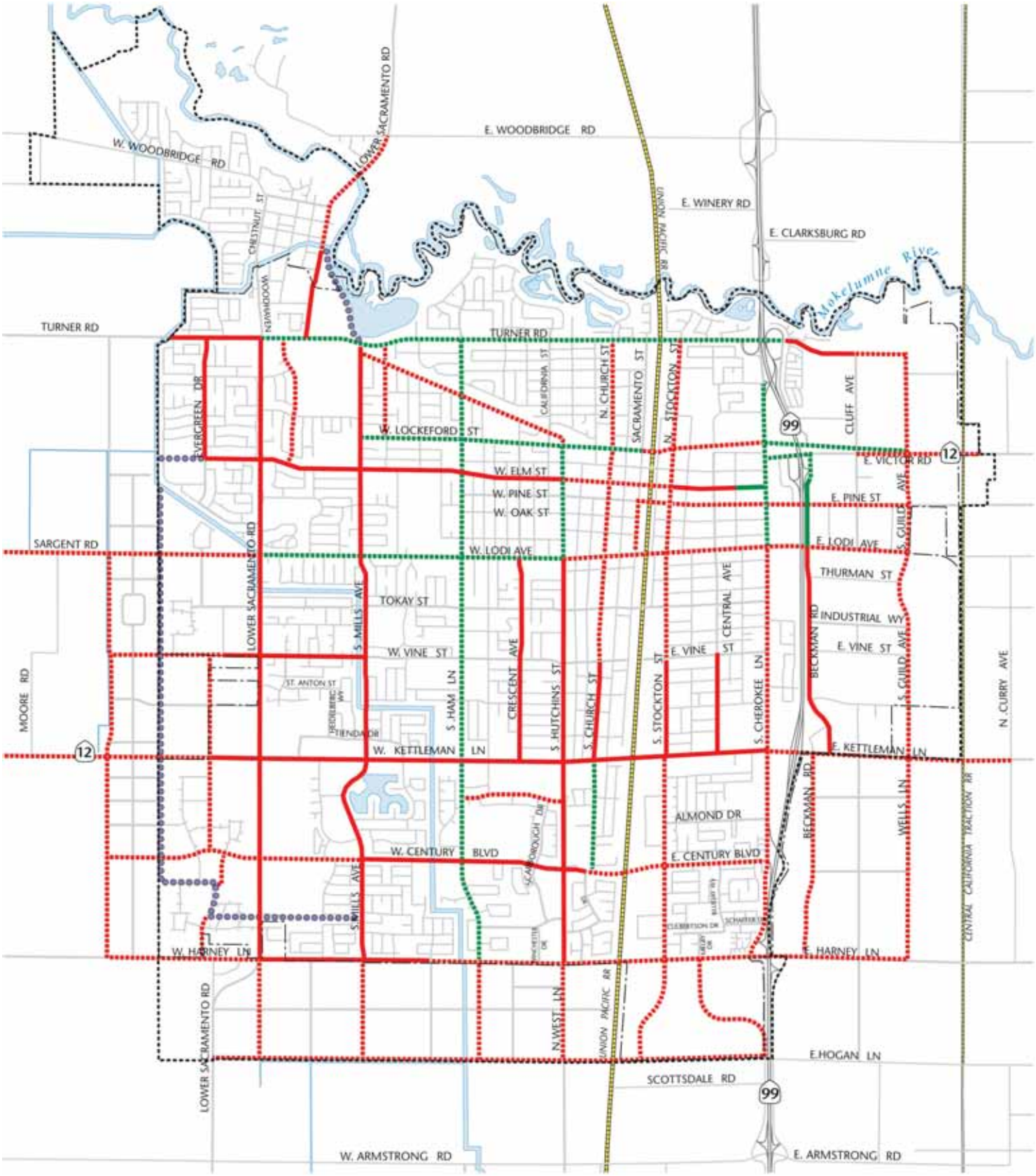
- Class I Bikeway (Bike Path) - A completely separate facility designated for the exclusive use of bicycles and pedestrians that minimizes vehicular and pedestrian cross-flow. There are no Class I Bikeways in the city. However, there is a paved path around Lodi Lake from the swimming area to Lower Sacramento Road, and a multi-use path around the lake that is accessible to vehicles, bicycles, and pedestrians.
- Class II Bikeway (Bike Lane) – A signed and striped lane designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations. Noteworthy Class II bicycle lanes are provided on segments of Lower Sacramento Road, Mills Avenue, Hutchins Street, Kettleman Lane, Harney Lane, Century Boulevard, and Elm Street.
- Class III Bikeway (Bike Route) – A route designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway. Portions of Beckman Road and Elm Street are currently designated as Class III bicycle routes.

Bicycle Boulevards, an unofficial classification that is not included in the Caltrans Design Manual, are a relatively new type of bicycle facility and are referenced in the City's Bicycle Transportation Master Plan. Bicycle Boulevards are streets on which bicycles have priority over other modes. They can have features such as forced right turns for vehicles (but not for bicycles and pedestrians), special signage, "flipped stop signs" (cross street stops instead of the street with the bicycle boulevard), and street closures to restrict vehicle access. Lodi's Bicycle Transportation Master Plan suggests designating Bicycle Boulevards on several streets, including Calaveras Street, Central Avenue, Crescent Avenue, Holly Drive, Vine Street, and Walnut Street.

A total of 21 miles of bicycle facilities are currently provided in the city, with most designated as Class II bicycle lanes and a short segment designated as a Class III bicycle route. The existing bicycle facilities are shown on Figure 3.2-2.

Bicycle racks are provided on some streets in downtown Lodi, and at some commercial and office buildings. Lodi's 1994 Bicycle Transportation Master Plan recommends that the City require all new commercial construction and renovation to provide bicycle parking as well as showers for employees. The Bicycle Master Plan also recommends that the City encourage existing businesses to provide showers for employees.

The 2002 San Joaquin County Bikeway Plan, which applies in the unincorporated portion of the county, acknowledges the importance of regional and multimodal connections for bicyclists and encourages additional support for facilities and bicycle safety programs. Multi-modal facilities where individuals can transfer to another mode of travel are essential because they allow bicyclists to access transit where obstacles may inhibit bike travel.



Future Class I Bike Paths

Existing Class II Bike Lanes

Future Class II Bike Lanes

Existing Class III Bike Lanes

Future Class III Bike Lanes

Sphere of Influence (2008)

City Limits (2008)

40 acres

10 acres

0 1/2 1 2

MILES

Figure 3.2-2

Bicycle Network

Pedestrian Network

The pedestrian network in Lodi consists primarily of sidewalks. Downtown Lodi has excellent pedestrian facilities, including wide textured sidewalks, curb ramps, and pedestrian signals, as well as landscaping and attractive street furniture such as street lamps, kiosks, and benches. Downtown also has many pedestrian-oriented buildings with interesting storefronts and outside seating. The older residential areas surrounding downtown also have complete sidewalks, curb ramps, and other pedestrian infrastructure. Sidewalks and other pedestrian facilities are sometimes lacking in the outlying neighborhoods and lower-density, more rural areas. There is a nature trail and a bicycle/pedestrian path at Lodi Lake.

Freight Transportation System

Rail

Two railroads operate within Lodi. The Southern Pacific Railroad (SPRR), now part of the UPRR, operates from the Lodi Station. SPRR serves 23 western states, Mexico, and Canada and operates a major intermodal facility and other terminal operations in nearby Stockton.

The Central California Traction Company (CCTC), a short line railroad, also operates from the Lodi Station. The CCTC, which is jointly owned by the BNSF and UPRR, operates 52 miles of freight service between Stockton and Lodi and is the short line operator for the Port of Stockton. CCTC connects with BNSF, UPRR, and the Stockton Terminal & Eastern (STE) Railroads, which runs from Stockton to Linden. The 25 miles of freight service operated by STE includes connections with the BNSF, UPRR, Tidewater Southern, and CCTC.

Trucking

Trucking in Lodi includes 24 regularly scheduled truck lines and 90 contract carriers. Truck routes in the city are primarily located on the State Highway system and major arterials. There are STAA (Surface Transportation Assistance Act) truck routes on segments of Turner Road, Lower Sacramento Road, Kettleman Lane, Hutchins Street, Stockton Street, Cherokee Lane, Victor Road, Guild Avenue, and Beckman Road. Commercial vehicles with more than two axles are prohibited on segments of Mills Avenue, Holly Drive, Tokay Street, and Almond Drive, and trucks (except for pickups and deliveries) over two axles are also prohibited on segments of Turner Road and East Lodi Avenue. Additionally, truck parking is allowed only on certain streets east of SR 99, including segments of Turner Road, Cluff Avenue, Thurman Road, Vine Street, and Guild Avenue.

SR 99 and SR 12, major truck routes connecting Central Valley cities to other metropolitan areas throughout the state, are of particular importance. Truck traffic accounts for between six and 13 percent of traffic on these two interregional facilities.

REGULATORY SETTING

Regional Transportation Planning

SJCOG is responsible for regional transportation planning in San Joaquin County. SJCOG most recently updated its Regional Transportation Plan (RTP), a federally-mandated 20-year blueprint for the region, in 2007, and the next update is currently underway. RTPs must be developed in cooperation with state and local stakeholders and must provide a clear, realistic, and fiscally-constrained vision of the regional transportation goals, policies, objectives, and strategies. Responsibility for approving and overseeing improvements to the State highway system rests with

Caltrans, while each local jurisdiction (cities and the County) is responsible for planning and implementing improvements to the streets within its boundaries.

Objectives from the 2007 RTP that relate to local transportation planning are listed below. For the full set of regional goals and policies, see the 2007 Regional Transportation Plan, which is available for review at the SJCOG offices (555 East Weber Avenue in Stockton) and at their website, www.sjcog.org. Specific objectives from the 2007 RTP include the following:

- Support the continued maintenance and preservation of the existing transportation system.
- Consider the planning objectives of local, countywide, and adjacent county jurisdictions in implementing transportation system decisions.
- Create a balanced transportation system that is integrated with and complementary to a variety of transportation modes that meet the travel needs of citizens and businesses throughout San Joaquin County.
- Actively support Smart Growth principles and initiatives within the region.
- Promote alternative forms of transportation to maximize personal mobility and access to activity centers.
- Support strategies to reduce congestion.
- Minimize the environmental impacts of implementing the transportation system.
- Support the use of performance measures to gauge transportation program and project cost effectiveness.

Funding Considerations

To receive federal funding, transportation projects nominated by cities, counties, and other agencies must be consistent with the RTP. Consistency is measured based on whether the project was contained in the plan and on its associated transportation and air quality impacts as determined by computer modeling. SJCOG also periodically prepares a Regional Transportation Improvement Program (RTIP) to summarize the transportation projects and programs to be funded and implemented over the upcoming four-year period. The most recent RTIP was adopted in January 2008.

Beginning in 1990, San Joaquin County implemented a ½-cent sales tax dedicated to transportation projects. Known as Measure K, the program aims to remedy existing deficiencies in transportation funding while promoting improved air quality and quality of life. In its 20-year life, Measure K is expected to generate approximately $735 million in funding for a system of improved highways and local streets, new passenger rail service, regional and interregional bus routes, park-and-ride lots, new bicycle facilities, and railroad crossings. The Measure K program is administered by SJCOG, which oversees distribution of the funds to cities and other responsible agencies based on the adopted Expenditure Plan. In November 2006, County voters extended Measure K for an additional 30 years commencing in 2011.

One of the primary sources of local funding for new transportation improvements is development impact fees. The City of Lodi has a Development Impact Mitigation Fee program, in which fees paid by new development are used to fund capital improvements to the roadway system to mitigate traffic impacts. In addition, the City participates in the Regional Transportation Impact Fee program administered by SJCOG, which supports improvements to regional and intercity transportation facilities throughout San Joaquin County.

PROPOSED IMPROVEMENTS AND PROJECTIONS

PROPOSED ROADWAY IMPROVEMENTS

Given that the proposed General Plan is a long-range planning document that includes new development in several areas of town, it is expected that the existing transportation system will require improvements in order to accommodate the proposed levels of development. These improvements are included in the proposed General Plan document and in the table below.

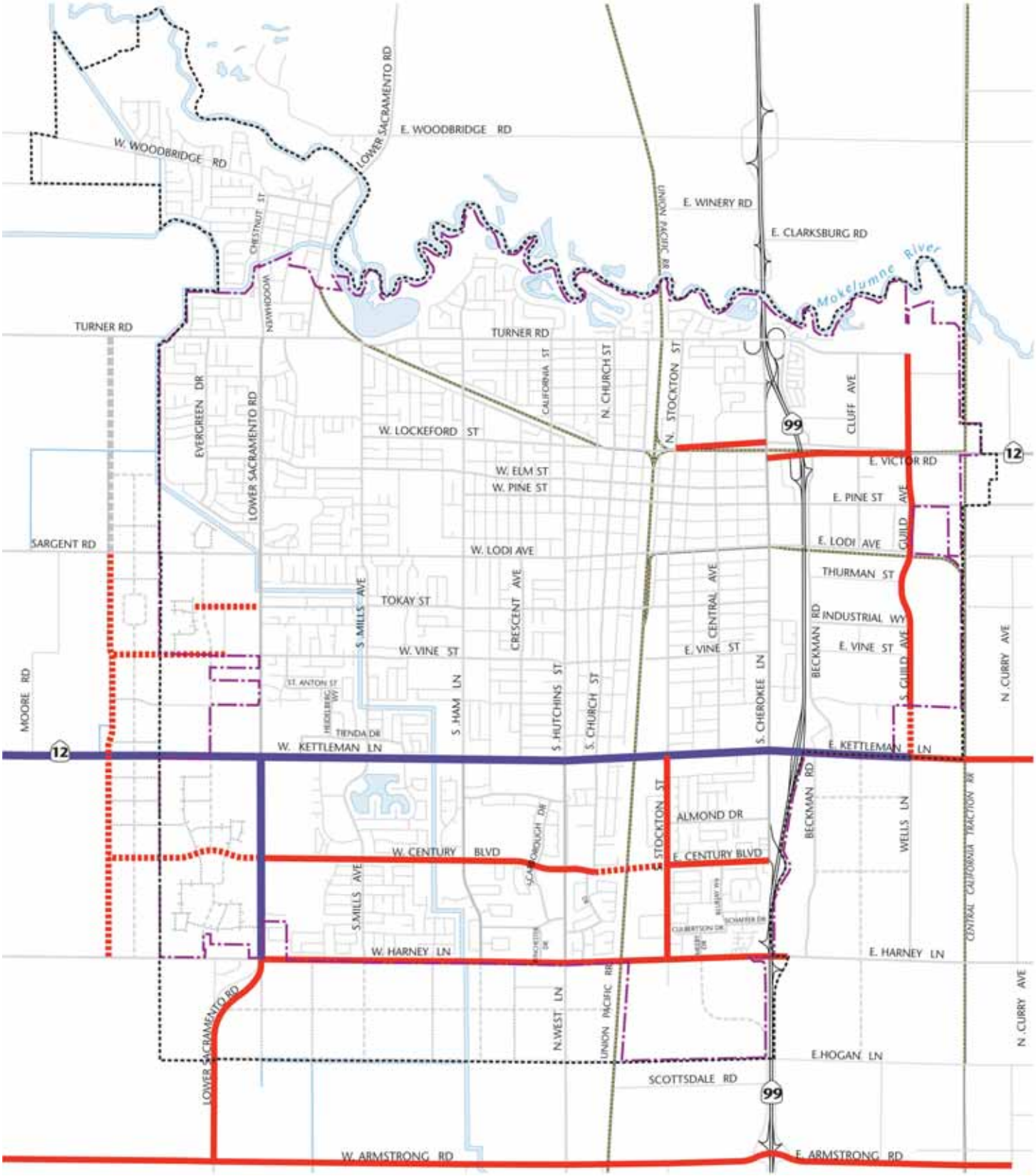
Table 3.2-2 and Figure 3.2-3 outline the major new improvements that need to be added to the existing network in order to support the development anticipated in the proposed General Plan. The table also shows the agencies that would be involved in implementation of the proposed improvements along each corridor, based on current jurisdictional boundaries. As shown, the City may need to coordinate roadway improvement activities with San Joaquin County or Caltrans, depending on the location.

The roadway system shown in Figure 3.2-4 presents the resulting road network that is best able to maintain the City's desired level of service and achieve the other transportation policies included in the proposed General Plan.

Table 3.2-2: Major Roadway Improvements Included in the Proposed General Plan

Road	*Description*	*Governing Agency*
Armstrong Road	Widened from 2 to 4 lanes	County
Century Boulevard	Widened from 2 to 4 lanes	City
	Railroad Crossing between Church Street and Stockton Street	City
	Extended to the new N/S Arterial west of Lower Sacramento Road	City, County
Guild Avenue	Widened from 2 to 4 lanes	City
	Connection added from Vine Street to Kettleman Lane	City, County
	Upgraded from local road to collector between Kettleman Lane and Harney Lane	City, County
Harney Lane	Widened from 2 lane arterial to 4 lane expressway between Lower Sacramento Road and SR 99	City
Kettleman Lane	Widened from 2 to 4 lanes west of Devries Road	Caltrans, County
	Widened from 2 to 6 lanes between Devries Road and Lower Sacramento Road	Caltrans, City, County
	Widened from 4 to 6 lanes between Lower Sacramento Road and Guild Avenue	Caltrans, City, County
	Widened from 2 to 4 lanes east of Guild Avenue	County
Lockeford Street	Widened from 2 to 4 lanes between Stockton Street and Cherokee Lane	City
Lodi Avenue	Widened from 2 to 4 lanes between Lower Sacramento Road and new North-South Arterial	City, County
Lower Sacramento Road	Widened from 4 to 6 lanes between Kettleman Lane and Harney Lane	City
	Widened from 2 to 4 lanes south of Harney Lane	City, County
New North-South Arterial	Added between Sargent Road and Harney Lane, west of Lower Sacramento Rd (to serve new westside development)	City, County
Stockton Street	Widened from 2 to 4 lanes between Kettleman Lane and Harney Lane	City
Tokay Drive	Extended to Westgate Drive	City, County
Victor Road	Widened from 2 to 4 lanes between SR 99 and Guild Avenue	City, Caltrans
Vine Street	Extended to the new N/S Arterial west of Lower Sacramento Road	City

Source: Fehr & Peers, 2009



Widened to 6 lanes

Widened to 4 lanes

New Roadway or Extension

Freeway

Local Street

Planned Local Street

Railroad

Sphere of Influence (2008)

City Limits (2008)

40 acres

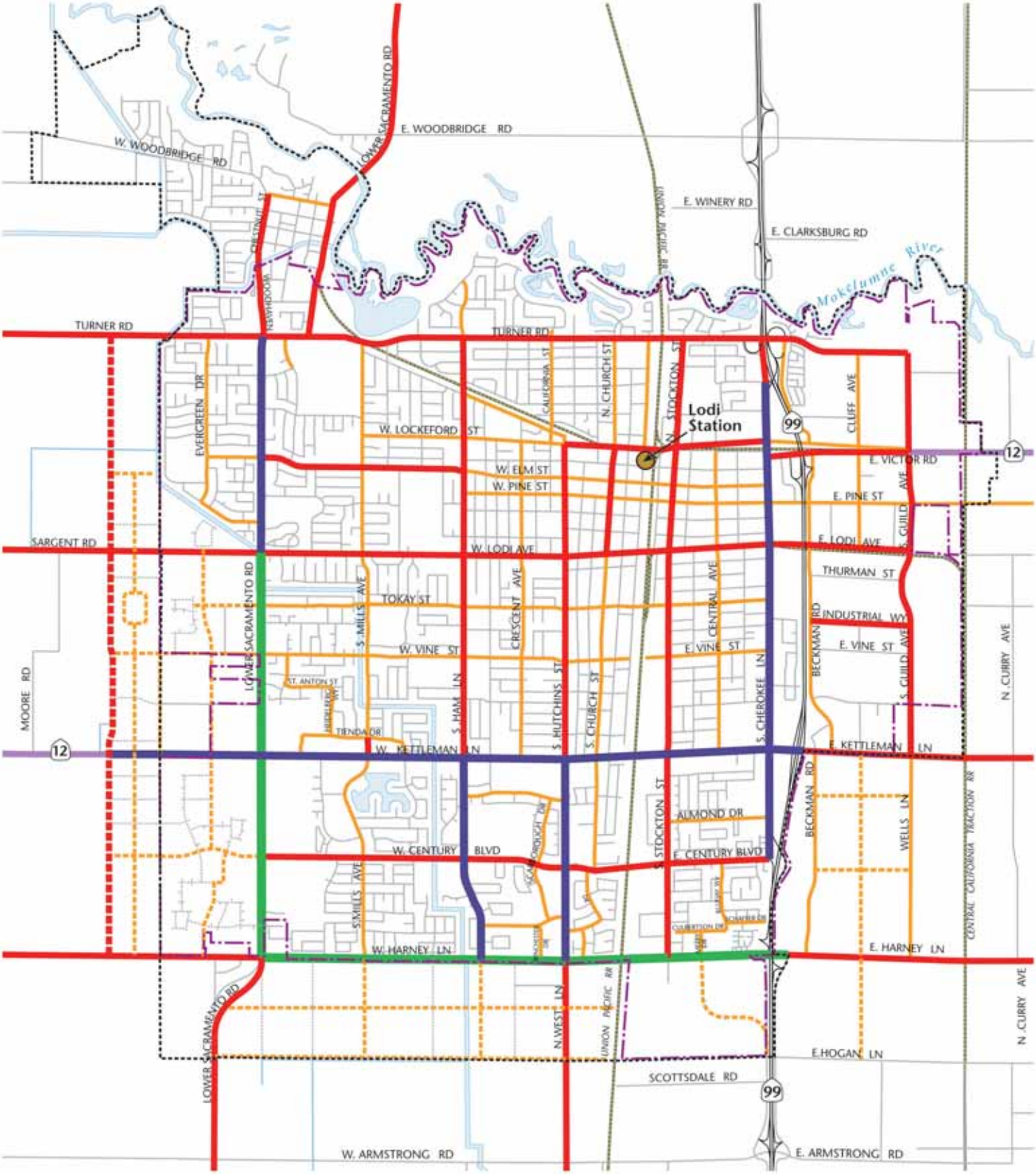
10 acres

0 1/2 1 2

MILES

Figure 3.2-3

Major Roadway Improvements



Freeway
State Highway 12
Expressway
Major Arterial
Minor Arterial
Planned Minor Arterial
Collector
Planned Collector
Local Street
Planned Local Street
Railroad
Sphere of Influence (2008)
City Limits (2008)

40 acres
10 acres

0 1/2 1 2
MILES

Figure 3.2-4
General Plan Roadway Network

ANALYSIS RESULTS

Table 3.2-3 compares the citywide transportation analysis results for the existing conditions with those for the proposed General Plan. Table 3.2-4 presents the existing and projected traffic volumes and LOS for individual roadway segments throughout the city.

Table 3.2-3: Citywide Transportation Analysis Results for the Proposed General Plan

Measures of Daily Travel	*Existing Conditions*	*Full Development of Proposed General Plan*
Total Vehicle Trips	301,000	560,000
Avg. Travel Speed (mph)	41	39
Vehicle Miles of Travel	796,000	1,483,000
Vehicle Hours of Travel	19,500	38,000
Vehicle Hours of Delay	450	3,200
Lane-Miles of Roadway Network	480	560

Source: Fehr & Peers, 2009.

Table 3.2-4: Existing and Proposed General Plan Average Daily Traffic Volumes and Levels of Service

Street	*From*	*To*	*Existing Daily Traffic Volume*	*Existing LOS*	*Proposed General Plan Daily Traffic Volume*	*Future LOS*
Almond Dr	Stockton St	Cherokee Ln	4,418	A	5,800	A
California St	Turner Rd	Lockeford St	2,377	A	2,400	A
Central Ave	Pine St	Lodi Ave	2,911	A	3,000	A
Central Ave	Lodi Ave	Tokay St	4,311	A	4,900	A
Central Ave	Tokay St	Vine St	4,021	A	5,000	A
Central Ave	Vine St	Kettleman Ln	3,878	A	6,300	A
Century Blvd	Lower Sacramento Rd	Mills Ave	4,276	A	10,200	A
Century Blvd	Mills Ave	Ham Ln	7,064	A	14,400	A
Century Blvd	Ham Ln	Hutchins St	7,099	A	12,600	A
Century Blvd	Hutchins St	Church St	5,253	A	24,000	B
Century Blvd	Stockton St	Cherokee Ln	3,111	A	5,400	A
Cherokee Ln	Pioneer Dr	Victor Rd	14,529	A	23,200	B
Cherokee Ln	Victor Rd	Pine St	19,621	A	27,200	C
Cherokee Ln	Pine St	Lodi Ave	17,176	A	27,700	C
Cherokee Ln	Lodi Ave	Tokay St	17,625	A	22,700	B
Cherokee Ln	Tokay St	Vine St	16,423	A	22,200	B
Cherokee Ln	Vine St	Kettleman Ln	15,956	A	22,300	B
Cherokee Ln	Kettleman Ln	Century Blvd	13,512	A	9,900	A

Table 3.2-4: Existing and Proposed General Plan Average Daily Traffic Volumes and Levels of Service

Street	*From*	*To*	*Existing Daily Traffic Volume*	*Existing LOS*	*Proposed General Plan Daily Traffic Volume*	*Future LOS*
Cherokee Ln	Century Blvd	Harney Ln	3,427	A	n/a[1]	n/a
Church St	Turner Rd	Lockeford St	3,573	A	3,900	A
Church St	Lockeford St	Elm St	4,621	A	4,700	A
Church St	Elm St	Pine St	5,861	A	6,200	A
Church St	Pine St	Lodi Ave	7,701	A	8,500	A
Church St	Lodi Ave	Tokay St	7,234	A	7,600	B
Church St	Tokay St	Vine St	7,054	A	7,500	A
Church St	Vine St	Kettleman Ln	7,118	A	7,700	B
Church St	Kettleman Ln	Century Blvd	5,756	A	5,800	A
Cluff Ave	Turner Rd	Victor Rd	2,691	A	3,900	A
Cluff Ave	Victor Rd	Pine St	1,184	A	1,300	A
Cluff Ave	Pine St	Lodi Ave	1,052	A	1,100	A
Crescent Ave	Lockeford St	Elm St	1,334	A	1,400	A
Crescent Ave	Elm St	Pine St	3,471	A	3,500	A
Crescent Ave	Pine St	Lodi Ave	3,771	A	4,000	A
Crescent Ave	Lodi Ave	Tokay St	3,071	A	3,100	A
Crescent Ave	Tokay St	Vine St	3,204	A	3,300	A
Crescent Ave	Vine St	Kettleman Ln	3,135	A	3,500	A
Elm St	Evergreen Dr	Lower Sacramento Rd	2,104	A	2,200	A
Elm St	Lower Sacramento Rd	Mills Ave	6,894	A	8,500	A
Elm St	Mills Ave	Ham Ln	7,714	A	8,900	A
Elm St	Ham Ln	Hutchins St	4,927	A	5,300	A
Elm St	Hutchins St	Church St	3,810	A	4,000	A
Elm St	Church St	Stockton St	7,253	A	9,300	C
Elm St	Stockton St	Central Ave	6,553	A	6,600	A
Elm St	Central Ave	Cherokee Ln	2,566	A	2,600	A
Evergreen Dr	Turner Rd	Elm St	1,584	A	1,700	A
Evergreen Dr	Elm St	Paradise Dr	1,189	A	1,200	A
Guild Ave	Turner Rd	Victor Rd	4,701	A	6,400	A
Guild Ave	Victor Rd	Pine St	4,001	A	9,700	A
Guild Ave	Pine St	Lodi Ave	3,572	A	9,800	A
Guild Ave	Lodi Ave	Industrial Way	3,321	A	9,400	A
Guild Ave	Industrial Way	Vine St	3,089	A	9,100	A
Guild Ave	Vine St	Kettleman Ln	n/a	n/a	9,100	A

Table 3.2-4: Existing and Proposed General Plan Average Daily Traffic Volumes and Levels of Service

Street	*From*	*To*	*Existing Daily Traffic Volume*	*Existing LOS*	*Proposed General Plan Daily Traffic Volume*	*Future LOS*
Guild Ave	Kettleman Ln	Harney Ln	n/a	n/a	6,800	A
Ham Ln	Turner Rd	Holly Dr	6,723	A	6,800	A
Ham Ln	Holly Dr	Lockeford St	9,928	A	10,000	A
Ham Ln	Lockeford St	Elm St	7,428	A	7,800	A
Ham Ln	Elm St	Pine St	6,428	A	6,700	A
Ham Ln	Pine St	Lodi Ave	13,810	C	14,000	C
Ham Ln	Lodi Ave	Tokay St	15,908	A	16,000	A
Ham Ln	Tokay St	Vine St	16,597	A	16,700	A
Ham Ln	Vine St	Kettleman Ln	16,242	A	17,800	A
Ham Ln	Kettleman Ln	Brandywine Dr	12,541	A	12,600	A
Ham Ln	Brandywine Dr	Century Blvd	9,971	A	10,300	A
Ham Ln	Century Blvd	Wimbledon Dr	7,003	A	7,100	A
Ham Ln	Wimbledon Dr	Harney Ln	5,232	A	5,700	A
Harney Ln	DeVries Rd	Davis Rd	1,741	A	2,300	A
Harney Ln	Davis Rd	Lower Sacramento Rd	2,124	A	22,200	B
Harney Ln	Lower Sacramento Rd	Mills Ave	7,824	A	38,200	B
Harney Ln	Mills Ave	Ham Ln	9,204	A	41,700	B
Harney Ln	Ham Ln	Hutchins St	11,356	B	47,700	C
Harney Ln	Hutchins St	Banyan Dr	14,359	D	53,100	D
Harney Ln	Banyan Dr	Stockton St	15,149	D	53,800	D
Harney Ln	Stockton St	Cherokee Ln	11,269	B	48,000	C
Harney Ln	Cherokee Ln	E Hwy 99 Frontage Road	9,220	A	50,000	D
Hutchins St	Lockeford St	Elm St	4,148	A	4,200	A
Hutchins St	Elm St	Pine St	5,442	A	5,500	A
Hutchins St	Pine St	Lodi Ave	8,029	A	8,100	A
Hutchins St	Lodi Ave	Tokay St	9,820	A	10,100	A
Hutchins St	Tokay St	Vine St	8,420	A	8,600	A
Hutchins St	Vine St	Kettleman Ln	11,176	B	11,400	B
Hutchins St	Kettleman Ln	Brandywine Dr	15,223	A	19,500	A
Hutchins St	Brandywine Dr	Century Blvd	14,898	A	19,800	A

Table 3.2-4: Existing and Proposed General Plan Average Daily Traffic Volumes and Levels of Service

Street	*From*	*To*	*Existing Daily Traffic Volume*	*Existing LOS*	*Proposed General Plan Daily Traffic Volume*	*Future LOS*
Hutchins St	Century Blvd	Wimbledon Dr	14,211	A	25,200	C
Hutchins St	Wimbledon Dr	Vineyard Dr	14,130	A	25,200	C
Hutchins St	Vineyard Dr	Harney Ln	14,048	A	25,700	C
Kettleman Ln	DeVries Rd	Davis Rd	14,198	D	39,800	C
Kettleman Ln	Davis Rd	Lower Sacramento Rd	15,598	D	46,500	D
Kettleman Ln	Lower Sacramento Rd	Tienda Dr	18,793	A	37,100	C
Kettleman Ln	Tienda Dr	Mills Ave	25,465	C	42,500	D
Kettleman Ln	Mills Ave	Lakeshore Dr	26,835	C	43,100	D
Kettleman Ln	Lakeshore Dr	Ham Ln	29,205	D	45,100	D
Kettleman Ln	Ham Ln	Hutchins St	28,642	D	46,100	D
Kettleman Ln	Hutchins St	Church St	30,734	D	40,700	C
Kettleman Ln	Church St	Stockton St	33,645	**E**	42,100	D
Kettleman Ln	Stockton St	Central Ave	27,236	C	50,700	**E**
Kettleman Ln	Central Ave	Cherokee Ln	26,013	C	47,000	D
Kettleman Ln	Cherokee Ln	Hwy 99	23,639	B	50,400	**E**
Kettleman Ln	Hwy 99	Beckman Rd	16,841	A	47,000	D
Kettleman Ln	Beckman Rd	Curry Ave	10,724	A	35,700	B
Lockeford St	Mills Ave	Ham Ln	7,272	A	8,400	B
Lockeford St	Ham Ln	California St	8,653	B	10,600	D
Lockeford St	California St	Hutchins St	9,344	A	11,400	B
Lockeford St	Hutchins St	Church St	10,034	A	12,100	A
Lockeford St	Church St	Sacramento St	11,037	B	12,400	C
Lockeford St	Sacramento St	Stockton St	10,849	B	11,500	B
Lockeford St	Stockton St	Central Ave	9,685	A	16,700	A
Lockeford St	Central Ave	Cherokee Ln	8,903	A	16,000	A
Lockeford St	Cherokee Ln	Beckman Rd	4,002	A	4,400	A
Lockeford St	Beckman Rd	Cluff Ave	1,551	A	1,600	A
Lockeford St	Cluff Ave	Guild Ave	313	A	400	A
Sargent Rd	DeVries Rd	Davis Rd	1,513	A	1,600	A
Lodi Ave/Sargent Rd	New North-South Arterial	Lower Sacramento Rd	7,910	A	25,200	C
Lodi Ave	Lower Sacramento Rd	Mills Ave	9,218	A	19,200	A

Table 3.2-4: Existing and Proposed General Plan Average Daily Traffic Volumes and Levels of Service

Street	*From*	*To*	*Existing Daily Traffic Volume*	*Existing LOS*	*Proposed General Plan Daily Traffic Volume*	*Future LOS*
Lodi Ave	Mills Ave	Ham Ln	11,227	A	20,100	A
Lodi Ave	Ham Ln	Hutchins St	9,314	A	15,400	A
Lodi Ave	Hutchins St	Church St	15,499	A	19,700	A
Lodi Ave	Church St	Sacramento St	14,549	A	18,300	A
Lodi Ave	Sacramento St	Stockton St	13,598	A	17,200	A
Lodi Ave	Stockton St	Central Ave	14,920	A	15,000	A
Lodi Ave	Central Ave	Cherokee Ln	14,174	A	14,400	A
Lodi Ave	Cherokee Ln	Cluff Ave	7,795	A	10,000	A
Lodi Ave	Cluff Ave	Guild Ave	1,185	A	1,600	A
Lower Sacramento Rd	Woodbridge Rd	Mokelumne St	5,600	A	9,300	A
Lower Sacramento Rd	Mokelumne St	Turner Rd	7,200	A	10,400	A
Lower Sacramento Rd	Turner Rd	Elm St	14,257	A	21,400	B
Lower Sacramento Rd	Elm St	Paradise Dr	19,664	A	28,000	C
Lower Sacramento Rd	Paradise Dr	Lodi Ave	16,450	A	24,900	C
Lower Sacramento Rd	Lodi Ave	Tokay St	22,496	B	41,600	B
Lower Sacramento Rd	Tokay St	Vine St	26,095	C	45,300	C
Lower Sacramento Rd	Vine St	Kettleman Ln	25,905	C	47,500	C
Lower Sacramento Rd	Kettleman Ln	Century Blvd	17,213	A	49,800	A
Lower Sacramento Rd	Century Blvd	Harney Ln	13,352	A	43,300	A
Mills Ave	Turner Rd	Lockeford St	5,155	A	5,600	A
Mills Ave	Lockeford St	Elm St	5,964	A	6,400	A
Mills Ave	Elm St	Lodi Ave	7,330	A	7,600	B
Mills Ave	Lodi Ave	Tokay St	6,833	A	6,900	A
Mills Ave	Tokay St	Vine St	7,777	B	8,400	B
Mills Ave	Vine St	Tienda Dr	7,355	A	7,400	A
Mills Ave	Tienda Dr	Kettleman Ln	6,575	A	6,800	A
Mills Ave	Kettleman Ln	Century Blvd	7,677	B	7,700	B
Mills Ave	Century Blvd	Harney Ln	3,417	A	4,800	A
Pine St	Ham Ln	Hutchins St	1,953	A	2,000	A
Pine St	Hutchins St	Church St	3,965	A	4,300	A
Pine St	Church St	Sacramento St	4,752	A	5,200	A
Pine St	Sacramento St	Stockton St	5,539	A	6,600	A
Pine St	Stockton St	Central Ave	6,297	A	6,700	A
Pine St	Central Ave	Cherokee Ln	5,788	A	6,200	A
Pine St	Cherokee Ln	Cluff Ave	3,044	A	3,600	A

Table 3.2-4: Existing and Proposed General Plan Average Daily Traffic Volumes and Levels of Service

Street	*From*	*To*	*Existing Daily Traffic Volume*	*Existing LOS*	*Proposed General Plan Daily Traffic Volume*	*Future LOS*
Pine St	Cluff Ave	Guild Ave	2,368	A	3,000	A
Sacramento St	Turner Rd	Lockeford St	3,167	A	3,500	A
Sacramento St	Lockeford St	Elm St	2,495	A	2,500	A
Sacramento St	Elm St	Pine St	3,168	A	3,300	A
Sacramento St	Pine St	Lodi Ave	3,840	A	3,900	A
Sacramento St	Lodi Ave	Tokay St	2,394	A	2,400	A
Sacramento St	Tokay St	Vine St	1,795	A	1,800	A
Sacramento St	Vine St	Kettleman Ln	898	A	900	A
Stockton St	Turner Rd	Lockeford St	3,492	A	4,100	A
Stockton St	Lockeford St	Elm St	4,661	A	11,800	B
Stockton St	Elm St	Pine St	5,282	A	11,500	B
Stockton St	Pine St	Lodi Ave	5,879	A	12,800	C
Stockton St	Lodi Ave	Tokay St	6,970	A	9,600	A
Stockton St	Tokay St	Vine St	7,374	A	9,800	A
Stockton St	Vine St	Kettleman Ln	7,778	A	9,900	A
Stockton St	Kettleman Ln	Century Blvd	10,915	B	21,000	A
Stockton St	Century Blvd	Harney Ln	7,590	A	15,700	A
Tokay St	Lower Sacramento Rd	Mills Ave	3,175	A	3,300	A
Tokay St	Mills Ave	Ham Ln	5,503	A	5,800	A
Tokay St	Ham Ln	Hutchins St	5,547	A	5,600	A
Tokay St	Hutchins St	Church St	5,120	A	5,200	A
Tokay St	Church St	Sacramento St	4,694	A	4,700	A
Tokay St	Sacramento St	Stockton St	4,574	A	4,600	A
Tokay St	Stockton St	Central Ave	4,453	A	4,500	A
Tokay St	Central Ave	Cherokee Ln	3,953	A	4,200	A
Turner Rd	DeVries Rd	Davis Rd	7,512	A	13,100	C
Turner Rd	Davis Rd	Evergreen Dr	7,412	A	12,400	C
Turner Rd	Evergreen Dr	Woodhaven Ln	9,112	A	13,900	A
Turner Rd	Woodhaven Ln	Lower Sacramento Rd	9,719	A	17,200	A
Turner Rd	Lower Sacramento Rd	Mills Ave	17,665	A	23,700	B
Turner Rd	Mills Ave	Ham Ln	15,733	A	20,800	A
Turner Rd	Ham Ln	Church St	16,322	A	20,800	A

Table 3.2-4: Existing and Proposed General Plan Average Daily Traffic Volumes and Levels of Service

Street	*From*	*To*	*Existing Daily Traffic Volume*	*Existing LOS*	*Proposed General Plan Daily Traffic Volume*	*Future LOS*
Turner Rd	Church St	Sacramento St	16,576	A	21,400	B
Turner Rd	Sacramento St	Stockton St	17,734	A	22,500	B
Turner Rd	Stockton St	99/Cherokee Ln	15,662	A	20,000	A
Turner Rd	99/Cherokee Ln	Beckman Rd	10,482	A	12,800	C
Turner Rd	Beckman Rd	Cluff Ave	6,009	A	8,300	A
Turner Rd	Cluff Ave	Guild Ave	4,006	A	5,700	A
Victor Rd	Cherokee Ln	Hwy 99	10,282	A	13,800	A
Victor Rd	Hwy 99	Cluff Ave	14,772	D	23,100	B
Victor Rd	Cluff Ave	Guild Ave	11,490	B	19,000	A
Vine St	Lower Sacramento Rd	Mills Ave	5,579	A	6,900	A
Vine St	Mills Ave	Ham Ln	7,011	A	7,700	B
Vine St	Ham Ln	Hutchins St	3,363	A	3,400	A
Vine St	Hutchins St	Church St	1,814	A	1,900	A
Vine St	Church St	Sacramento St	903	A	1,000	A
Vine St	Sacramento St	Stockton St	#N/A	A	1,000	A
Vine St	Stockton St	Central Ave	1,714	A	1,800	A
Vine St	Central Ave	Cherokee Ln	3,303	A	4,200	A
Woodhaven Ln	Mokelumne St	Turner Rd	11,384	B	11,600	B
SR-99 Northbound	Eight Mile Road	Armstrong Rd	26,500	B	42,000	C
SR-99 Northbound	Turner Rd	Clarksdale Rd/Winery Rd	35,375	C	64,800	**E**
SR-99 Soutbound	Armstrong Rd	Eight Mile Road	26,500	B	42,000	C
SR-99 Southbound	Clarksdale Rd/Winery Rd	Turner Rd	35,200	C	64,800	**E**
SR-99 Northbound	Kettleman Ln	SR-12	37,446	C	61,600	**E**
SR-99 Southbound	SR-12	Kettleman Ln	39,895	C	64,000	**E**

1. Abandoned road segment.

Source: Fehr & Peers, 2009.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant transportation/traffic impact if it would:

- Cause an increase in traffic which is considered substantial in relation to the existing traffic load and capacity of the street system;
- Exceed, either individually or cumulatively, a level of service (LOS) standard established by a governing agency (such as the City for roads within the City's jurisdiction, or SJCOG for roads on the designated Congestion Management Plan network);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation modes, such as rail transit, buses, bicycles, vanpools, and walking.

IMPACT METHODOLOGY

The City of Lodi travel demand model, which was developed and calibrated in 2007 and documented in the *City of Lodi Travel Demand Model – Final Model Development Report*, Fehr & Peers, February 2008, was used to evaluate the transportation effects of proposed land uses and the effectiveness of the proposed General Plan circulation system. The proposed land uses and roadway network configurations were inputs to the model, and model outputs such as traffic volumes and speeds were used to determine the location and magnitude of roadway infrastructure improvements that would be needed to serve the projected future demand.

SUMMARY OF IMPACTS

The proposed General Plan would result in a substantial increase in vehicular traffic that would cause certain facilities to exceed LOS standards established by the City (for City facilities) and the County (for regional routes). Proposed General Plan policies and improvements have been identified to minimize transportation impacts, but even with these measures, the impact is considered significant and unavoidable.

Development planned in the City would increase traffic volumes and could adversely affect access for emergency vehicles in Lodi. Planned improvements that would help mitigate this impact include roadway extensions, roadway widenings, and the construction of a new arterial, all of which would serve to enhance connectivity and local neighborhood circulation. Still, implementation of the proposed General Plan and increases in regional travel passing through Lodi would increase the amount of vehicular traffic in and around Lodi, and would therefore increase the number of potential emergency access conflicts, resulting in a significant and unavoidable impact.

The substantial increases in vehicle trips and vehicle miles of travel resulting from the proposed General Plan could create conflicts with the goals and objectives of established alternative transportation plans. Increased traffic volumes may make it more difficult and time-consuming for pedestrians to cross some streets. Higher traffic volumes on some facilities could discourage bicycle travel, especially among non-expert bicycle users. Additionally, increased delay on some of

Lodi's roadway facilities could increase travel times for the various bus services that serve the city and provide access to regional travel services like Amtrak and ACE.

Phasing

It should be noted that the transportation impacts summarized here were determined based on an analysis of the full development potential of the General Plan, consistent with CEQA requirements. As described in Chapter 2: Project Description, it is anticipated that new development in Lodi would generally follow a phased approach, allowing infrastructure expansion to be targeted to specific areas of the City. For information purposes, the following discussion explains how planned improvements and traffic impacts might unfold over time. This issue is not discussed further in the impact analysis below (which describes full implementation of the proposed General Plan, through Phase 3).

The first phase would likely include development projects already approved and under construction, infill development in downtown and the eastern industrial areas, and new development around the Harney and Kettleman interchanges and to the south of Harney Lane. The roadway expansions needed to serve these new development areas, such as the widening of Harney Lane and the improvements to the Harney and Kettleman Lane interchanges, would likewise be in the first phase of infrastructure improvements.

The second phase would extend new neighborhood development west of the current western City limits, and new commercial and office development in the southeastern area of the City. As a result, it is anticipated that roadway expansions needed to serve these second-phase development areas (such as the new north-south arterial west of Lower Sacramento Road, and the new collector roads east of SR 99 between Kettleman and Harney Lanes) would not be needed initially, and their construction would depend on how quickly the second phase of development occurs.

General Plan Policy T-P1 ensures that the timing of transportation infrastructure improvements is consistent with the pace of new development. Further, if the full development potential of the General Plan is not realized, then it would be expected that the severity of the transportation impacts described in the impact analysis below would be reduced, and some impacts might be avoided altogether.

IMPACTS AND MITIGATION MEASURES

Impact

3.2-1 The proposed General Plan would result in a substantial increase in vehicular traffic that would cause certain facilities to exceed level of service standards established by the governing agency (LOS D, with exceptions, for City facilities and Routes of Regional Significance). *(Significant and Unavoidable)*

The analysis presented in Table 3.2-4 and discussed in the Proposed Improvements and Projections section above details the traffic implications of the land use changes envisioned with full development of the proposed General Plan. As shown in Table 3.2-3, implementation of the proposed General Plan would increase the total number of vehicle trips and miles of vehicular travel in the study area by approximately 80% as compared to existing conditions. In order to best maintain the city's designated LOS (LOS D, with exceptions), a number of existing roadway facilities would need to be improved and one new arterial roadway constructed, as detailed in

Table 3.2-2. These improvements are included in the proposed General Plan and, therefore, are part of the project description.

The effects of the proposed land use pattern on roadway volumes will primarily occur in the southern and western portions of the city. Major facilities such as Kettleman Lane, Harney Lane, and Lower Sacramento Road are expected to experience substantial increases in traffic volumes compared to existing conditions, due to the new development areas that are proposed in the vicinity of those corridors. There are some roadway facilities, such as Kettleman Lane, on which it is not possible to achieve LOS D along the entire segment due to local physical and environmental constraints. Table 3.2-5 identifies the facilities with projected levels of service of E after implementation of the proposed General Plan and its associated circulation improvements. It should be noted that the number of locations projected to operate at LOS E may increase if certain proposed improvements (Table 3.2-2) are not constructed as envisioned in this analysis.

Table 3.2-5: Facilities Exceeding LOS Standard after Proposed General Plan Implementation

Street	*From*	*To*	*Existing LOS*	*Project LOS*
Kettleman Lane	Stockton St	Central Ave	C	E
Kettleman Lane	Cherokee Ln	SR-99	B	E
SR-99 Northbound	Turner Rd	Clarksdale Rd/Winery Rd	C	E
SR-99 Northbound	Kettleman Ln	SR-12	C	E
SR-99 Southbound	Clarksdale Rd/Winery Rd	Turner Rd	C	E
SR-99 Southbound	SR-12	Kettleman Ln	C	E

Source: Fehr & Peers, 2009.

There are preliminary plans for the widening of SR 99 through Lodi, which would add capacity for both local and regional travel and would help to address the LOS E conditions identified above. However, the widening project does not have environmental clearance and no funding has been identified, so it is not assumed in this analysis.

Some facilities may be exempt from Lodi's general LOS thresholds. As described in proposed General Plan policies, downtown is exempt from LOS standards to encourage infill development in order to create a pedestrian friendly urban design character and densities necessary to support transit, bicycling, and walking. Moreover, the City may allow exceptions to LOS standards upon findings by the City Council that achieving the designated LOS D would:

- Be technologically or economically infeasible, or
- Compromise the City's ability to support other important policy priorities, such as:
    - Enhancing the urban design characteristics that contribute to pedestrian comfort and convenience;
    - Avoiding adverse impacts to alternate modes of transportation;
    - Preserving the existing character of the community;
    - Preserving agricultural land or open space; or
    - Preserving scenic roadways/highways.

Proposed General Plan policies that would reduce this impact are described below. These policies are designed to minimize transportation impacts through the establishment of design and LOS standards for vehicular modes and the encouragement of alternative modes of travel. However, even with implementation of the listed policies, this impact is considered significant.

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

T-G1 Plan, develop, and maintain a comprehensive, coordinated transportation system to ensure the safe, efficient and convenient movement of people and goods.

T-P1 Ensure consistency between the timing of new development and the provision of transportation infrastructure needed to serve that development. Regularly monitor traffic volumes on city streets and, prior to issuance of building permits, ensure that there is a funded plan for the developer to provide all necessary transportation improvements at the appropriate phase of development so as to minimize transportation impacts.

T-P2 Review new development proposals for consistency with the Transportation Element and the Capital Improvements Program. Ensure that new projects provide needed facilities to serve development and/or contribute a fair share to the City's transportation impact fee.

T-P3 Work collaboratively with San Joaquin County, San Joaquin Council of Governments, and Caltrans to successfully implement transportation improvements in the vicinity of Lodi.

T-P4 Maintain and update a Capital Improvements Program so that identified improvements are appropriately prioritized and constructed in a timely manner.

T-NEW Strive to comply with the Level of Service standards and other performance measures on Routes of Regional Significance as defined by the County-wide Congestion Management Program.

T-NEW For purposes of design review and environmental assessment, apply a standard of Level of Service E during peak hour conditions on all streets in the City's jurisdiction. The objective of this performance standard is to acknowledge that some level of traffic congestion during the peak hour is acceptable and indicative of an economically vibrant and active area, and that infrastructure design decisions should be based on the conditions that predominate during most of each day.

T-NEW Exempt downtown from LOS standards to encourage infill development in order to create a pedestrian friendly urban design character and densities necessary to support transit, bicycling, and walking. Development decisions in downtown should be based on community design and livability goals rather than traffic LOS.

(Downtown is defined by the Downtown Mixed-Use designation in the Land Use Diagram.)

T-P8EDIT ~~Strive to maintain applicable Level of Service (LOS) standards. The Regional Congestion Management Program defines LOS D on its network. The General Plan establishes an LOS D on city streets and at intersections. Exceptions to this LOS D policy may be allowed by the City Council in areas , such as downtown, where allowing a lower LOS would result in clear public benefits, subject to findings that achieving LOS D would:~~ Allow exceptions to LOS standards upon findings by the City Council that achieving the designated LOS would:

- Be technologically or economically infeasible, or
- Compromise the City's ability to support other important policy priorities, such as:
  - Enhancing the urban design characteristics that contribute to pedestrian comfort and convenience;
  - ~~Preserving and enhancing an economically vibrant downtown area;~~
  - Avoiding adverse impacts to alternate modes of transportation;
  - Preserving the existing character of the community;
  - Preserving agricultural land or open space; or
  - Preserving scenic roadways/highways.

T-NEW Undertake street improvements shown in Table 5-4 [of the proposed General Plan], and maintain, require or acquire right of way, as necessary. Coordinate with other jurisdictions, including San Joaquin County, and Caltrans, on improvements to street segments common to the City of Lodi and other jurisdictions. It should be noted that because the General Plan will be implemented over an extended time frame, street capacity enhancements will be prioritized through the City's Capital Improvements Program process and will occur as development proceeds.

T-P9 Design streets in new developments in configurations that generally match and extend the grid pattern of existing city streets. This is intended to disperse traffic and provide multiple connections to arterial streets. Require dedication, widening, extension, and construction of public streets in accordance with the City's street standards. Major street improvements shall be completed as abutting lands develop or redevelop. In currently developed areas, the City may determine that improvements necessary to meet City standards are either infeasible or undesirable.

T-P10 Maintain, and update as needed, roadway design standards to manage vehicle speeds and traffic volumes.

T-P13 Foster walkable streets through streetscape improvements, continuous sidewalks on both sides of streets, and encouraging pedestrian access wherever feasible. Update the Subdivision Ordinance to include requirements for sidewalks, street

trees, and lighting. Where sidewalks do not exist within existing developments, and are desired, explore a program to provide sidewalks by reducing the curb-to-curb road width, in cases where safety and traffic flow are not compromised.

T-P14 To maintain walkability and pedestrian safety, consider roadway width and roadway design features such as islands, pedestrian refuges, pedestrian count-down signals, and other such mechanisms. This policy applies to new roadway construction as well as existing roadways where pedestrian safety issues may occur due to roadway design or width.

T-P15 In new development areas, include pedestrian connections to public transit systems, commercial centers, schools, employment centers, community centers, parks, senior centers and residences, and high-density residential areas.

T-P16 Work cooperatively with the Lodi Unified School District on a "safe routes to schools" program that aims to provide a network of safe, convenient, and comfortable pedestrian routes from residential areas to schools. Improvements may include expanded sidewalks, shade trees, bus stops, and connections to the extended street, bike, and transit network.

T-P17 Use the City's Bike Master Plan as a comprehensive method for implementing bicycle circulation, safety, and facilities development. Update the Plan for consistency with Figure 5-2 [of the proposed General Plan], which defines bike route connections in new development areas.

T-P18 Coordinate the connection of local bikeways and trails to regional bikeways identified in the San Joaquin County Bicycle Transportation Plan.

T-P19 Require the placement of bicycle racks or lockers at park-and-ride facilities.

T-P20 Establish standards requiring new commercial and mixed-use developments (of sizes exceeding certain minimum thresholds) to provide shaded and convenient bicycle racks, as appropriate. When such facilities are required, use specifications provided in Caltrans' Design Manual, Section 1000, or other appropriate standards.

T-P22 Review new development proposals for consistency with the Short Range Transit Plan. Ensure new projects provide needed transit facilities to serve developments and provide all needed facilities and/or contribute a fair share for improvements not covered by other funding sources.

T-P24 Encourage continued commuter rail service in Lodi by cooperating with Amtrak and supporting transit-oriented development and improvements around Lodi Station.

T-P25 Encourage ridership on public transit systems through marketing and promotional efforts. Provide information to residents and employees on transit services available for both local and regional trips.

T-P27 Coordinate transit services and transfers between the various transit operators serving Lodi.

T-P28 Require new development to provide transit improvements where appropriate and feasible, including direct pedestrian access to transit stops, bus turnouts and shelters, and local streets with adequate width to accommodate buses.

T-P29 Continue to actively support and manage the Lodi Grapeline bus service, and to expand public transit services when justified by new demand.

T-P43 Promote ridesharing and cooperate with regional travel demand management programs to reduce peak-hour traffic congestion and help reduce regional vehicle miles traveled.

T-P44 Promote employment opportunities within Lodi to reduce commuting to areas outside of Lodi.

T-P45 Reduce the total vehicle miles of travel per household by making efficient use of existing transportation facilities and by providing for more direct routes for pedestrians and bicyclists through the implementation of "smart growth" and sustainable planning principles.

Mitigation Measures

Even with implementation of the improvements identified in the Circulation Diagram, there are some regional roadways (such as SR 99 and Kettleman Lane) that are projected to operate at LOS E, which is lower than the LOS D standard set in the County-wide Congestion Management Program. In addition, proposed General Plan policies establish a new standard of LOS E on City streets, and exceptions to the general LOS standard for the downtown area. Implementation of these policies means that higher levels of traffic congestion would be allowable than would be the case if the current General Plan (which sets a standard of LOS C) were to continue.

Table 3.2-2 identifies the responsible agency or agencies for each of the planned roadway improvements analyzed in this chapter. This identification is based on current jurisdictional boundaries and therefore cannot account for any future boundary changes. In some cases, implementation of these improvements would be subject to the approval of entities other than the City of Lodi (such as Caltrans or San Joaquin County), and could depend on funding programs that are not fully developed at this time. Timely construction of the proposed improvements would require substantial coordination and cooperation between the City and other agencies.

For example, the roadway improvements shown in Figure 3.2-3 includes widening along Kettleman Lane/SR 12. Design and construction of these improvements would be subject to oversight and approval from Caltrans, and funding would likely come from a combination of sources, including State funds, regional funds such as sales tax proceeds from Measure K, and local funds such as developer fees. If assumed improvements do not coincide with the full development of the proposed General Plan, Kettleman Lane and its parallel streets would have higher levels of traffic congestion than are identified in this EIR.

Similarly, the roadway network shown in Figure 3.2-4 includes a new north-south arterial facility to the west of Lower Sacramento Road between Sargent Road and Harney Lane intended to serve

proposed developments on the west side of Lodi. Design and construction of such a facility may require coordination between the City and the County, depending on jurisdictional boundaries in place at that time. If construction of this arterial were delayed, traffic congestion on Lower Sacramento Road and other City and County facilities in this area would be higher than predicted in this EIR.

In summary, the proposed General Plan addresses its traffic impacts through a combination of policies and physical improvements identified in Figure 3.2-4. The physical improvements are not sufficient to maintain the desired level of service on all facilities, though some of these deficiencies may be acceptable under LOS standards set by proposed General Plan policies. The proposed policies would allow greater levels of traffic congestion and delay than current policies. The identified physical improvements would also require cooperation and funding from agencies other than the City of Lodi; therefore, implementation of these improvements cannot be guaranteed solely through the City's actions. As a result of the above considerations, this impact remains significant. No additional feasible mitigation measures are currently available.

Impact

3.2-2 The proposed General Plan may adversely affect emergency access. (*Significant and Unavoidable*)

Implementation of the proposed General Plan and increases in regional travel passing through Lodi would increase the amount of vehicular traffic in and around Lodi, and would therefore increase the number of potential emergency access conflicts. Previously described analysis shows that the proposed General Plan results in some facilities falling below LOS D, even with planned roadway improvements. Table 3.2-3 indicates that the number of hours of vehicular delay throughout the city is projected to increase by a factor of seven compared to existing conditions. (For clarification, it should be noted that a large proportion of that additional delay is expected to occur along SR 99 and thus would have a greater effect on regional travelers than on local travelers.) Still, additional traffic delay on local streets could negatively impact emergency access within Lodi.

The following proposed General Plan policies, intended to improve neighborhood character and the pedestrian environment, could adversely affect access for emergency vehicles in Lodi.

T-P11 Limit street right-of-way dimensions where necessary to maintain desired neighborhood character. Consider allowing narrower street rights-of-way and pavement widths for local streets in new residential subdivisions.

T-P12 Implement traffic calming measures to slow traffic on local and collector residential streets and prioritize these measures over congestion management. Include roundabouts, corner bulb-outs, traffic circles, and other traffic calming devices among these measures.

Proposed General Plan Policies that Reduce the Impact

Planned improvements that would help mitigate this impact include roadway extensions, roadway widenings, and the construction of a new arterial, all of which would serve to enhance connectivity and local neighborhood circulation. Additionally, the proposed General Plan

includes policies T-P1, T-P2, T-P8, T-P9, and T-P10, summarized in Impact 3.2-1 above, that directly address street connectivity and access to developments.

Mitigation Measures

Implementation of the proposed improvements and the policies listed above would help to mitigate this impact. However, as discussed in Impact 3.2-1, the City's actions alone cannot guarantee that the physical and operational improvements identified in the proposed General Plan will occur in the timeframe assumed within the proposed General Plan. Additionally, the proposed General Plan includes some policies that could negatively impact emergency access. As a result of the above considerations, this impact remains significant. No additional feasible mitigation measures are currently available.

Impact

3.2-3 The proposed General Plan may conflict with adopted policies, plans, or programs supporting alternative transportation modes. *(Significant and Unavoidable)*

The City of Lodi and San Joaquin County have a number of policies, plans, and programs in place to support alternative transportation modes, many of which were discussed in the Physical Setting section of this chapter. Examples include the RTP, the City of Lodi's Bicycle Transportation Master Plan, the Unincorporated San Joaquin County Bikeway Plan, and the Grapeline Short-Range Transit Plan. Collectively, these documents establish goals and objectives and prioritize improvements that will better facilitate transit, pedestrian, and bicycle use in Lodi and its surrounding areas.

The substantial increases in vehicle trips and vehicle miles of travel resulting from the proposed General Plan could create conflicts with the goals and objectives of these established plans. Increased traffic volumes may make it more difficult and time-consuming for pedestrians to cross some streets. Higher traffic volumes on some facilities could discourage bicycle travel, especially among non-expert bicycle users. Additionally, increased delay on some of Lodi's roadway facilities could increase travel times for the various bus services that serve the city and provide access to regional travel services like Amtrak and ACE.

Proposed General Plan Policies that Reduce the Impact

The following proposed General Plan policies, in addition to T-G1, T-P8, T-P9, T-P10, T-P13, T-P14, T-P15, T-P16, T-P17, T-P18, T-P19, T-P20, T-P22, T-P24, T-P25, T-P27, T-P28, T-P29, T-P43, T-P44, T-P45 summarized in Impact 3.2-1, help to mitigate these issues, by supporting a balanced transportation system that serves all modes of travel. Proposed General Plan policies provide a regulatory environment that will encourage the implementation of transit, bicycle and pedestrian improvements. These projects, if implemented, will help mitigate the proposed General Plan's impact on alternative travel modes by improving transit service and access and enhancing the pedestrian and bicycling environments.

T-G2 Maintain and update street standards that provide for the design, construction, operation, and maintenance of City streets based on a "complete streets" concept that enables safe, comfortable, and attractive access for pedestrians, bicyclists, motorists, and transit users of all ages and abilities, in a form that is compatible with and complementary to adjacent land uses.

T-G3 Develop neighborhood streets that encourage walking, biking, and outdoor activity through sound engineering and urban design principles that limit potential speeding.

T-G4 Provide for safe and convenient pedestrian, bicycle, and transit circulation.

T-G5 Ensure the adequate provision of both on-street and off-street parking, taking into account the effect of parking management techniques on urban design, economic vitality, and walkability.

T-P11 Limit street right-of-way dimensions where necessary to maintain desired neighborhood character. Consider allowing narrower street rights-of-way and pavement widths for local streets in new residential subdivisions.

T-P12 Implement traffic calming measures to slow traffic on local and collector residential streets and prioritize these measures over congestion management. Include roundabouts, corner bulb-outs, traffic circles, and other traffic calming devices among these measures.

T-P21 Implement the City's Short Range Transit Plan and the San Joaquin Council of Government's Regional Transit Systems Plan, using the most cost effective methods available and based upon professional analysis.

T-P23 Continue to support the efficient operation of the Lodi Station, and to explore opportunities to expand the multi-modal transportation services provided there.

T-P26 Maintain transit performance measures sufficient to meet State requirements.

T-P30 Require community care facilities and senior housing projects with more than 25 units to provide accessible transportation services for the convenience of residents.

T-P38 Consider development of local park-and-ride facilities, particularly in conjunction with future rail and bus services, if the demand for such facilities is warranted and economically feasible.

T-P39 Provide park and ride facilities designed to accommodate public transit, van and carpool users.

Mitigation Measures

The policies presented above will help to mitigate the proposed General Plan's impacts on alternative transportation modes, but the impact remains significant.

While existing local and countywide plans have prioritized bicycle, pedestrian, and transit improvement projects that would support alternative modes of travel, the City of Lodi cannot guarantee that all of these projects will happen and that they will happen in a timeframe appropriate to support the proposed new development. For instance, pedestrian and bicycle improvements often occur in conjunction with street improvement and construction projects, many of which require coordination with jurisdictions outside the city. As discussed in detail under Impact 3.2-1, the physical improvements identified in the Figure 3.2-3 would require

cooperation and funding from a variety of entities outside the City of Lodi, so implementation of these improvements cannot be guaranteed solely through the City's actions. As a result, this impact remains significant; and at the present time, no feasible mitigation is currently available. However, in the event that inter-jurisdictional cooperation is successful and the proposed policies and programs are implemented in a timely fashion, the impact would be less than significant.

3.3 Agricultural Resources

This section presents the environmental setting and evaluates the potential impacts on agricultural resources in the Lodi Planning Area from implementation of the proposed General Plan.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Important Farmlands within the Planning Area

Land within the city's Planning Area is represented by the breakdown in use between agricultural and urban land. In 2004, an estimated 40,730 acres of land (roughly 80% of the total Planning Area) were being used for some type of agricultural use, according to the California Department of Conservation. As shown in Table 3.3-1, lands designated by the Farmland Mapping and Monitoring Program (FMMP) as Prime Farmland account for an estimated 65% of the Planning Area. The Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance designations are often referred to collectively as "Important Farmlands." Important Farmlands account for the vast majority of farmland (40,699 acres or 80% of the total land area) within the Planning Area (see Table 3.3-1). These Important Farmlands are identified in Figure 3.3-1.

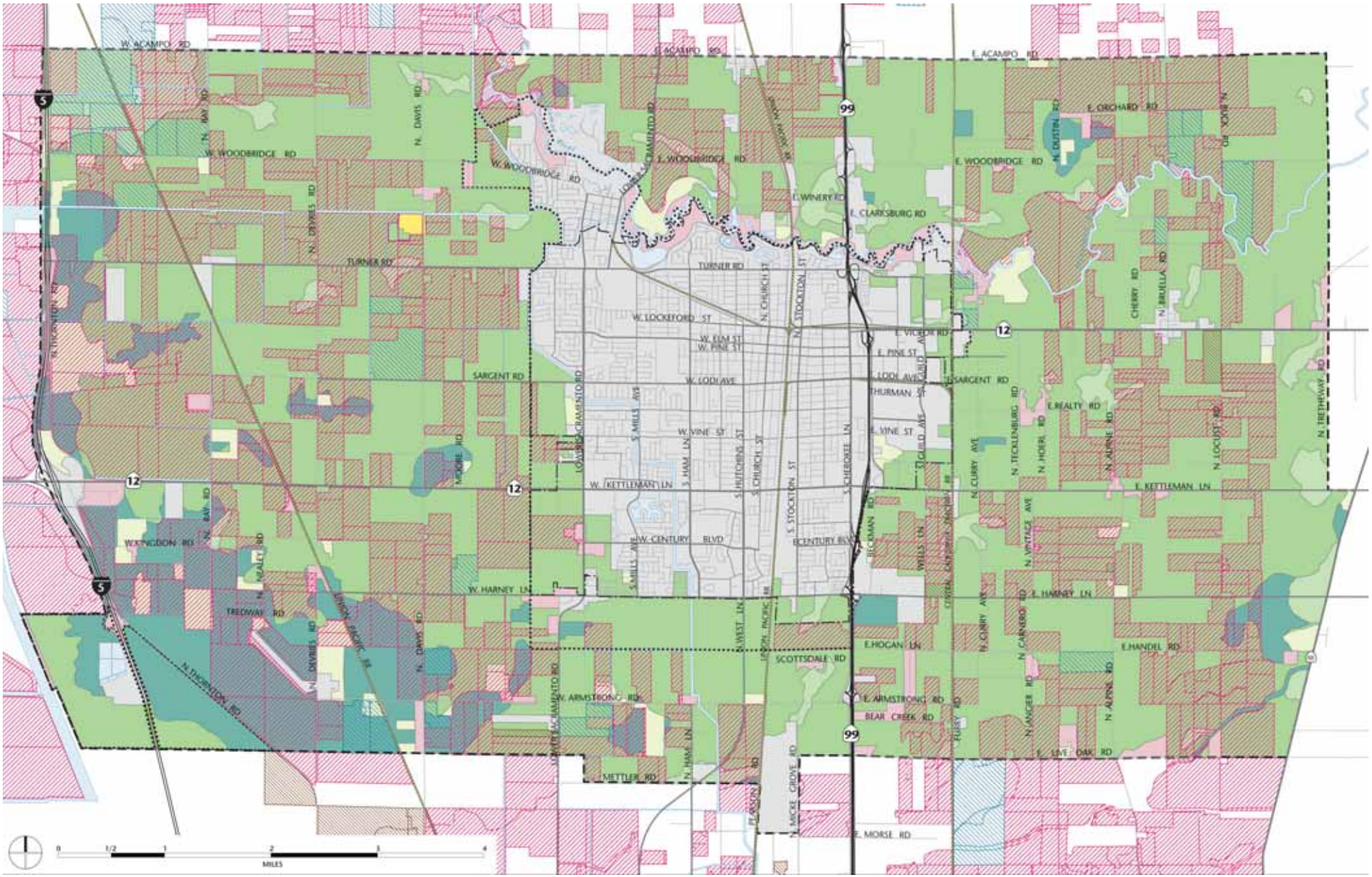
Table 3.3-1. Land Use by FMMP Designation

FMMP Designation	*Planning Area Acreage*	*Percentage of Planning Area (50,826 acres)*
Prime Farmland	32,926	65%
Farmland of Statewide Importance	1,911	4%
Unique Farmland	4,442	9%
Farmland of Local Importance	1,420	3%
Grazing Land	31	<0.1%
Urban and Built-Up Land	8,700	17%
Other Categories	1,400	3%

Source: California Department of Conservation, 2004b; Dyett & Bhatia, 2007; and ESA, 2007.

Regional Trends in Farmland Use and Conversion

As more fully described below under the Regulatory Setting section, the FMMP monitors the conversion of the State's farmland to and from agricultural use. San Joaquin County has some of the most productive agricultural lands in the state and has been experiencing conversion of these lands to non-agricultural uses fairly consistently over the past several years. In 1990, San Joaquin had 437,859 acres of Prime Farmland. By 2002, this number was 415,527 acres. This is a net loss of 22,332 acres, or more than 1,800 acres per year. Farmland of statewide importance showed a similar decline, from 100,277 acres to 92,521. Unique Farmland showed a slight increase in acreage, from 46,863 acres to 61,849 acres, most likely due to the conversion of unirrigated lands to vineyards. However, the net loss among all types of agricultural land (including grazing land)



Prime Farmland
Statewide Importance
Local Importance
Unique Farmland
Grazing
Urban Development
Other Land
Williamson Act
Williamson Act-Non-renewal
Farmland Security Zone
Planning Area
Sphere of Influence
City Limits

Figure 3.3-1
Farmlands

was 20,904 acres during this period. The most serious loss is prime farmland—the most productive category of farmland.

The main cause of farmland conversion is urban development. Development pressures will continue in the future, as the population of San Joaquin County increases and the various communities (including Lodi) attempt to provide housing, jobs, and services for new residents.

Williamson Act Contracts and Farmland Security Zones

As more fully described below under the Regulatory Setting section, a Williamson Act contract and a Farmland Security Zone represent agreements to restrict land to agricultural or open space uses in return for lower than normal property tax assessments. Figure 3.3-1 provides the locations of parcels within the Planning Area that have an active Williamson Act Contract (18,250 acres), a Williamson Act Contract in non-renewal status (124 acres), or a Farmland Security Zone contract (1,342 acres) (DOC, 2004b; Dyett & Bhatia, 2007; and ESA, 2007).

Agricultural Production

The San Joaquin County Agricultural Commissioner's Office provides a variety of county specific agricultural statistics (i.e., crop types, production values, etc.) on an annual basis. This section provides a summary of the key agricultural crop types produced in the County. The 2005 Agricultural Report for San Joaquin County indicates that milk is the leading agricultural commodity in the County. The top ten leading crops and associated economic values are shown in Table 3.3-2. The gross value of agricultural production for 2005 in San Joaquin County was estimated at $1,749,113,000, an all-time high. This value represents an 8% increase from the estimated 2004 value.

Table 3.3-2. Ten Leading Crops for San Joaquin County in 2005

Rank	*Crop*	*Value*
1	Milk	$314,565,000
2	Grapes	$289,744,000
3	Almonds	$166,580,000
4	Tomatoes	$103,551,000
5	Walnuts	$ 97,628,000
6	Cherries	$ 91,822,000
7	Cattle & Calves	$ 91,057,000
8	Hay	$ 69,569,000
9	Ornamental Plants	$ 61,945,000
10	Asparagus	$ 59,220,000

Source: San Joaquin County Agricultural Commissioner's Office, 2006.

Within the Planning Area, approximately 38,240 acres (approximately 75% of the total Planning Area) are currently in active agricultural production, with a smaller amount of land (approximately 3%) classified as Idle agricultural land. Table 3.3-3 identifies the distribution of crop types within the Planning Area. As shown in the table, those lands classified as vineyards account for a majority of the lands in agricultural production.

Table 3.3-3. Department of Water Resource Crop Type Distribution

Crop Type	*Planning Area Acreage*	*Percentage of Planning Area (50,826.5 acres)*
Vineyard	25,275	50%
Urban	8,628	17%
Deciduous Fruits and Nuts	4,138	8%
Pasture	3,635	7%
Field Crops	2,273	4%
Native Vegetation	1,983	4%
Idle	1,330	3%
Truck, Nursery and Berry Crops	1,152	2%
Grain and Hay Crops	976	2%
Livestock and Poultry Farms	770	2%
Native Riparian	309	<1%
Water	319	<1%
Citrus and Subtropical	22	< 0.1 %

Source: Department of Water Resources, 1996; Dyett & Bhatia, 2007; ESA, 2007

REGULATORY SETTING

Federal Regulations

There are no federal regulations that apply to this resource topic.

State Regulations

Farmland Mapping and Monitoring Program (FMMP)

The California Department of Conservation (DOC), under the Division of Land Resource Protection, has developed the FMMP that monitors the conversion of the State's farmland to and from agricultural use. County-level data is collected and a series of maps are prepared that identify eight classifications and uses based on a minimum mapping unit size of ten acres. The program also produces a biennial report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates the Important Farmland Series Maps every two years (DOC, 2004a).

The FMMP is an informational service only and does not constitute state regulation of local land use decisions. Agricultural land is rated according to several variables including soil quality and irrigation status with Prime Farmland being considered the most optimal for farming practices. Table 3.3-4 provides a summary of the rating designations used by the FMMP.

Table 3.3-4: Description of FMMP Designations

Designation	*Description*
Prime Farmland	Land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained yields of crops when treated and managed, including water management, according to current farming methods. It must have been used for the production of irrigated crops within the last three years. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.
Farmland of Statewide Importance	Similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture. Considered to have an excellent combination of physical and chemical characteristics for the production of crops.
Unique Farmland	Land of lesser quality soils used for the production of specific high-economic value crops at some time during the monitoring program's two update cycles prior to the mapping date. It has the special combination of soil quality, location and growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Unique farmland is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.
Farmland of Local Importance	Farmlands not covered by the categories of Prime, Statewide, or Unique. They include lands zoned for agriculture by County Ordinance and the California Land Conservation Act as well as dry farmed lands, irrigated pasture lands, and other agricultural lands of significant economic importance to the County and include lands that have a potential for irrigation from local water suppliers.
Grazing Land	Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock.
Urban and Built-Up Land	Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
Other Land	Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is also mapped as Other Land.
Water	Perennial water bodies with an extent of at least 40 acres.

Source: California Department of Conservation, 2004a.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the Williamson Act, enables local governments to restrict the use of specific parcels of land to agricultural or related open space use. Landowners enter into contracts with participating cities and counties and agree to restrict their land to agriculture or open space use for a minimum of ten years. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the State via the Open Space Subvention Act of 1971. Contracts are automatically renewed every year, extending out to ten years.

The DOC reports that the Land Conservation Act Program has remained stable and effective as a mechanism for protecting agricultural and open space land from premature conversion of land to urban uses. The DOC indicates that the program might have remained small if not for the addition of Article 28 (now part of Article 13) to the State Constitution. Article 13 declares the interest of the state in preserving open space land and provides a constitutional basis for valuing property according to its actual use. The amendment originated with groups interested in the preservation of open space land. Agricultural interests added their support after recognizing the importance of a constitutional backing for preferential tax assessments. Article 13 allows preferential assessments for recreational, scenic, and natural resource areas as well as areas devoted to the production of food and fiber.

Farmland Security Zones

In August 1998, the Williamson Act's farmland security zone provisions were enacted with the passage of Senate Bill 1182 (California Government Code Section 51296-51297.4). This sub-program, dubbed the "Super Williamson Act," enables agricultural landowners to enter into contracts with a specific county for 20-year increments with an additional 35% tax benefit over and above the standard Williamson Act contract.

Senate Bill 1835 (Johnston, Chapter 690, Statutes of 1998) and the Cortese-Knox Local Government Reorganization Act

Senate Bill 1835 requires the appropriate Local Agency Formation Commission (LAFCO) to determine whether a particular city is required to succeed (adhere) to the rights, duties and powers of the county under the contract or whether the city may exercise an option to not succeed to the rights, duties and powers of the county. The determination would be required pursuant to any proposal by a city that would result in the annexation of Williamson Act contracted land.

Senate Bill 2227 (Monteith, Chapter 590, Statutes of 1998)

Senate Bill 2227 added new requirements to the Cortese-Knox Local Governmental Reorganization Act regarding any proposed annexation of Williamson contract land. If the proposal would result in the annexation of land that is subject to the Williamson Act, then the petition shall state whether the City shall succeed (adhere) to the contract or whether the City intends to exercise its option to not succeed to the contract.

Regional Regulations

Farmland Conversion Mitigation and Fees

Several cities within San Joaquin County have developed and adopted farmland conversion and mitigation fees to address the loss of agricultural land through conversion to private urban uses, including residential, commercial and industrial development. For the cities of Manteca, Tracy, and Lathrop, the adoption of this fee was agreed to pursuant to the Settlement Agreement and Release of Claims for the South County Water Supply Project. The City of Stockton has been the most recent city to adopt a fee, which occurred in February 2007. Prior to adoption of these fees, each city developed their own fee consistent with the Mitigation Fee Act (California Government Code §66000, et seq).

Identifying the types of agricultural land to be mitigated has been a key issue for each city. "Agricultural land" has been defined as "important farmland" consistent with the California Department of Conservation's FMMP, including those important farmland resources as shown on the most recent available FMMP map of San Joaquin County. As previously defined, important farmland includes Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. This definition is consistent with the purpose of the Mitigation Fee Act, and with the definition of "agricultural land" found in the California Environmental Quality Act (Public Resources Code Section 21060.1).

The collection of farmland conversion fees are intended to be used by the various cities and/or a qualifying land trust to purchase agricultural mitigation land. "Agricultural mitigation land" means an easement or fee interest in property that restricts the primary use of the land to agricultural production in perpetuity.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

A significant agricultural resources impact would occur with full implementation of the proposed General Plan if it would do one or more of the following:

- Convert Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, to non-agricultural use.
- Result in potential land use incompatibilities with sites designated for continued agriculture use.

METHODOLOGY AND ASSUMPTIONS

Farmland resource acreages were assessed based on the California DOC's FMMP, a biennial report and mapping resource on the conversion of farmland and grazing land. Using FMMP data, the proposed General Plan was analyzed for potential conversion of important farmland, conflicts with zoning designations, conversion of Williamson Act contract lands, and other changes resulting from the General Plan that would remove farmlands from agricultural production.

To analyze the significance of each impact, the proposed General Plan goals and policies were considered to determine if significant physical impacts will still remain with development of the General Plan and full implementation of all policies.

SUMMARY OF IMPACTS

The only adverse environmental impact is the potential conversion of agricultural land, which will affect some agricultural activities and prime agricultural soils. Although there are policies in the proposed General Plan to reduce this impact, it will remain significant and unavoidable.

Buildout of the proposed General Plan is not expected to result in land use incompatibilities with sites designated for continued agriculture use. Proposed General Plan policies seek to ensure contiguity of urban development and avoid fragmentation of existing agricultural areas. Proposed General Plan policies establish requirements for compatible development, including buffering, screening, and performance standards.

IMPACTS AND MITIGATION MEASURES

Impact

3.3-1 Buildout of the proposed General Plan would convert substantial amounts of Important Farmland to non-agricultural use. (*Significant and Unavoidable*)

Agricultural lands provide a variety of important functions and generate a wide variety of benefits to the Planning Area. For example, agricultural lands produce commodities that generate economic benefits (in the form of local jobs and revenue), contribute to the aesthetic value of an area (i.e., greenbelts or transition zones), and create foraging habitats for several important special status wildlife species (including Swainson's Hawk). In addition to the loss of these key benefits, the conversion of agricultural land has hydrological implications, as loss of open space changes the existing watershed and may reduce groundwater recharge areas.

According to data from the DOC's FMMP, San Joaquin County has been experiencing conversion of agricultural land to non-agricultural uses in recent years. In 1990, the County had 437,859 acres of Prime Farmland. By 2000, this number dropped to 419,227, a 4% decrease. By 2006, Prime Farmland stood at 407,609 acres, a 7% decrease over 1990 levels.

While one quarter of the gross proposed General Plan potential development area is infill and will not reduce the amount of farmland, some conversion of agricultural land to urban use is inevitable given Lodi's growth needs. If the proposed General Plan were developed to maximum capacity, 2,893 acres of land classified as Prime Farmland would be replaced by urban development (including parks and open spaces). This area represents 69% of the new urban area delineated in the General Plan Land Use Diagram. The most prevalent crop types that would be displaced if the General Plan developed to its fullest potential are vineyards (1,676 acres), deciduous fruits and nuts (516 acres), and field crops (322 acres). See Table 3.3-6 for a breakdown of farmland conversion with the proposed General Plan.

It can be assumed that some future development subsequent to the proposed General Plan will occur on lands currently subject to a Williamson Act contract. Specifically, the proposed General Plan growth areas coincide with 927 acres of active Williamson Act contracts, 16 acres in non-renewal contracts, and 37 FSZ contracts. It is further assumed that the proper procedures (including minimizing early termination of active contracts), contained within the Williamson Act itself, will be followed as development within the Planning Area occurs under the proposed General Plan. Proposed General Plan policies support the overall goals and objectives of the Williamson Act.

However, multiple policies are identified in the proposed General Plan to prevent excessive agricultural land conversion, including prioritizing infill development within the existing city limits, compact development in new growth areas, and the continuation of the vast majority of agricultural activities in the Planning Area.

Table 3.3-5: Farmland Conversion with Proposed General Plan (acres)

Classification	*Existing*	*Remaining after General Plan*	*Net loss*
Prime Farmland	32,926	30,033	2,893
Farmland of Statewide Importance	1,911	1,868	43
Farmland of Local Importance	1,420	1,371	49
Unique Farmland	4,442	4,313	129
Grazing Land	31	0	31
Total	**40,730**	**37,585**	**3,145**

Source: California Department of Conservation, 2004b; Dyett & Bhatia, 2007; ESA, 2007.

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

Conservation Element Policies

C-G1 Promote preservation and economic viability of agricultural land surrounding Lodi.

C-G2 Maintain the quality of the Planning Area's soil resources and reduce erosion to protect agricultural productivity.

C-P1 Work with San Joaquin County and the City of Stockton to maintain land surrounding Lodi in agricultural use. Encourage the continuation of Flag City as a small freeway-oriented commercial node, with no residential uses.

C-P2 Work with San Joaquin County and relevant land owners to ensure economic viability of grape growing, winemaking, and supporting industries, to ensure the preservation of viable agricultural land use.

C-P3 Support the continuation of agricultural uses on lands designated for urban uses until urban development is imminent.

C-P4 Encourage San Joaquin County to conserve agricultural soils, preserve agricultural land surrounding the City and promote the continuation of existing agricultural operations, by supporting the County's economic programs.

C-P5 Ensure that urban development does not constrain agricultural practices or adversely affect the economic viability of adjacent agricultural practices. Use appropriate buffers

consistent with the recommendations of the San Joaquin County Department of Agriculture (typically no less than 150 feet) and limit incompatible uses (such as schools and hospitals) near agriculture.

C-P6 Require new development to implement measures that minimize soil erosion from wind and water related to construction and urban development. Measures may include:

- Construction techniques that utilize site preparation, grading, and best management practices that provide erosion control and prevent soil contamination.
- Tree rows or other windbreaks shall be used within buffers on the edge of urban development and in other areas as appropriate to reduce soil erosion.

C-P7 Maintain the City's Right-to-Farm Ordinance, and update as necessary, to protect agricultural land from nuisance suits brought by surrounding landowners.

C-P8 Adopt an agricultural conservation program (ACP) establishing a mitigation fee to protect and conserve agricultural lands:

- The ACP shall include the collection of an agricultural mitigation fee for acreage converted from agricultural to urban use, taking into consideration all fees collected for agricultural loss (i.e., AB1600). The mitigation fee collected shall fund agricultural conservation easements, fee title acquisition, and research, the funding of agricultural education and local marketing programs, other capital improvement projects that clearly benefit agriculture (e.g., groundwater recharge projects) and administrative fees through an appropriate entity ("Administrative Entity") pursuant to an administrative agreement.
- The conservation easements and fee title acquisition of conservation lands shall be used for lands determined to be of statewide significance (Prime or other Important Farmlands), or sensitive and necessary for the preservation of agricultural land, including land that may be part of a community separator as part of a comprehensive program to establish community separators.
- The ACP shall encourage that conservation easement locations are prioritized as shown in Figure 7-5 [of the proposed General Plan]: (A) the Armstrong Road Agricultural/Cluster Study area east of Lower Sacramento Road; (B) the Armstrong Road Agricultural/Cluster Study area west of Lower Sacramento Road; (C) elsewhere in the Planning Area, one mile east and west of the Urban Reserve boundaries respectively; and (D) outside the Planning Area, elsewhere in San Joaquin County.
- The mitigation fees collected by the City shall be transferred to a farmland trust or other qualifying entity, which will arrange the purchase of conservation easements. The City shall encourage the Trust or other qualifying entity to pursue a variety of funding sources (grants, donations, taxes, or other funds) to fund implementation of the ACP.

Growth Management and Infrastructure Element Policies

GM-G1 Ensure contiguous, paced, and orderly growth by identifying phases for development. Allow development in subsequent phases only once thresholds of reasonable development in prior phases have been achieved.

GM-P2EDIT Target new growth into identified areas, extending south, west, and southeast. Ensure contiguous development by requiring development to conform to phasing described in Figure 3-1 [of the proposed General Plan]. Enforce phasing through permitting and infrastructure provision. Development may not extend to Phase 2 until Phase 1 has reached 75% of development potential, and development may not extend to Phase 3 until Phase 2 has reached 75% of development potential. In order to respond to market changes in the demand for various land use types, exemptions may be made to allow for development in future phases before these thresholds in the previous phase have been reached.

Mitigation Measures

Conversion of agricultural land to urban use is not directly mitigable, aside from preventing development altogether. The agricultural conservation program, including conservation easements outlined in C-P8 minimize the cumulative impact of converting prime agricultural lands. Although this policy does not reduce the amount of Prime Farmland converted in the Planning Area of the proposed General Plan, it would help ensure protection of regional Prime Farmland.

Impact

3.3-2 Buildout of the proposed General Plan would result in potential land use incompatibilities with sites designated for continued agriculture use. (*Less than Significant)*

Urban development in the Planning Area could eliminate or modify important agricultural and soil resources. Proposed General Plan policies seek to ensure contiguity of urban development and avoid fragmentation of existing agricultural areas. Such fragmentation can increase nuisance effects resulting from urban expansion into agricultural areas. From the agricultural perspective, conflicts with urban development include restrictions on the use of agricultural chemicals, complaints regarding noise and dust, odors, trespass, vandalism, and damage from domestic animals. These conflicts may increase costs to the agricultural operation, and combined with rising land values for residential development, encourage the conversion of additional Important Farmland to urban uses.

Maintaining key agricultural land uses, their connectivity to larger agricultural areas, along with agricultural activities that produce a variety of agricultural commodities are important considerations for the Planning Area. The proposed General Plan seeks to create land use patterns that will not impose a nuisance, hazard, or unhealthy condition upon adjacent uses. Planned uses are expected to be compatible with one another because General Plan policies establish requirements for compatible development, including buffering, screening, and performance standards.

Proposed General Plan Policies that Reduce the Impact

Policies C-P1, C-P2, C-P3, C-P4, C-P5, C-P6, C-P7, C-P8, GM-G1 and GM-P2 listed under Impact 3.3-1, as well as the policy listed below, will help to reduce this impact to a less than significant level.

CD-G1 Enhance Lodi's identity and livability by maintaining a compact urban form, with clear edges and delineation between urban and rural uses.

3.4 Biological Resources

This section presents the environmental setting and evaluates the potential impacts on biological resources in the Lodi Planning Area from implementation of the proposed General Plan.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

The City's Planning Area is located in the northern San Joaquin Valley. Characteristic vegetation communities in the region include agricultural habitats and annual grassland. Freshwater emergent wetland, lacustrine, water, and valley foothill riparian habitats are also located within the Planning Area, but account for a very small portion (each less than 1%) of the total Planning Area.

Wildlife Habitats

Wildlife habitats provide food, shelter, movement corridors, and breeding opportunities for wildlife species. They are classified in general terms with an emphasis on vegetation structure, vegetation species composition, soil structure, and water availability. Some wildlife species are generalists and may use a variety of habitats, while other species may be adapted to very specific habitats. Species that are limited to a single habitat type are more vulnerable to habitat loss and disturbance than are generalists, and therefore may be more at risk to experience population declines.

Habitat for many wildlife species includes a mosaic of habitat types. More common wildlife species, such as red-shouldered hawk (*Buteo lineatus*), great-horned owl (*Bubo virginianus*), northern flicker (*Colaptes auratus*), brown-headed cowbird (*Molothrus ater*), raccoon (*Procyon lotor*), and western toad (*Bufo boreas*) frequently use more than one habitat type. They may use riparian habitat for breeding sites, resting sites, cover while moving from one area to another, or thermal cover, and range into open upland grasslands, scrub, or over open water to forage. Frequently it is at the edges of habitats, where habitats convert from one type or another, where the greatest number of these more common wildlife species will be found.

The Planning Area contains mostly human-modified habitats (Table 3.4-1 and Figure 3.4-1). The majority of the area is urban or under agricultural production. A mosaic of smaller areas of lacustrine, wetland, riparian, grassland, and open water habitat types occur along the Mokelumne River and other waterways in the Planning Area. Agricultural lands surround the main urban center of the City of Lodi.

All of these habitats, as classified in *California Wildlife Habitats* (Mayer and Laudenslayer 1988), are listed and briefly described below. The habitat spatial data are from the California Department of Forestry and Fire Protection's Multi-source Land Cover Data v2 (2002). Given the date of the data, there is a possibility that some habitat land has been developed for urban or agricultural use in the interim.

Table 3.4-1. Habitat and Land Use Acreage for the Planning Area

Land Use/Habitat	*Planning Area Acreage*	*Percentage of Planning Area*
Agriculture	41,110	81%
Urban	8,400	17%
Annual Grassland	620	1%
Valley Foothill Riparian	350	Less than 1%
Freshwater Emergent Wetland	130	Less than 1%
Lacustrine	120	Less than 1%
Water	120	Less than 1%
Total	**50,850**	**100%**

Source: California Department of Forestry and Fire Protection 2002; San Joaquin County 2003; Dyett & Bhatia 2007; and ESA 2007.

Agriculture

Agricultural land covers the largest portion of the Planning Area at approximately 41,110 acres. Vegetation composition and structure in agricultural habitats are variable, depending on the type of crops grown and the time of year. For these reasons, habitat value for wildlife is also variable. In addition, the types and timing of operational activities of agricultural lands affects habitat suitability for wildlife. Agricultural crops are either annual (e.g. lettuce) or perennial (e.g. strawberries), and may be grown in rows. Annual crops are usually planted in spring and harvested in summer or fall; however, they may be planted in rotation with other irrigated crops. Tall and maintained crops such as vineyards will provide different habitat value and likely support different wildlife species than short crops, with a lot of exposed bare ground between rows, or pasture land.

Typical wildlife species that may use agricultural habitat include a variety of rodents – such as California ground squirrel (*Spermophilus beecheyi*) and California vole (*Microtus californicus*) – and birds – such as red-winged blackbird (*Agelaius phoeniceus*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), and yellow-billed magpie (*Pica nuttali*). Croplands provide food and water for these species, but do not generally provide long-term shelter due to the frequency of disturbance.

Urban

Land classified as urban encompasses approximately 8,400 acres of the total Planning Area and is mainly located in the center of the Planning Area. Wildlife species that use urban habitat is variable, depending on the density of development, the surrounding land use, and the types and availability of vegetation and other habitat features available for foraging, nesting, and cover. In general, however, wildlife habitat in urban areas consists of landscaped areas with a mix of both native and exotic ornamental plant species. Species using these areas are conditioned to a greater level of human activity than those in natural and less developed areas. Generally, the more developed an urban area is, such as downtown, the less diversity of species occurring in that area will be. Wildlife species typically found in urban habitat include American crow (*Corvus brachyrhynchos*), rock dove (*Columba livia*), American robin (*Turdus americana*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macrocoura*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*).

Annual Grassland

Annual Grasslands include approximately 620 acres of land scattered in small areas throughout the Planning Area. These areas are generally surrounded by agricultural land, but may also border smaller areas of wetland or riparian habitat. Along the Mokelumne River, annual grassland habitats are interspersed with lacustrine and open water habitats. Annual grassland is typically composed of herbaceous exotic grasses and forbs, and may include weedy species such as perennial ryegrass (*Lolium perenne*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), wild oats (*Avena sp.*), and stork's bill (*Erodium botrys*). Annual grassland habitats that contain or are adjacent to more complex habitats or habitat features (i.e., riparian, etc.) are more likely to have a greater habitat value and support a greater diversity of wildlife species.

Wildlife species that use annual grassland include a variety of sparrows, white-tailed kite, northern harrier, red-tailed hawk, burrowing owl (*Athene cunicularia*), ring-necked pheasant (*Phasianus colchicus*), various rodents, lizards, snakes, and salamanders.

Valley Foothill Riparian

Within the Planning Area, Valley foothill riparian habitat covers 350 acres, mainly along the Mokelumne River in the northern portion of the Planning Area. This habitat type consists of an overstory canopy of valley oak (*Quercus lobata*) and may include interior live oak (*Quercus wislizenii*), black walnut (*Juglans hindsii*) and boxelder (*Acer negundo*). Understory vegetation may include toyon (*Heteromeles arbutifolia*), wild grape (*Vitus californicus*), and Himalaylan blackberry (*Rubus bicolor*). Riparian habitat can be a complex habitat in structure and composition, and can be rich in wildlife diversity. Many species of wildlife use this habitat type for movement corridors, foraging, cover, and breeding.

Wildlife species that use valley foothill riparian habitat include black phoebe (*Sayornis nigris*), Nuttall's woodpecker (*Picoides nuttalii*), ruby-crowned kinglet (*Regulus calendulus*), red-shouldered hawk (*Buteo lineatus*), gray squirrel (*Sciurus griseus*), and raccoon.

Freshwater Emergent Wetland

Freshwater emergent wetland accounts for approximately 130 acres of the Lodi Planning Area. Vegetation that comprises this habitat is adapted to frequent inundation and ponding and includes hydrophilic emergent species such as common cattail (*Typha latifolia*) and tule rush (*Scirpus acutus*). Within the Planning Area, freshwater emergent wetland occurs in small patches adjacent to annual grassland and can be surrounded by agricultural lands, or interspersed with a variety of other habitats along the Mokelumne River corridor and other waterways in the Planning Area. Wetland habitats provide habitat for wildlife species such as waterfowl and wading birds, blackbirds (*Agelaius sp.*), amphibians, and reptiles such as garter snake (*Thamnophis sp.*) and pond turtle (*Emys marmorata*).

Lacustrine

Lacustrine is an aquatic habitat type occurring in relatively small numbers predominately along the Mokelumne River. This habitat is limited within the Planning Area, covering approximately 120 acres. Lacustrine habitat includes lakes, reservoirs, ponds, and ponded areas along streams. Permanent lacustrine habitats typically support fish species and also provide foraging, cover, and breeding habitat for other aquatic species such as pond turtle, amphibians, various waterfowl and

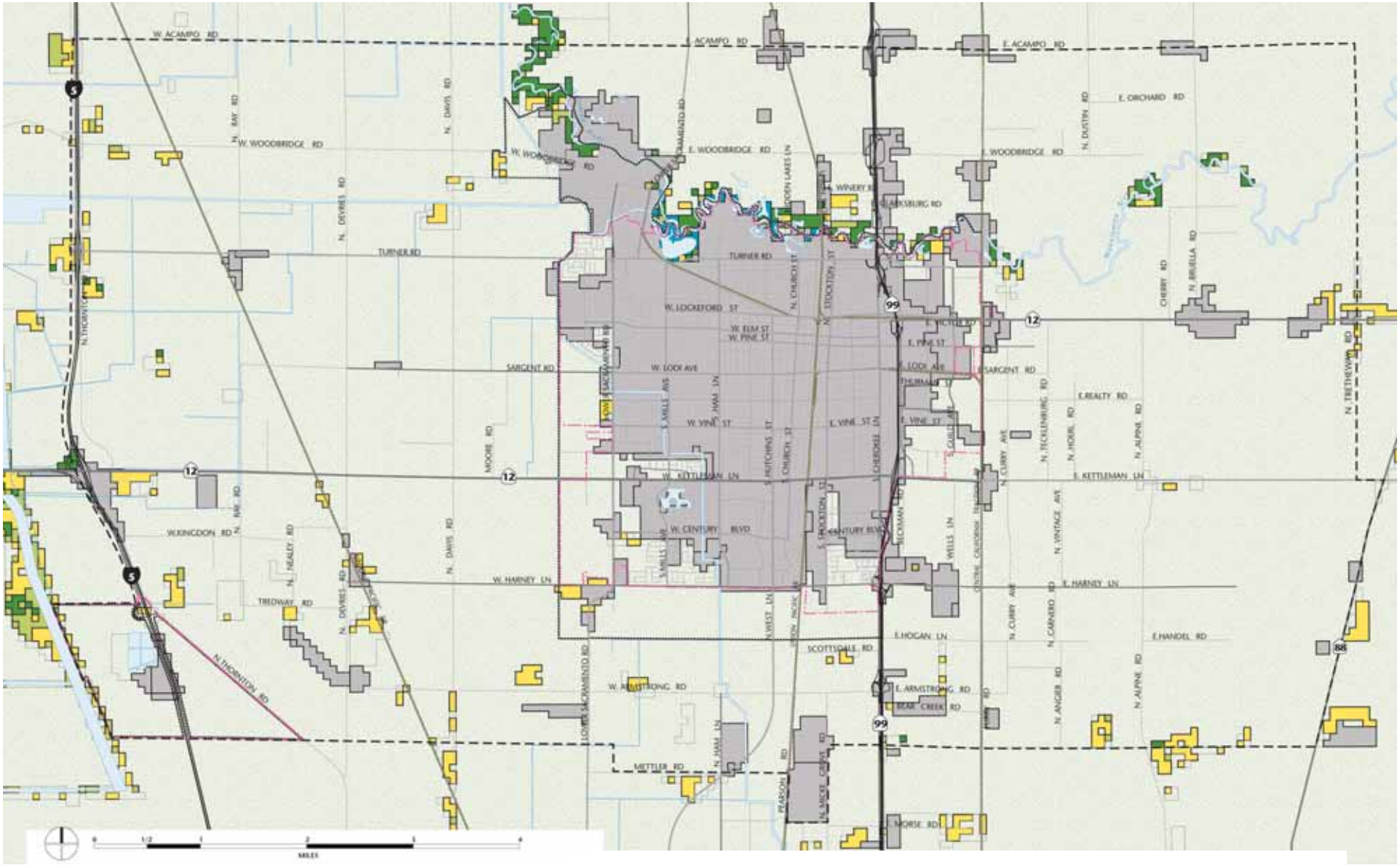
piscivorus species such as belted kingfisher (*Ceryle alcyon*), great blue heron (*Ardea herodias*), and bald eagle (*Haliaeetus leucocephalus*).

Open Water

Open water or riverine habitat in the Planning Area includes the Mokelumne River, which runs through the northern portion of the Planning Area, Lodi Lake, Mallard Lake, and the White Slough Water Pollution Control Plant in the southwestern portion of the Planning Area along Interstate 5. Approximately 120 acres of this open water habitat is mapped; it is the least abundant habitat type in the Planning Area. Open water, like similar lacustrine habitat, provides habitat for a variety of fish and other aquatic or semi-aquatic species.

Special Status Species in the Planning Area

The list of sensitive status wildlife species presented in Table 3.4-3 was developed using information from the sources listed below. General habitat requirements are included for each species presented. Table 3.4-3 also identifies whether the species is covered under the SJMSCP. Species covered by the SJMSCP are subject to the requirements for mitigation or compensation as identified in the SJMSCP or as required by federal and State regulations.



Agriculture

Annual Grassland

Freshwater Emergent Wetland

Lacustrine

Urban

Valley Foothill Riparian

Water

Planning Area

Lodi Sphere of Influence (2008)

City Limits (2008)

Source: California Department of Forestry and Fire Protection, 2002; San Joaquin County, 2003; Dyett & Bhatia, 2007; and ESA, 2007.

Figure 3.4-1

Lodi Habitats and Land Use

Table 3.4-3 Special-Status Species Potentially Occurring within the Planning Area

Scientific Name *Common Name*	*Status:* *Fed/State/CNPS*	*General Habitat*	*SJMSCP Covered*
Invertebrates			
Branchinecta conservation Conservancy fairy shrimp	FE/ - / -	Lifecycle restricted to large, cool-water vernal pools with moderately turbid water.	Yes
Branchinecta lynchi Vernal pool fairy shrimp	FT/ - / -	Lifecycle restricted to vernal pools.	Yes
Branchinecta mesovallensis Midvalley fairy shrimp	- / - / -	Lifecycle restricted to vernal pools in the Central Valley.	Yes
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT/ - / -	Breeds and forages exclusively on elderberry shrubs (Sambucus mexicana) typically associated with riparian forests, riparian woodlands, elderberry savannas, and other Central Valley habitats. Occurs only in the Central Valley of California.	Yes
*Hydrochara ricksecker*i Ricksecker's water scavenger beetle	- / - / -	Occurs in slow moving waters, adults and larvae are aquatic.	No
Lepidurus packardi Vernal pool tadpole shrimp	FE/ - / -	Lifecycle restricted to vernal pools.	Yes
Linderiella occidentalis California linderiella	- / - / -	Lifecycle restricted to vernal pools.	No
Fish			
Acipenser medirostris Green sturgeon	FT/CSC/-	Spawns in the Klamath River and Sacramento River Watersheds. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	Yes
Hypomesus transpacificus Delta smelt	FT/ST/ -	Open surface waters in the Sacramento/San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	Yes
Oncorhynchus mykiss Steelhead - Central Valley ESU	FT/ - / -	This ESU enters the Sacramento and San Joaquin Rivers and their tributaries from July to May; spawning from December to April. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	No
Oncorhynchus tshawytscha Chinook Salmon - Central Valley Fall / Late Fall-Run ESU	FC/CSC/ -	This ESU enters the Sacramento and San Joaquin rivers and their tributaries from July to April; spawning October to February. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	No
Oncorhynchus tshawytscha	FT/ST/ -	This ESU enters the Sacramento and San Joaquin Rivers and tributaries March to July;	No

Table 3.4-3 Special-Status Species Potentially Occurring within the Planning Area

Scientific Name *Common Name*	*Status:* *Fed/State/CNPS*	*General Habitat*	*SJMSCP Covered*
Spring-Run Chinook Salmon		spawning from late August to early October. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	
Oncorhynchus tshawytscha Winter-Run Chinook Salmon	FE/SE/ -	This ESU enters the Sacramento River December to May; spawning peaks May and June. Upstream movement occurs more quickly than in spring run population. Young move to rearing areas in and through the Sacramento River, Delta, and San Pablo and San Francisco Bays.	No
Pogonichthys macrolepidotus Sacramento splittail	- /CSC/ -	Currently known only from the Delta, Suisun Bay and associated marshes. Prefers slow moving river sections and dead end sloughs. Requires flooded vegetation for spawning and juvenile foraging habitat. Spawning occurs over flooded vegetation in tidal freshwater marsh.	Yes
Amphibians			
Ambystoma californiense California tiger salamander	FE, FT/CSC/ -	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Needs underground refuges and vernal pools or other seasonal water sources.	Yes
Rana aurora draytonii California red-legged frog	FT/CSC/ -	Breeds in slow moving streams, ponds, and marshes with emergent vegetation; forages in nearby uplands within about 200 feet.	Yes
Rana boylii Foothill yellow-legged frog	- /CSC/ -	Breeds in shaded stream habitats with rocky, cobble substrate, usually below 6,000 feet in elevation. Absent or infrequent when introduced predators are present.	Yes
Reptiles			
Emys (=Clemmys) marmorata marmorata Northwestern pond turtle	- /CSC/ -	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	Yes
Emys (=Clemmys) marmorata Western pond turtle	- /CSC/ -	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	Yes
Thamnophis gigas Giant garter snake	FT/ST/ -	Generally inhabits marshes, sloughs, ponds, slow-moving streams, ditches, and rice fields that have water from early spring till mid-fall. Emergent vegetation (cattails and bulrushes), open areas for sunning and high ground for hibernation and cover.	Yes

Table 3.4-3 Special-Status Species Potentially Occurring within the Planning Area

Scientific Name *Common Name*	*Status:* *Fed/State/CNPS*	*General Habitat*	*SJMSCP Covered*
Birds			
Agelaius tricolor Tricolored blackbird	- /CSC/ -	Largely endemic to California, most numerous in the Central Valley and nearby vicinity. Typically requires open water, protected nesting substrate, and foraging grounds within vicinity of the nesting colony. Nests in dense thickets of cattails, tules, willows, blackberry, and silage.	Yes
Ardea alba Great egret	- / - / -	Fresh and salt marshes, marshy ponds and tidal flats, nests in trees or shrubs.	Yes
Ardea Herodias Great blue heron	- / - / -	Groves of tall trees, especially near shallow water foraging areas such as marshes, tide-flats, lakes, rivers/streams and wet meadows.	Yes
Athene cunicularia Burrowing owl	- /CSC/ -	Forages in open plains, grasslands, and prairies; typically nests in abandoned small mammal burrows.	Yes
Buteo swainsoni Swainson's hawk	- /ST/ -	Forages in open plains, grasslands, and prairies; typically nests in trees or large shrubs.	Yes
Dendroica petechia brewsteri Yellow warbler	- /CSC/ -	Nests in dense riparian cover.	Yes
Elanus leucurus White-tailed kite	- /CFP/ -	Forages in open plains, grasslands, and prairies; typically nests in trees.	Yes
Laterallus jamaicensis coturniculus California black rail	- /ST, CFP/ -	Freshwater, brackish, or tidal salt marshes.	Yes
Nycticorax nycticorax Black-crowned night heron	- / - / -	Forages in marshes swamps and wooded streams; nests in thickets or reedbeds.	Yes
Mammals			
Taxidea taxus American badger	- /CSC/ -	Occurs in a wide variety of open forest, shrub, and grassland habitats that have friable soils for digging.	Yes
Vulpes macrotis mutica San Joaquin kit fox	FE/ST/ -	Occurs in native valley and foothill grasslands and chenopod scrub communities of the valley floor and surrounding foothills. Prefers open level areas with loose-textured soils supporting scattered, shrubby vegetation and little human disturbance.	Yes

Table 3.4-3 Special-Status Species Potentially Occurring within the Planning Area

Scientific Name *Common Name*	*Status:* *Fed/State/CNPS*	*General Habitat*	*SJMSCP Covered*
Plants			
Aster lentus Suisun Marsh aster	- / - /1B.2	Rhizomatous herb occurring in tidal brackish and freshwater marshes. Found at 0-3 m elevation. Blooms May-Nov.	Yes
Astragalus tener var. tener Alkali milk-vetch	- / - /1B.2	Generally found in playas, valley and foothill grasslands with adobe clay soils, and vernal pools. Generally found in alkaline soils. Blooms Mar-Jun.	Yes
Atriplex joaquiniana San Joaquin spearscale	- / - /1B.2	Generally found in chenopod scrub, alkali seasonal wetlands and grassland, meadows and playas. Blooms Apr-Oct.	No
Carex comosa Bristly sedge	- / - /2.1	Generally found in lake-margin and edge habitats, 0-1400 feet in elevation.	Yes
Castilleja campestris ssp. Succulenta Succulent owl's-clover	FT/SE/1B.2	Occurs under vernally-flooded conditions in vernal-pool habitats such as valley and foothill grassland.	Yes
Cicuta maculata var. bolanderi Saltmarsh water hemlock	-/-/2.1	Occurs in marshes and swamps (MshSw), and coastal, fresh or brackish water. Blooms July-Sept at elevations of 0-200m.	No
Cirsium crassicaule Slough thistle	-/-/1B.1	Occurs in chenopod scrub, riparian scrub, and freshwater marshes, swamps, and sloughs.	Yes
Cordylanthus palmatus Palmate-bracted bird's-beak	FE/SE/1B.1	Prefers marshes and swamps, lake margins, vernal pools and wet places. Blooms May-Oct.	No
Delphinium recurvatum Recurved larkspur	FSC/ - /1B.2	Perennial herb occurring in chenopod scrub, cismontane woodland, and in alkaline substrate in valley and foothill grassland. Found at 3-750 meters elevation. Blooms Mar-May.	Yes
Downingia pusilla Dwarf downingia	- / - /2.2	Prefers lake margins, vernal pools and wet places sometimes playas and grasslands. Blooms Mar-May.	No
Eryngium racemosum Delta button-celery	-/SE/1B.1	Occurs in clay soil under vernally moist conditions in riparian habitats (riparian scrub). Blooms Jun-Sep.	Yes
Hibiscus lasiocarpus Rose-mallow	- / - /2.2	Prefers freshwater marshes and swamps. Blooms Jun-Sep. 0-120 meters.	Yes
Lathyrus jepsonii var. jepsonii Delta tule pea	- / - /1B.2	Occurs in both tidal freshwater and brackish marshes in the Central and San Joaquin Valleys and in the Bay Area. Blooms May-Sept.	Yes
Legenere limosa Legenere	- / - /1B.1	Occurs in vernal pool beds. Blooms Apr-Jun.	Yes

Table 3.4-3 Special-Status Species Potentially Occurring within the Planning Area

Scientific Name *Common Name*	*Status:* *Fed/State/CNPS*	*General Habitat*	*SJMSCP Covered*
Lilaeopsis masonii Mason's lilaeopsis	- /SR/1B.1	Generally occurs in riparian scrub, freshwater-marsh and brackish-marsh habitats, 0-33 feet in elevation. Blooms Apr-Nov.	Yes
Limosella subulata Delta mudwort	- / - /2.1	Generally occurs under wet conditions in tidal freshwater-marsh habitats, 0-9 feet in elevation.	Yes
Orcuttia viscida Sacramento orcutt grass	FE/SE/1B.1	Occurs in vernal pools. Blooms Apr-Jul.	No
Sagittaria sanfordii Sanford's arrowhead	- / - /1B.2	Found in assorted freshwater habitats including marshes, swamps and seasonal drainages. Blooms May-Oct.	Yes
Scutellaria lateriflora Blue skullcap	- / - /2.2	Meadows and seeps, marshes and swamps. Blooms Jul-Sep. 0-500 meters elevation.	Yes
Symphyotrichum lentum Suisan Marsh aster	-/-/1B.2	(= Aster chilensus var. lentus) Rhizomatous herb occurring in tidal brackish and freshwater marshes. Found at 0-3 m elevation. Blooms May-Nov.	Yes
Trichocoronis wrightii var. wrightii Wright's trichocoronis	-/-/2.1	Occurs in alkaline soil on alkaline substrate under vernally flooded conditions in riparian, meadow, marsh and vernal-pool habitats, 16-1427 feet in elevation. Blooms May-Sep.	Yes

STATUS CODES

Federal			**State**		
FE	=	Endangered	SE	=	Endangered
FT	=	Threatened	ST	=	Threatened
FPE	=	Proposed Endangered	SR	=	Rare
FPT	=	Proposed Threatened	SFP	=	Fully Protected
FC	=	Candidate	CSC	=	(CA) Department of Fish and Game Special Concern species
FPD	=	Proposed Delisted			

FSC = (Former) Federal Species of Concern: Species of Concern is an informal term, not defined in the federal Endangered Species Act. The Sacramento Office of the United States Fish and Wildlife Service no longer maintains a Federal Species of Concern list. However, these species still meet the definition of "Rare" under Section 15380 of CEQA and are evaluated in this document.

California Native Plant Society

List 1B.x = Plants rare, threatened, or endangered in California and elsewhere
List 2.x = Plants rare, threatened, or endangered in California, but more common elsewhere
List 3.x = Plants about which we need more information–a review list
List 4.x = Plants of limited distribution–a watch list

Source: USFWS, 2009; CNDDB, 2009; CNPS, 2009.

REGULATORY SETTING

Federal Regulations

Clean Water Act – Section 404

The Clean Water Act is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. Section 404 establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands.

Wetlands and other waters of the U.S. are subject to jurisdiction by the U.S. Army Corps of Engineers (Corps) and EPA under Section 404 of the Clean Water Act. Wet areas that are not regulated by this act would include stock watering ponds, agricultural ditches created in upland areas, and features that do not significantly contribute to the ecological function of navigable waters (in this case, the Mokelumne River). The discharge of fill into a jurisdictional feature requires a permit from the Corps.

The Corps has the option to issue a permit on a case-by-case basis (individual permit) or at a program level (general permit). Nationwide permits (NWPs) are an example of general permits; they cover specific activities that generally have minimal environmental effects. Activities covered under a particular NWP must fulfill several general and specific conditions, as defined by the NWP. If a proposed project cannot meet these conditions, an individual permit may be required.

Federal Endangered Species Act

The Interior Department's U.S. Fish and Wildlife Service (USFWS) and the Commerce Department's National Marine Fisheries Service (NMFS) administer the federal Endangered Species Act (ESA) (16 USC Section 153 et seq.) and thereby have jurisdiction over federally listed threatened, endangered and candidate species. The FWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromons fish such as salmon. Species that are "proposed" for listing but not yet listed are generally considered as well, as there is potential for those species to become listed in the near future.

The ESA protects endangered and threatened species and their habitats by prohibiting the "take" of listed animals and the interstate or international trade in listed plants and animals, including their parts and products, except under Federal permit. Projects that may result in "take" of a listed species must consult with the USFWS or NMFS. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

Under the federal Endangered Species Act the USFWS/NMFS designates critical habitat, which are areas that are essential for the conservation of a threatened or endangered species and which may require special management considerations. A designation only applies to projects with a federal nexus; it has no specific regulatory impact on landowners who take actions on their land that do not involve federal funding. However, federal agencies must consult with the USFWS before taking actions that could harm or kill protected species or destroy their habitat.

Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA, 16 USC Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668) protect certain species of birds from direct "take." The MBTA protects migrant bird species from take by setting hunting limits and seasons and protecting occupied nests and eggs. The Bald and Golden Eagle Protection Act (16 USC Sections 668-668d) prohibits the take or commerce of any part of Bald and Golden Eagles. The USFWS administers both acts and reviews federal agency actions that may affect species protected by the acts.

The USFWS has defined the term "disturb" as used in the Bald and Golden Eagle Protection Act. The definition reads as follows: "Disturb means to agitate or bother a bald or golden eagle to the degree that causes injury or death to an eagle (including chicks or eggs) due to interference with normal breeding, feeding, sheltering behavior, or nest abandonment. Injury would be defined as "a wound or other physical harm, including a loss of biological fitness significant enough to pose a discernible risk to an eagle's survival or productivity" (USFWS 2006).

STATE REGULATIONS

California Fish and Game Code Sections 1600 – 1616

The California Department of Fish and Game (DFG) regulates the modification of streams, rivers, and lakes under Sections 1600-1616 of the California Fish and Game Code. Modification includes diverting, obstructing, or changing the natural flow or bed, channel, or bank of a regulated feature. While most of the features regulated by the Fish and Game Code meet the definition of other waters of the U.S., the Code may regulate some ephemeral features that do not have all the criteria to qualify as other waters of the U.S. A project proponent, including both private parties and public agencies, who proposes an activity that may modify a feature regulated by the Fish and Game Code must notify the DFG before project construction. The DFG will then decide whether to enter into a Streambed Alteration Agreement with the project proponent.

California Endangered Species Act

The DFG administers the California Endangered Species Act of 1984 (Fish and Game Code Section 2080), which regulates the listing and "take" of endangered and threatened species. "Take" may be permitted by DFG through implementing a management agreement. Under the State laws, the DFG is empowered to review projects for their potential impacts to listed species and their habitats.

DFG maintains lists for Candidate-Endangered Species (SCE) and Candidate-Threatened Species (SCT). California Candidate species are afforded the same level of protection as listed species. Species that are "proposed" for listing are also considered as they may become listed during the development of the project. California also designates Species of Special Concern (CSC), which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species, but may be added to official lists in the future. The CSC list is intended by DFG as a management tool for consideration in future land use decisions.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act, as revised in December 2007, provides for protection of the quality of all waters of the state for use and enjoyment by the people of

California. It further provides that all activities that may affect the quality of waters of the state shall be regulated to obtain the highest water quality that is reasonable, considering all demands being made and to be made on those waters. The Act also establishes provisions for a statewide program for the control of water quality, recognizing that waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations, and that factors such as precipitation, topography, population, recreation, agriculture, industry, and economic development vary regionally within the state. The statewide program for water quality control is therefore administered most effectively on a local level, with statewide oversight. Within this framework, the Act authorizes the State Water Resources Control Board and regional boards to oversee responsibility for the coordination and control of water quality within California.

State Water Resources Control Board and Regional Water Quality Control Board

Under the Clean Water Act (CWA) of 1977, the U.S. Environmental Protection Agency (USEPA) seeks to restore and maintain the chemical, physical, and biological integrity in the nation's waters. The statute employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The CWA authorizes the USEPA to implement water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the U.S. California has an approved state NPDES program. The USEPA has delegated authority for water permitting to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The Central Valley Regional Water Quality Control Board (CVRWQCB) regulates water quality in the Planning area.

The State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions throughout the state, while the Regional Water Quality Control Board (RWQCB) conducts planning, permitting, and enforcement activities. As required by Section 404 of the Clean Water Act, a Section 401 water quality certification must be obtained or waived from the Regional Water Quality Control Bard (RWQCB) for permit compliance.

Construction Activity Permitting

The CVRWQCB administers the National Pollution Discharge Elimination System (NPDES) storm water permitting program in the Central Valley region. Construction activities of one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The project applicant must submit a Notice of Intent (NOI) to the SWRCB to be covered by the General Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) before construction begins. Required elements of a SWPPP include:

1. Site description addressing the elements and characteristics specific to the site;
2. Descriptions of Best Management Practices (BMPs) for erosion and sediment controls;
3. BMPs for construction waste handling and disposal;
4. Implementation of approved local plans;

5. Proposed post-construction controls; and

6. Non-stormwater management.

A SWPPP generally includes specifications for BMPs that would be implemented during project construction to control contamination of surface flows through measures to prevent the potential discharge of pollutants from the construction area. A SWPPP may also describe measures to prevent or control pollutants in runoff after construction is complete and identify a plan to inspect and maintain these facilities or project elements. SWPPP implementation starts with the commencement of construction and continues though the completion of the project.

CEQA Guidelines

- **Section 15380.** Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the Guidelines primarily to deal with a situation in which a project may have a significant effect on a species that has not yet been listed by either the USFWS or CDFG. Thus, CEQA provides the ability to protect a species from potential project impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

  CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection, CEQA calls for an assessment of whether any such resources would be affected, and requires a finding of significance if there would be substantial losses. Natural communities listed in the California Natural Diversity Database as "high priority for inventory" are considered by CDFG to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents such as general plans often identify these resources as well.

California Fish and Game Code

- **Birds**. Birds of prey are protected in California under the Fish and Game Code (Section 3503.5, 1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. Non-raptor native birds receive similar protection under California Fish and Game Code Section 3503. Project impacts to these species would not be considered significant unless the species are known to, or have a high potential to, nest in the Planning Area or rely on it for primary foraging.
- **Plants**. The Native Plant Protection Act of 1977 (Fish and Game Code Sections 1900 et seq.) gives the CDFG authority to designate state endangered, threatened, and rare plants and provides specific protection measures for identified populations.

- **Waterways**. Under Sections 1600-1616 of the California Fish and Game Code, the CDFG regulates activities that substantially divert, obstruct the natural flow of, or substantially change rivers, streams, and lakes. The jurisdictional limits of the CDFG are defined in Section 1602 of the California Fish and Game Code as the bed, channel, or bank of any river, stream, or lake. The CDFG regulates activities that would result in the deposit or disposal of debris, waste, or other materials into any river, stream, or lake and requires a Streambed Alteration Agreement for such activities. Impacts to the jurisdictional area of the CDFG would be considered significant in this EIR.

California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of special-status plant species based on collected scientific information. Designation of these species by the CNPS has no legal status or protection under federal or state endangered species legislation. CNPS designations are defined as follows: List 1A (plants presumed extinct); List 1B (plants rare, threatened, or endangered in California and elsewhere); List 2 (plants rare, threatened, or endangered in California, but more numerous elsewhere); List 3 (plants about which more information is needed – a review list); and List 4 (plants of limited distribution – a watch list). In general, plants appearing on CNPS List 1A, 1B, or 2 meet the criteria of Section 15380 of the CEQA Guidelines; thus, substantial adverse effects to these species would be considered significant in this EIR.

LOCAL PLANS AND REGULATIONS

San Joaquin County Multi-Species Habitat Conservation and Open-Space Plan

The San Joaquin County Multi-Species Conservation and Open-Space Plan (SJMSCP) is a 50-year habitat conservation plan that seeks to protect agriculture, open space, habitat, and wildlife, in order to address the impacts of urban development and conversion of open space land. The Plan outlines a voluntary strategy that developers and property owners can participate in to mitigate impacts of development.

The Plan allows SJMSCP Permittees to issue incidental take permits or allows project applicants to mitigate for impacts to SJMSCP-covered species resulting from covered projects where there is a loss of open space land (SJCOG 2005). Benefits of this comprehensive plan include fulfillment of regulatory requirements, streamlining the permitting process, provision of consistent and predictable mitigation measures, and off-site mitigation (SJCOG 2005). Covered projects include urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring on agriculturally-zoned properties, projects which could affect fisheries or wetlands indirectly which are located within non-jurisdictional waters, transportation projects, school expansions, non-federal flood control projects, new parks and trails, utility installation, maintenance activities, managing preserves, and similar public agency projects (SJCOG 2005).

In 2001, the City of Lodi adopted the SJMSCP, thereby allowing project applicants to use this plan to mitigate open space conversions while satisfying CEQA requirements. The City of Lodi is participating in the SJMSCP as a Permittee. As a Permittee, the City will issue Incidental Take Permits or help facilitate future project applicants mitigation actions for impacts under the SJMSCP Covered Species. Project applicants may: pay an in-lieu fee that mitigates cumulative impacts; dedicate habitat lands as conservation easement or fee title; purchase mitigation bank credits from a mitigation bank approved by SJMSCP; or propose an alternative plan, consistent with the SJMSCP goals and equivalent in biological value.

SJMSCP Land Use Compensation Zones

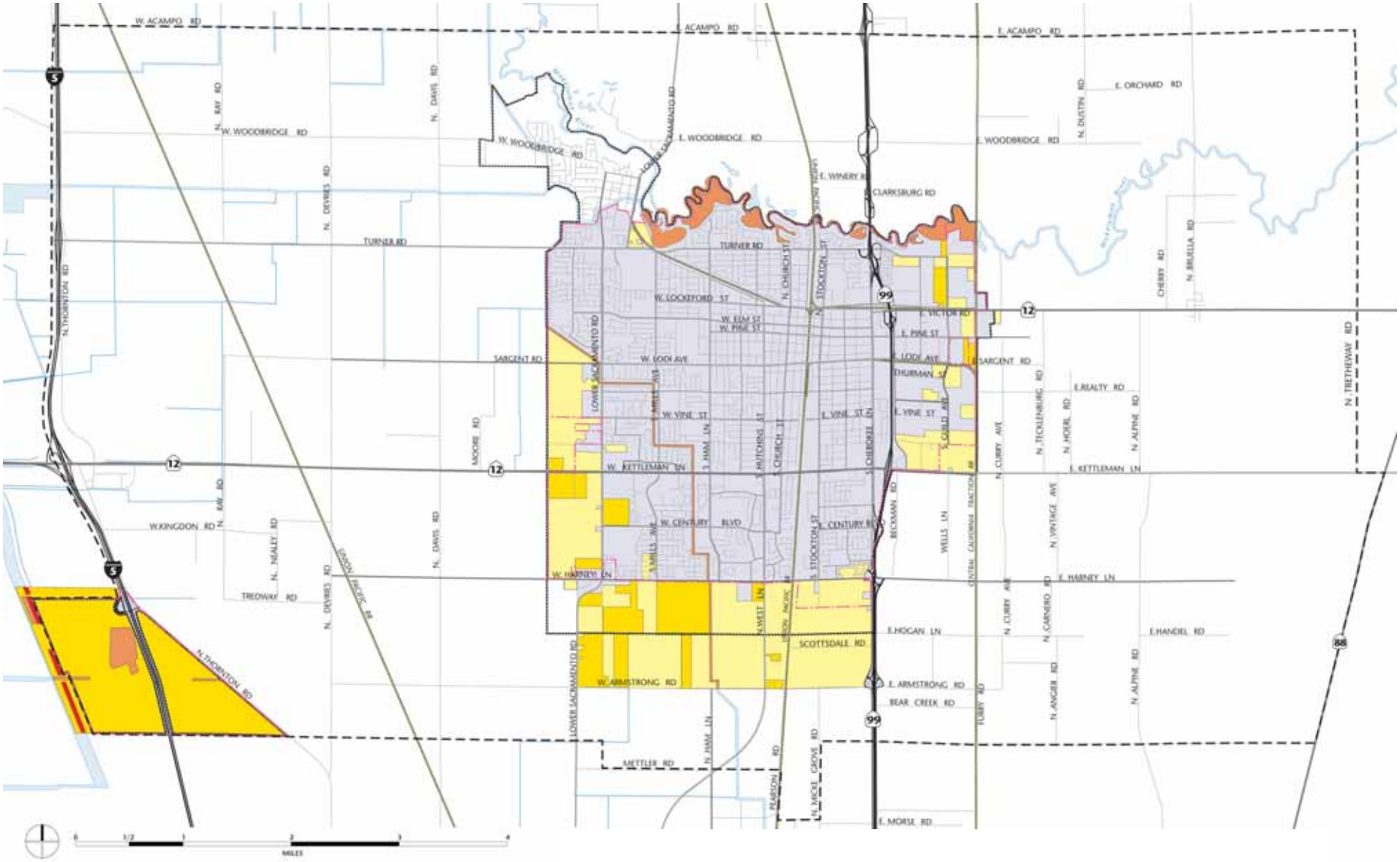
In preparing the SJMSCP, land uses and habitats were mapped throughout the County, categorized into land use categories, and incorporated into a geographic information system (GIS) database to help determine compensation fees. Many of the new urban areas defined by the General Plan are not included in the mapped extent for Lodi. Such projects will be subject to the Plan's "unmapped project process," which includes a case-by-case review by the Habitat Technical Advisory Committee. Table 3.4-2 and Figure 3.4-2 identify the amounts and general locations of the land use compensation zone categories. Each of the land use compensation zone categories is briefly described below.

Table 3.4-2. SJMSCP Land Use Compensation Zones within the Planning Area

Land Use Compensation Zone	*Biological Communities*	*Planning Area Acreage*	*% of Planning Area*
No Pay Zone	Urban	8,710	17%
Multi-Purpose Open Space	Orchards, vineyards, and some water features	21,820	43%
Agricultural Habitat Open Space	Perennial and annual croplands	18,590	36%
Natural Land	Riparian, vernal pool, grassland habitats, and some agricultural rangeland	1,670	3%
Vernal Pools	Vernal Pools	40	< 1%
Total		**50,830**	**100%**

Note: Total acreage for each land use compensation zone does not correspond exactly to the total acreage identified for each habitat as described in Table 3.4-1 due to rounding and minor variations in data sets.

Source: San Joaquin County, 2003; Dyett & Bhatia, 2007; and ESA, 2007.



Category A
Exempt No Pay Zone

Category B - Other Open Space
Pay Zone A

Category C - Ag Habitat Open Space -
Pay Zone B (Agricultural)

Category D - Natural Lands Habitat
Pay Zone B (Natural)

Category E - Vernal Pools
Pay Zone C

Areas not included in the mapped extent will be subject to the SJMSCP unmapped project process.

Planning Area

Lodi Sphere of Influence (2008)

City Limits (2008)

Figure 3.4-2
SJMSCP Land Use Compensation Zones

No Pay Zone

Lands designated as no pay zone under the SJMSCP include urban land uses already converted from previous open space uses. No pay zone land covers approximately 8,710 acres, which represents 17% of the Planning Area (see Table 3.4-2). As shown in Figure 3.4-2, Planning Area lands classified as no pay zone are predominately located within the center or more developed portions of the Planning Area. From a habitat perspective, urban lands can be described as highly variable, including several types of landscape vegetation which generally fall into one of the following categories: lawn, shade tree/lawn, shrub cover, tree grove, and street strip. The structure of each type of landscape depends on species composition and landscape architecture. Lawns are the most uniform and least diverse, usually consisting of the continuous cover of an area with one grass species. Shade tree/lawn habitats are usually composed of many different plant species and are found in residential areas and parks. Shrub cover usually occupies a limited area and is used mainly as hedges, borders, or is incorporated into small-scale landscaping. Tree groves may be composed of any species, but generally have a continuous canopy and are found in parks, greenbelts, and cemeteries. Street strips consist of trees planted long rows with or without a grass/groundcover understory. Landscaping is usually irrigated, and many landscape plants are ornamental and non-native.

Wildlife use of urban areas is grouped into three zones: downtown, urban residential, and suburbia. Generally species richness and diversity is lowest downtown, where development is highest, and increases toward urban residential and suburban areas where there is more vegetative cover and less high density development. The wildlife in urban areas is limited to generalist species such as rock doves, house sparrows, starlings, opossums, raccoons, and striped skunk.

Multi-Purpose Open Space Land

Multi-Purpose Open Space lands support a variety of uses including agriculture, recreation, scenic resources and other beneficial open space uses. These open space lands may also provide flood control, groundwater recharge, and interpretive/educational opportunities. Although these lands do not qualify for designation as Natural Lands, Agricultural Habitat Lands, or Urban Lands, the conversion of Multi-Purpose Open Space Lands contribute to the overall loss of open space. These lands have the potential to supply food for SJMSCP covered species and provide habitat for several SJMSCP covered bat species. Additionally, conversion of these lands limits the ability of plants and wildlife to disperse through or move through open space corridors within the Planning Area.

As shown in Table 3.4-2, approximately 21,820 acres (43%) of the Planning Area are classified under this land use category. Multi-Purpose Open Space Lands are mapped on the SJMSCP GIS Database as barren, cropland, orchards and vineyards, ruderal, cultivated parks and golf courses, and some water features (cement lined aqueducts and ditches without riparian vegetation). As shown in Figure 3.4-2, these areas are predominately located in the northern half of the Planning Area but are also scattered (in smaller portions) throughout the Planning Area.

Natural Land

As shown in Table 3.4-2, the Natural Land compensation zone includes riparian, vernal pool, and grassland habitats as well as some agricultural rangeland. Natural land includes an estimated 1,670 acres (3%), of the Planning Area. As expected, these lands classified as Natural Lands are predominately located along the Mokelumne waterway (see Figure 3.4-2). Agricultural rangelands are classified as Natural Land since they are considered to be classified primarily as

grasslands or vernal pool grassland areas. Natural Lands retain natural vegetation and are not irrigated or cultivated agricultural land. Natural Lands are considered to have higher open space value than lands designated as Agricultural Habitat and Multi-Purpose Open Space.

Agricultural Habitat Open Space

Agricultural Habitat Lands include perennial and annual croplands along with some ruderal vegetation types. Agricultural Habitat Lands are found primarily on the valley floor and in the Delta. Approximately 18,590 acres (36%), of the Planning Area consists of lands classified as agricultural habitat open space. Agricultural rangelands are classified as Natural Lands since they are considered to be primarily grasslands or vernal pool grasslands.

Vernal Pools

A description of vernal pools is provided under annual grasslands habitat since vernal pools are generally found within grasslands habitat. Although annual grasslands are found under the natural land designation, the SJMSCP identifies vernal pools as separate from the natural land designation. Less than 1%, approximately 40 acres, of the Planning Area contains vernal pool habitat (see Table 3.4-2 and Figure 3.4-2).

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any special status species;
- Have a substantial adverse effect, either directly or through habitat modifications, on any common species;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community;
- Have a substantial adverse effect on wetlands, marshes, or vernal pools;
- 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; or
- Conflict with the provisions of an adopted Habitat Conservation Plan; other approved local, regional, or state habitat conservation plan; or local policies or ordinances that protect biological resources.

METHODOLOGY AND ASSUMPTIONS

This evaluation includes a review of vegetation communities and wildlife habitat, special-status species, and jurisdictional "waters of the United States" that occur or may potentially occur within or in the vicinity of the Planning Area. The results of this assessment are based upon literature searches, database queries, and some analysis using existing spatial data. The sources of reference data reviewed include the following:

- U.S. Fish and Wildlife Service (USFWS) Species List for USGS topographic quadrangles within and immediately surrounding the Planning Area (USFWS 2009);
- California Natural Diversity Database (CNDDB), Rarefind 3 computer program search of the USGS topographic quadrangles within and immediately surrounding the Planning Area (CDFG 2009);
- California Native Plant Society (CNPS), Electronic Inventory computer program search of the for the USGS topographic quadrangles within and immediately surrounding the Planning Area (CNPS 2009);
- California Department of Forestry and Fire Protection (CDF 2002) Multi-source Land Cover Data v2;
- USGS Digital Orthophoto Quarter Quadrangles (1994).

SUMMARY OF IMPACTS

Development proposed under the proposed General Plan would, for the most part, be situated on infill sites or land contiguous to existing development. Potential impacts on biological resources would be reduced to less than significant through implementation of proposed General Plan policies, as well as regional, State, and federal regulations. Potential impacts are addressed below, along with proposed General Plan policies that would reduce these potential impacts to less than significant levels.

Development in the proposed General Plan would not conflict with the provisions of an adopted habitat conservation plan or other approved conservation plan. Therefore, this impact is not discussed further in the EIR.

IMPACTS AND MITIGATION MEASURES

Impact

3.4-1 Buildout of the proposed General Plan could have a substantial adverse effect, either directly or through habitat modifications, on special status and/or common species. *(Less than Significant)*

As indicated in Figure 3.4-1 and Table 3.4-1, the Planning Area contains mostly human-modified habitats, with a majority of the area classified as urban or under agricultural production. A mosaic of smaller areas (less than 5% of the Planning Area) of lacustrine, wetland, riparian, grassland, and open water habitat types occur along the Mokelumne River and other waterways in the Planning Area. Agricultural lands surround the main urban center of the City of Lodi.

Buildout of the proposed General Plan will allow for the introduction of development into some existing open space areas, including agricultural lands that have some value as foraging habitat for several wildlife species. Such construction has the potential to result in a significant impact on sensitive habitats, individual plants, and wildlife species. The primary impact will be the removal of sensitive habitats for building pad development and the construction of buildings, infrastructure and roadways. Additional impacts could result from increased erosion from roadways, and the potential introduction of non-native weed species. The introduction of developed land uses could also result in the elimination of habitat and food resources for wildlife through the removal of vegetative communities (including agricultural lands). The introduction

of new sources of light and glare could affect nesting habitat and migratory corridors. These effects may be particularly pronounced for wildlife species with low tolerance for habitat modification or disturbance, especially some riparian bird and reptile species.

Compliance with federal and State law through obtaining required permits, as well as policies in the proposed General Plan (listed below) would reduce the potential for adverse impacts. Furthermore, as part of the development review process, site-specific biological resources assessments are required to consider the impacts on sensitive habitats and special status species. Appropriate mitigation measures to reduce impacts to sensitive habitats and special status species would be imposed on a project-by-project basis according to Lodi's environmental review process and consultation with appropriate regional, State and federal regulatory agencies (including compliance with the various requirements outlined under the SJMSCP). The relatively concentrated nature of development under the proposed General Plan, limited amount of valuable habitat in the Planning Area, as well as compliance with federal and state law, combined with implementation of the following proposed General Plan policies, potential impacts on sensitive status species, habitat, and wildlife corridors would be reduced to a less than significant level.

Proposed General Plan Policies that Reduce the Impact

C-P9 Support the protection, preservation, restoration, and enhancement of habitats of State or federally-listed rare, threatened, endangered and/or other sensitive and special status species, and favor enhancement of contiguous areas over small segmented remainder parcels.

C-P10 Continue to coordinate with the San Joaquin Council of Governments and comply with the terms of the Multi Species Habitat Conservation and Open Space Plan to protect critical habitat areas that support endangered species and other special status species.

C-P11 Work with other agencies to ensure that the spread of invasive/noxious plant species do not occur in the Planning Area. Support efforts to eradicate invasive and noxious weeds and vegetation on public and private property.

C-P12 Protect the river channel, pond and marsh, and riparian vegetation and wildlife communities and habitats in the Mokelumne River and floodplain areas. Prohibit any activity that will disturb bottom sediments containing zinc deposits in Mokelumne River, because such disturbance could cause fish kills. Prohibit activities that could disturb anadramous fish in the Mokelumne River during periods of migration and spawning.

C-P13 Support the protection, restoration, expansion, and management of wetland and riparian plant communities along the Mokelumne River for passive recreation, groundwater recharge, and wildlife habitat.

C-P14 Explore the purchase of or establishment of a joint agreement for open space preservation and habitat enhancement in the Woodbridge Irrigation District's property located north of the Mokelumne River. Ensure the open space preservation and enhancement of this property, while exploring opportunities for public access.

C-P15 Site new development to maximize the protection of native tree species and sensitive plants and wildlife habitat. Minimize impacts to protect mature trees, Swainson's hawk, vernal pool tadpole shrimp, and any threatened, endangered or other sensitive species when approving new development. Mitigate any loss.

C-P16 Work with the California Department of Fish and Game in identifying an area or areas suitable for Swainson's hawk and burrowing owl habitat. Preserve land through a mitigation land bank to mitigate impacts on existing habitat for these species. Establish a mechanism for developer funding for the acquisition and management of lands in the mitigation bank.

CD-P32 In order to use less energy and reduce light pollution, ensure that lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent artificial lighting from illuminating adjacent residential neighborhoods and/or natural areas at a level greater than one foot candle above ambient conditions.

P-P9 Support improvements along the Mokelumne River in consultation and cooperation with the County and with creek restoration and design professionals.

P-P10 Improve accessibility to the Mokelumne River and Lodi Lake Wilderness Area with walking and biking trails. Site park use and new facilities and trails in Lodi Lake Park such that they will not degrade or destroy riparian or sensitive habitat areas.

P-P11 Encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation, and ensure the maximum number and variety of well-adapted plants are maintained.

P-P12 Encourage retention of mature trees and woodlands to the maximum extent possible. The City shall regulate the removal of trees that are defined as "heritage trees." P-P13 Identify and discourage the removal of significant trees on private and public property by establishing a tree inventory and tree management ordinance. Where removal is required, the City shall require a two-for-one replacement or transplantation.

Mitigation Measures

None required.

Impact

3.4-2 Buildout of the proposed General Plan could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. *(Less than Significant)*

Areas along local waterways contain riparian habitat. Riparian habitats support a variety of plant and wildlife species along watercourses or water bodies adaptable to seasonal flooding. Within the Planning Area, Valley foothill riparian habitat covers 350 acres, mainly along the Mokelumne River in the northern portion of the Planning Area (see Table 3.4-1 and Figure 3.4-1). As noted in

the Physical Setting, valley foothill riparian habitat can be a complex habitat in structure and composition, and can be rich in wildlife diversity. Many species of wildlife use this habitat type for movement corridors, foraging, cover, and breeding.

The preservation of riparian habitats (and other sensitive habitats) is a key component of the proposed General Plan. With implementation of the proposed General Plan policies listed above, potential impacts to riparian habitat resulting from new development would be less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies that would mitigate this impact are listed under Impact 3.4-1.

Mitigation Measures

None Required.

Impact

3.4-3 Buildout of the proposed General Plan could 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, etc.). (*Less than Significant*)

Freshwater emergent wetland accounts for approximately 130 acres of the Lodi Planning Area (see Table 3.4-1 and Figure 3.4-1). Within the Planning Area, freshwater emergent wetland occurs in small patches adjacent to annual grassland and can be surrounded by agricultural lands, or interspersed with a variety of other habitats along the Mokelumne River corridor and other waterways in the Planning Area.

Potential impacts in the form of temporary or permanent loss due to filling of wetlands or other waters could result from new development within or in the vicinity of these wetlands and other waters. However, only very small areas with wetland habitat are included in potential development areas in the proposed General Plan. As development is proposed in these areas, compliance with federal, State, and local regulations would reduce the potential for adverse impacts. For instance, proposed General Plan policies listed under Impact 3.4-1 provide appropriate programmatic mitigation measures; additional site-specific measures will be identified during CEQA review of specific development proposals made to the City. Prior to new development in areas with potential federally or State protected wetlands or waters, applicants will be required to coordinate with the Corps, DFG, and/or RWQCB depending on the jurisdiction potentially affected. Coordination will include evaluation of existing wetlands and waters and development of avoidance, minimization, and/or compensatory measures sufficient to procure the necessary permits (developed to protect resources) from the applicable agencies (including compliance with the various requirements outlined under the SJMSCP). The combination of proposed policies and existing laws protecting these resources ensures that the impacts would be less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies that would mitigate this impact are listed under Impact 3.4-1.

Mitigation Measures

No additional mitigation is required.

Impact

3.4-4 Buildout of the proposed General Plan could 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. *(Less than Significant)*

Several areas within the Planning Area (predominately waterways and the riparian areas that border them) are utilized as migratory corridors for the movement of wildlife (including a variety of bird, mammal, and fish species). As more fully described above under Impact 3.4-1, development resulting from implementation of the proposed General Plan may remove riparian and other habitat currently providing cover and could increase the distance that animals would need to traverse. Additionally, development within the Planning Area would also cause an increase in both vehicular traffic levels and nighttime light levels, which would also serve to deter wildlife movement in the area. However, the Planning Area contains mostly human-modified habitats (Figure 3.4-1 and Table 3.4-1). The majority of the area is urban or under agricultural production. A mosaic of smaller areas (less than 5% of the Planning Area) of lacustrine, wetland, riparian, grassland, and open water habitat types occur along the Mokelumne River and other waterways in the Planning Area. Agricultural lands surround the main urban center of the City of Lodi.

As discussed under Impact 3.4-2, the preservation of riparian habitats (and other sensitive habitats) is a key component of the proposed General Plan. As discussed under Impact 3.4-1, compliance with federal and State law through obtaining required permits, as well as policies in the proposed General Plan (listed above) would reduce the potential for adverse impacts. Furthermore, as part of the development review process, site-specific biological resources assessments are required to consider the impacts on sensitive habitats and special status species. Appropriate mitigation measures to reduce impacts to sensitive habitats and special status species would be imposed on a project-by-project basis according to Lodi's environmental review process and consultation with appropriate State and federal regulatory agencies. Due to the relatively concentrated nature of development under the proposed General Plan, limited amount of valuable habitat in the Planning Area, as well as compliance with federal and State law, combined with implementation of the proposed General Plan policies listed above, potential impacts on sensitive status species, habitat, and wildlife corridors would be reduced to a less than significant level.

Proposed General Plan Policies that Reduce the Impact

Policies that would mitigate this impact are listed under Impact 3.4-1.

Mitigation Measures

None required.

3.5 Cultural Resources

This section presents the environmental setting and assesses the impacts on cultural resources in the Lodi Planning Area from implementation of the proposed General Plan. The existence of both archaeologically sensitive areas and historic buildings in Lodi requires the need for policies that preserve such aspects of the city's heritage. Paleontological resources are also discussed in this section.

ENVIRONMENTAL SETTING

Cultural resources are defined as prehistoric and historic sites, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. For analysis purposes, cultural resources may be categorized into three groups: archaeological resources, historic resources, and contemporary Native American resources.

- Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric (before the introduction of writing in a particular area) or historic (after the introduction of writing). The majority of such places in this region are associated with either Native American or Euroamerican occupation of the area. The most frequently encountered prehistoric and early historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic archaeological sites may include foundations or features such as privies, corrals, and trash dumps.
- Historic resources are standing structures of historic or aesthetic significance. Architectural sites dating from the Spanish Period (1529-1822) through the early years of the Depression (1929-1930) are generally considered for protection if they are determined to be historically or architecturally significant. Post-depression sites may also be considered for protection if they could gain significance in the future. Historic resources are often associated with archaeological deposits of the same age.
- Contemporary Native American resources, also called ethnographic resources, can include archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values.

PHYSICAL SETTING

The following section summarizes the Planning Area's prehistoric, ethnographic, and historic setting.

Prehistoric and Ethnographic Setting

Although the Planning Area may have been occupied by Native Americans for 12,000 years or longer, the evidence of early human use is likely buried by alluvial deposits that have accumulated during the last several thousand years. Reliable evidence from archaeological excavations

indicates that this region of California has certainly been occupied for at least 6,000 years. Later periods are better understood because there is more representation in the archaeological record.

Central California archaeology has been described as a series of patterns. Fredrickson (1973) defines pattern as an essentially non-temporal, integrative cultural unit - the general life way shared by people within a given geographic region. Specifically three such patterns which overlap somewhat in adjoining areas are recognized for central California: the Windmiller Pattern (roughly from 4,500 to 3,000 before present), the Berkeley Pattern (roughly from 3,000 to 1,500 before present), and the Augustine Pattern (from about 1,500 before present to European contact).

The ethnographically known people (the Native American people occupying the Planning Area at the time of contact with non-Native American peoples such as explorers and settlers) are called Northern Valley Yokut. The Northern Valley Yokut Indians held an extensive region within north-central California, which ranged between the Diablo Mountain range to the west, the Sierra Nevada to the east, the north bend of the San Joaquin River to the south, and the Mokelumne River to the north. Semi-sedentary, the Yokuts lived in single-family dwellings and depended heavily on salmon, waterfowl and acorns for subsistence. Their technology included pottery, baskets, bow and arrow, bedrock mortars, pestles, portable mortars, and flaked stone tools. The Yokut traded with the Paiute and Shoshone to the east, Salinan and Coastanoan on the coast, and Miwok in the western central valley (Wallace 1978).

Historic Setting

By the early 1800s, Spaniards had started exploring the area, adversely impacting the Native population. The 1848 Gold Rush further affected the Yokut population as white settlers began to inhabit the area permanently or travel through on their way to the gold fields in the Sierra Nevada. Lodi began in 1869 as the Town of Mokelumne, founded by the Central Pacific Railroad. The railroad connected Lodi with Sacramento to the north and Oakland and Stockton to the south, and the town was laid out parallel to the tracks. To avoid confusion with Mokelumne Hills and Mokelumne City, the townspeople changed the name to Lodi in 1874 (Gudde, 1998). The Ivory Store, at the corner of Pine and Sacramento streets, was established in 1869, and other merchants soon followed with their businesses (City of Lodi, 2006).

Local industries, such as the Lodi Flouring Mill, and agriculture promoted further growth in the area. Access to rail transportation allowed crops and products to be transported throughout the country. Wheat and watermelons were the predominant crops throughout the nineteenth century.

In 1885, Japanese immigrants settled the area to work on ranches. Over time, they purchased lands and grew grapes. In the late 1890s German nationals settled Lodi and also participated in the grape industry. Flame Tokay grapes were first planted in the area in the late nineteenth century and by 1900, Lodi had over two million grape vines. In 1906, the City incorporated and the next year held its first Tokay Carnival, which would later evolve into the Lodi Grape Festival (City of Lodi, 2006). The Lodi Arch, which covers the gateway entrance to downtown, was built to commemorate the first Grape Festival.

Over the following century, Lodi grew from a population of 2,000 to over 60,000. In 1912 Lodi's first City Hall / fire station was built on Main Street, and the current City Hall building was dedicated in 1928. In 1913, the Lodi Union High School opened for classes, and in 1919,

entrepreneur Roy Allen brewed and sold his first batch of A&W Root beer in Lodi. Local farmers and wineries weathered the Prohibition Era well, growing grapes and shipping them out in secret for wine making. 1934 was the year of the first Lodi Grape Festival, and in 1956 the Federal Government officially acknowledged Lodi as a wine grape growing district. The city's continued growth led to the creation of numerous schools and public utilities and services throughout the second half of the twentieth century. Since the mid-1990s, the city has been involved in numerous restoration projects for historic resources throughout the City, including the City Hall, the Lodi Arch, and the Southern Pacific Lodi Train Station.

Existing Cultural and Historic Resources

Known and recorded cultural resources within the Planning Area were identified through a records search of pertinent survey and site data by the staff at the Central California Information Center, California State University, Stanislaus on February 21, 2007. The records were accessed by utilizing the Thornton, Lodi North, Lockeford, Terminous, Lodi South, and Waterloo USGS 7.5-minute quadrangle maps in San Joaquin County. The review incorporated the entire Planning Area for the City of Lodi. Previous surveys and studies and archaeological site records were accessed as they pertained to the Planning Area. Historical records, such as those found in the Directory of Properties in the Historic Property Data File for San Joaquin County, were accessed. An inventory of properties listed in the National Register of Historic Places, the California Register of Historic Resources, the California Inventory of Historic Resources (1976), the California Historical Landmarks (1996), the Survey of Surveys (1989), the CALTRANS State and Local Bridge Survey (1989 and updates), the Archaeological Determinations of Eligibility, or the California Points of Historical Interest (1992 and updates) was also developed for the purposes of this report.

In areas where comprehensive cultural resource surveys have not been undertaken, such as the current Planning Area where only six percent of the area is estimated to have been surveyed, creating a general impression of the spatial distribution of cultural resources often has greater utility in the protection and management of the resources than presenting specific site locations. Areas of relative cultural resource sensitivity can be identified based on the patterns that are reflected in the known site locations and by applying certain assumptions regarding the environmental factors that predict archaeological site locations. For instance, areas proximal to water sources, high ranking food resources, relatively flat slope aspect, and areas of social and political importance would be factors that would predict prehistoric use.

According to the record search data and the foregoing assumptions, most prehistoric settlement within and in the area surrounding the Planning Area was focused along the Mokelumne River and Bear Creek. Also, much of the historically significant resources (i.e., structures, buildings, etc.) are clustered around the downtown area. It should be noted that although some areas have greater sensitivity than other areas for the presence of prehistoric or historic archaeological resources, it is possible for archaeological deposits to be encountered during ground-disturbing activities in almost any location, including areas considered to have low sensitivity.

Native American Consultation

Cultural resource identification inquiries also included a letter to the Native American Heritage Commission requesting a review of the sacred lands file in regards to the Planning Area and a list of Native American contacts within the region. The Commission's February 13, 2007 response stated that the sacred lands files did not contain cultural resources information for the immediate Planning Area, but cautioned that absence of specific site information does not indicate the lack

of resources. The response also included eight contacts who have requested information on projects such as this and who may have knowledge of cultural resources within the Planning Area. On March 7, 2007, letters were sent to designated contacts with information about the proposed project and a request that they respond if needed, with any questions or concerns.

Since that time, one letter had been received from Billie Blue Elliston of the Ione Band of Miwok Indians, who stated that their research indicated that the project may be within their tribe's ancestral territory and asked to remain informed about the project. On May 9, 2007, follow up phone calls were made to the individuals and organizations identified by the Native American Heritage Commission. No additional information was obtained as a result of these calls. However, as of May 14, 2007, Randy Yonemura has responded to this request for additional information and expressed interest in meeting with the City to discuss the cultural resources present in the Planning Area.

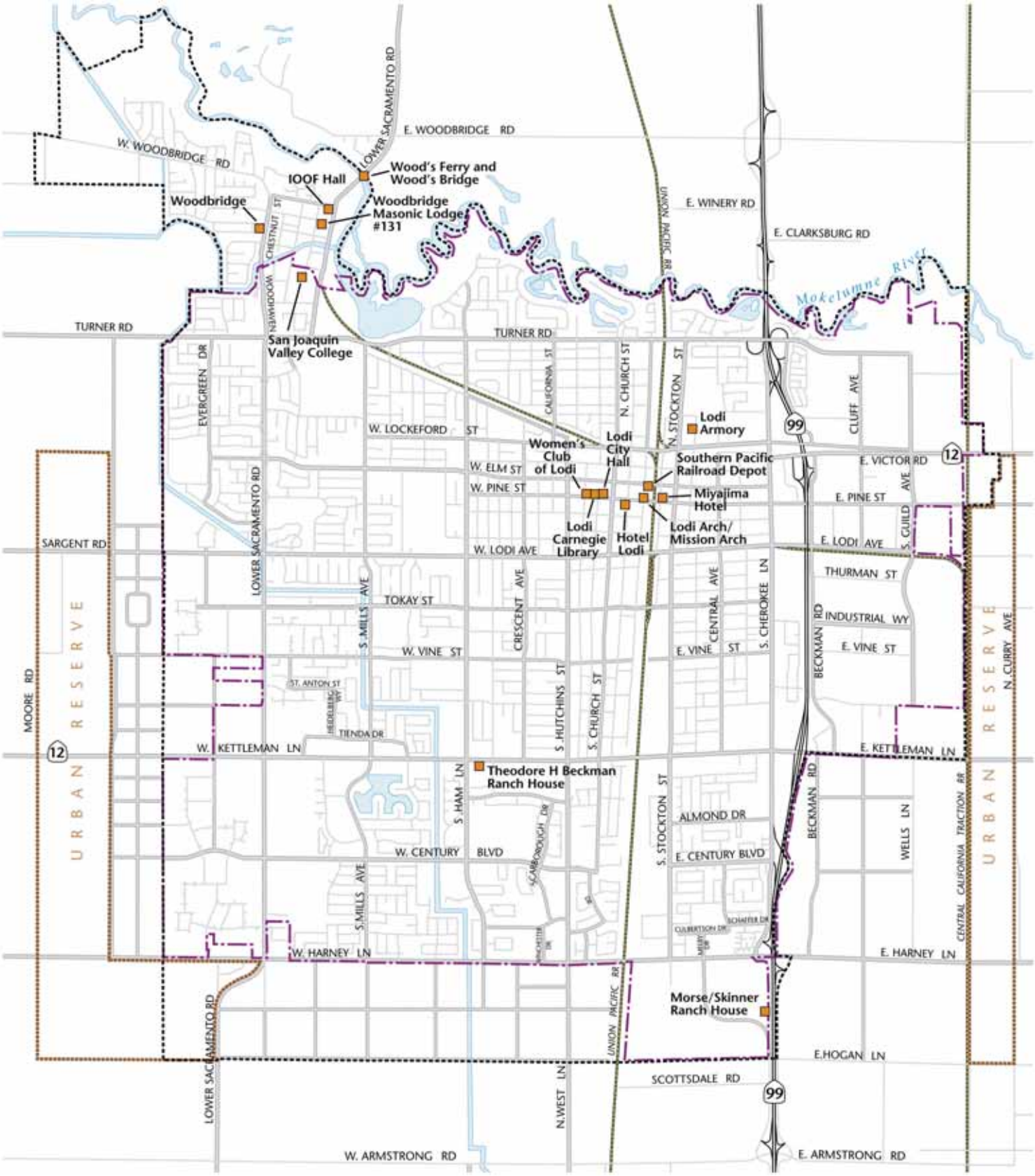
Prehistoric Archaeological Resources

The evidence from previous survey work and site investigations in the Planning Area would indicate that the prehistoric site types that may be encountered throughout unsurveyed portions of the Planning Area may encompass the following:

- Surface scatters of lithic artifacts and debitage associated with or without associated midden accumulations, resulting from short-term occupation, and/or specialized economic activities, or long-term occupation.
- Bedrock milling stations, including mortar holes and metate slicks, in areas where suitable bedrock outcrops are present.
- Petroglyphs and/or pictographs.
- Isolated finds of cultural origin, such as lithic flakes and projectile points.

Lodi Historic Resources

Many historic properties in the Planning Area have been identified through historic building surveys and previous cultural resource studies. A list of properties either listed on or found eligible for listing in the National Register of Historic Places is presented in Table 3.5-1. Table 3.5-1 also includes information on properties that have not yet been evaluated for significance. Figure 3.5-1 presents an aerial view of the historic downtown area and the location of several historic buildings in the downtown area.



Historic Site or Resource

Urban Reserve

Sphere of Influence (2008)

City Limits (2008)

Figure 3.5-1

Historic Resources

Table 3.5-1: Historic Properties for the City of Lodi

Site/Building	*Location*	*Year Built*	*Historic Landmark Designation*	*National Register Status*
Bridge #29-2R	SR 99	1930		Identified, not evaluated.
Hotel Lodi	5 S. School Street, Lodi	1915	NR	Listed in NR, individual property
Lodi Arch/Mission Arch	Pine Street, Lodi	1907	NR, SHL No 931	Listed in NR, individual property
Lodi Armory	333 N. Washington Street, Lodi	1930		Determined eligible for NR, individual property
Lodi Carnegie Library	305 W. Pine Street, Lodi	1909		Determined eligible for NR, individual property
Lodi City Hall	221 W. Pine Street, Lodi	1928		Determined eligible for NR, individual property
Miyajima Hotel	4 N. Main Street	1937		Identified, not evaluated
Morse/Skinner Ranch House	13063 SR 99, Lodi	1869	NR1	Listed in NR, individual property
Southern Pacific Railroad Depot	2 N. Sacramento Street, Lodi	1907		Removed from eligibility for NR
Theodore H Beckman Ranch House	1150 W. Kettleman Lane	1902	SPHI4	Determined eligible for NR, a contributor to a historic district
Women's Club of Lodi	325 W. Pine Street, Lodi	1923	NR	Listed in NR, individual property
IOOF Hall	18961 Lower Sacramento Road, Woodbridge	1860	NR	Listed in NR, individual property
San Joaquin Valley College	18500 N Lilac St, Woodbridge	1879	S.H.L.2 No. 520	CR3, needs reevaluation
Wood's Ferry and Wood's Bridge	County Hwy JI0, Woodbridge	1852 and 1858	S.H.L. No. 163	CR, needs reevaluation
Woodbridge	County Hwy JI0, Woodbridge	1859	S.H.L. No. 358	CR, needs reevaluation
Woodbridge Masonic Lodge #131	1040 Augusta Street, Woodbridge	1882	NR	Listed in NR, individual property

KEY:
NR – National Register
S.H.L – State Historic Landmark
CR – California Register
SPHI – State Point of Historic Interest

Source: Directory of Properties in the Historic Property Data File for San Joaquin County, Office of Historic Preservation.

Historic Archaeological Resources

The evidence from previous survey work and site investigations in the Planning Area would indicate that the historic archaeological site types that may be encountered through out portions of the Planning Area may encompass the following:

- Historic artifact scatters and buried deposits of historic debris and artifacts;
- Building foundations and associated deposits;
- Levees and roads; and
- Remains of farms and ranches.

Paleontological Resources

Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, and leaves are found in geologic deposits (rock formations) where they were originally buried. Fossil remains are important as they provide indicators of the Earth's chronology and history. These limited and nonrenewable resources provide invaluable scientific and educational data, and are afforded protection under CEQA.

REGULATORY SETTING

Federal Regulations

National Historic Preservation Act

Most applicable federal regulations concerning cultural resources have been established to comply with the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) of 1966, as amended. The NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. All projects that are subject to NEPA are also subject to compliance with Section 106 of the NHPA and the NEPA requirements concerning cultural resources can be addressed through compliance with Section 106 of the NHPA process. Provisions of NHPA establish a National Register of Historic Places (National Register) maintained by the National Park Service, the Advisory Council on Historic Preservation, State Offices of Historic Preservation, and grants-in-aid programs.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

State Regulations

California Environmental Quality Act (CEQA)

CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources which meet

significance criteria qualifying them as "unique," "important," listed on the California Register of Historical Resources (California Register), or eligible for listing on the California Register. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed in the appropriate environmental document. If a cultural resource is found not to be significant or unique under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to reduce the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

- Identify cultural resources,
- Evaluate the significance of the cultural resources found,
- Evaluate the effects of the project on cultural resources, and
- Develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

California Register of Historic Resources

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in CEQA documents. Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. The State Historic Preservation Office maintains the California Register. Historic properties listed, or formally designated for eligibility to be listed, on the National Register are automatically listed on the California Register. State Landmarks and Points of Interest are also automatically listed. The California Register can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

State Laws Pertaining to Human Remains

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. CEQA Guidelines (Public Resources Code Section 5097) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

Tribal Consultation Guidelines (Senate Bill 18)

SB 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with

California Native American tribes, when amending or adopting a general plan or specific plan, or designating land as open space, in order to aid in the protection of traditional tribal cultural places ("cultural places"). SB 18 also requires the Governor's Office of Planning and Research to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant impact if it would:

- Significantly alter an historic resource;
- Disrupt or adversely affect a prehistoric or historic archeological site or a property of cultural significance to a community or ethnic or social group, or a paleontological site;
- Have a significant effect on "unique" archaeological resources. A "unique" archaeological resource is defined as follows (Public Resources Code Section 21083.2(g)):

  "An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

  - Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
  - Has a special and particular quality, such as oldest of its type or best available example of its type; and,
  - Is directly associated with a scientifically recognized important prehistoric or historic event or person."

According to CEQA Guidelines, an important archaeological resource is one that "is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory; can provide scientifically consequential and reasonable archaeological research questions; has a special or particular quality, such as oldest, best example, largest, or last surviving example of its kind; is at least 100 years old and possesses substantial stratigraphic integrity; or involves important research questions that historical research has shown can be answered only with archaeological methods" (Appendix K; CEQA Guidelines).

For purposes of this EIR, a significant effect would occur if the integrity of a cultural resource that is eligible for listing on any one of the following lists would be compromised through demolition or alteration: National Register of Historic Places, California Historical Landmarks, California Inventory of Historical Resources, or Points of Historical Interest.

METHODOLOGY AND ASSUMPTIONS

Information regarding known and recorded cultural resources within the Planning Area was identified through a records search of pertinent survey and site data at the Central California Information Center, California State University, Stanislaus, in February, 2007 [CCIC # 6606L]. An inventory of properties listed in the National Register, the California Register, the California Inventory of Historic Resources (1976), the California Historical Landmarks (1996), and/or the California Points of Historical Interest (1992 and updates) was also conducted.

Cultural resource identification inquiries also included a letter to the Native American Heritage Commission requesting a review of the sacred lands file in regards to the Planning Area and a list of Native American contacts within the region.

Because this EIR is a Program EIR for a general plan, site-specific analysis of potential impacts on cultural, historical, and paleontological resources is not appropriate. Instead, this analysis identifies the type and magnitude of impacts that may result from the proposed General Plan as a whole.

SUMMARY OF IMPACTS

Downtown intensification could potentially threaten additional historic structures not yet registered or deemed eligible for the National Register, but which are sites of local importance. Proposed General Plan policies ensure any impacts to sites of local historical importance are less than significant.

New development occurring outside of existing urban areas may adversely affect archaeological or paleontological resources during ground preparation or other construction activities. The NAHC has stated that a records search failed to indicate the presence of specific Native American cultural resources in the Planning Area, however, the absence of specific site information does not indicate the lack of resources. Specific projects are required by proposed General Plan policies to conduct supplemental environmental analysis in line with CEQA requirements prior to construction. Federal and State law as well as proposed General Plan policies ensure a less than significant impact on archaeological and paleontological resources.

IMPACTS AND MITIGATION MEASURES

Impact

3.5-1 Buildout of the proposed General Plan may alter a historic resource. (*Less than Significant*)

Most of the City's historic resources are located in the City's historic downtown area. While registered historic sites are protected by State law, downtown intensification could potentially threaten additional historic structures not yet registered or deemed eligible for the National Register, but which are sites of local importance. Subsequent project-related demolition or alteration of historic buildings or structures or their immediate surroundings could impair the significance of a historic resource or adversely alter its physical characteristics. Site-specific impacts would need to be evaluated on a project by project basis.

Additionally, new development (in particular infill projects within the existing City boundaries) resulting from implementation of the updated general plan may be considered incompatible with existing development, including existing historic structures or buildings. Proposed General Plan

policies, such as C-P-20, encourages the preservation, maintenance, and adaptive reuse of existing historic buildings by developing incentives for owners of historically-significant buildings to improve their properties. C-P-21 requires that prior to the demolition of a historic structure, developers offer the structure for relocation by interested parties. These and other proposed policies ensure any impacts to sites of local historical importance are less than significant.

Proposed General Plan Policies that Reduce the Impact

Community Design and Livability Element Policies

CD-P10 Incentivize rehabilitation and adaptive reuse of buildings, especially east of the railroad, particularly on Main and Stockton streets in the Downtown Mixed Use district, through development review, permitting and fee processes.

Conservation Element Policies

C-G6 Preserve and enhance districts, sites, and structures that serve as significant, visible connections to Lodi's social, cultural, economic, and architectural history.

C-G7 Promote community awareness and appreciation of Lodi's history, culture and architecture.

C-P20 Encourage the preservation, maintenance, and adaptive reuse of existing historic buildings by developing incentives for owners of historically-significant buildings to improve their properties.

C-P21 Require that, prior to the demolition of a historic structure, developers offer the structure for relocation by interested parties.

C-P22 Require that environmental review consistent with the California Environmental Quality Act be conducted on demolition permit applications for buildings designated as, or potentially eligible for designation as, historic structures.

C-P23 Conduct a comprehensive survey of historic resources in Lodi, including consideration of potentially eligible historic resources. Update Figure 7-3 upon completion of the survey. Designate a structure as historic if it:

- Exemplifies or reflects special elements of the city's cultural, architectural, aesthetic, social, economic, political, artistic, and/or engineering heritage;
- Is identified with persons, businesses, or events significant to local, State, or National history;
- Embodies distinctive characteristics of style, type, period, or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;
- Represents of the notable work of a builder, designer, engineer, or architect; and/or
- Is unique location or singular physical characteristic represents an established and familiar visual feature of a neighborhood, community, or the city.

Designate a district as historic if it:

- Is a geographically definable area possessing a concentration or continuity of sites, buildings, structures, or objects as unified by past events or aesthetically by plan or physical development.
- Identify relevant key neighborhoods either as historic districts or merit districts. Designate accordingly if 50% of property owners in the proposed district agree to the designation.
- An "Historic District" means any area containing a concentration of improvements that has a special character, architectural importance, historical interest, or aesthetic value, which possesses integrity of location, design, setting, materials, workmanship, feeling, and association or which represents one or more architectural periods or styles typical to the history of Lodi.
- A "Merit District" recognizes a district's history but does not provide for a regulatory structure at this time. The structures of these districts may not be architecturally significant, but the role that these neighborhoods have played in the city's development, the cultural and economic conditions that resulted in the construction of these neighborhoods and the stories surrounding them make them an important part of the city's history for which they should be acknowledged and celebrated.

C-P24 Follow preservation standards outlined in the current *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*, for structures listed on the National Register of Historic Places or California Register of Historical Resources.

C-P25 Coordinate historic preservation efforts with other agencies and organizations, including the Lodi Historical Society, San Joaquin County Historical Society and other historical organizations.

Mitigation Measures

None required.

Impact

3.5-2 Buildout of the proposed General Plan could disrupt or adversely affect a prehistoric or historic archeological, paleontological, or culturally significant site. (*Less than Significant)*

A review of previously conducted studies indicates that only six percent of the proposed Planning Area has been inventoried (as of March 2007) for cultural resources. These previous studies included a majority of the developed portions of the City and any structures occupying these areas. The remaining unsurveyed portions of the Planning Area consist primarily of undeveloped lands. Consequently, future development activities (e.g., construction or groundbreaking activities) associated with implementation of projects related to the updated general plan could result in the disturbance of previously unknown archaeological or paleontological resources or human remains.

While project-specific studies will be necessary to determine the actual potential for significant impacts on archaeological or paleontological resources resulting from the implementation of the proposed General Plan, some general impacts can be identified based on the probable locations of new development in the Planning Area and known geographic features near which prehistoric resources are most likely to be located. Projects in the vicinity of ridgelines, midslope terraces, alluvial flats, ecotones, and sources of water have the greatest possibility of encountering a prehistoric resource. Therefore, new development occurring outside of existing urban areas may adversely affect archaeological or paleontological resources during ground preparation or other construction activities.

Pursuant to CEQA Guidelines 15064.5(f), if potentially significant cultural resources are discovered during ground-disturbing activities associated with project preparation, construction, or completion, work shall halt in that area until a qualified archaeologist can assess the significance of the find, and, if necessary, develop appropriate treatment measures in consultation with San Joaquin County and other appropriate agencies and interested parties. For example, a qualified archaeologist shall follow accepted professional standards in recording any find including submittal of the standard Department of Parks and Recreation (DPR) Primary Record forms (Form DPR 523) and locational information to the California Historical Resources Information Center office (Southern San Joaquin Valley Archaeological Information Center). The consulting archaeologist shall also evaluate such resources for significance per California Register of Historical Resources eligibility criteria (Public Resources Code Section 5024.1; Title 14 CCR Section 4852). If the archaeologist determines that the find does not meet the CEQA standards of significance, construction shall proceed. On the other hand, if the archaeologist determines that further information is needed to evaluate significance, the Planning Department staff shall be notified and a data recovery plan shall be prepared.

All future development in the Planning Area will be in accordance with State laws pertaining to the discovery of human remains. Accordingly, if human remains of Native American origin are discovered during project construction, the developer and/or the Planning Department would be required to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (PRC Sec. 5097). If any human remains are discovered or recognized in any location on the project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- The San Joaquin County Coroner/Sheriff has been informed and has determined that no investigation of the cause of death is required; and
- If the remains are of Native American origin,
  - The descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98; or
  - The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

Proposed General Plan Policies that Reduce the Impact

C-G5 Encourage the identification, protection, and enhancement of archaeological resources.

C-G6 Preserve and enhance districts, sites, and structures that serve as significant, visible connections to Lodi's social, cultural, economic, and architectural history.

C-P17 For future development projects on previously un-surveyed lands, require a project applicant to have a qualified archeologist conduct the following activities: (1) conduct a record search at the Central California Information Center at the California State University, Stanislaus, and other appropriate historical repositories, (2) conduct field surveys where appropriate and required by law, and (3) prepare technical reports, where appropriate, meeting California Office of Historic Preservation Standards (Archeological Resource Management Reports).

C-P18 In the event that archaeological/paleontological resources are discovered during site excavation, the City shall require that grading and construction work on the project site be suspended until the significance of the features can be determined by a qualified archaeologist/paleontologist. The City will require that a qualified archeologist/paleontologist make recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recovery, excavation, analysis, and curation of archaeological/paleontologist materials. City staff shall consider such recommendations and implement them where they are feasible in light of project design as previously approved by the City.

C-P19 If any human remains are discovered or recognized in any location on the project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- The San Joaquin County Coroner/Sheriff has been informed and has determined that no investigation of the cause of death is required; and
- If the remains are of Native American origin: (1) the descendants of the deceased Native Americans have made a timely recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or (2) The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

Mitigation Measures

None required.

3.6 Climate Change and Greenhouse Gases

This section presents the environmental setting and impact analysis for climate change and greenhouse gases, and also addresses energy use in Lodi.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Global Climate Change

Global Climate Change (GCC) is currently one of the most important and widely debated scientific, economic, and political issues in the United States. The anticipated impacts of climate change on California range from water shortages to inundation from sea level rise. GCC refers to a change in the average air temperature that may be measured by wind patterns, storms, precipitation, and temperature. The baseline by which these changes are measured originates in historical records identifying temperature changes that have occurred in the distant past, such as during previous ice ages. Over the last 10,000 years, the rate of temperature change has typically been incremental, with warming and cooling occurring over the course of thousands of years. During this period, the earth has experienced incremental warming as glaciers retreat across the globe. However, scientists have observed an unprecedented increase in the rate of warming over the past 150 years, roughly coinciding with the global industrial revolution.

GCC is now a widely accepted phenomenon. While scientists are certain that human activities are changing the composition of the atmosphere and that increasing concentrations of greenhouse gases (GHG), defined below, will change the planet's climate, they are less certain about how much the climate will change, at what rate it will change, or what the exact global, or even regional, effects will be. Nonetheless, the world's leading climate scientists—the Intergovernmental Panel on Climate Change (IPCC)[1]—have reached consensus that GCC is "very likely" caused by humans, and that hotter temperatures and rising sea levels will continue for centuries no matter how much humans control their future emissions. In particular, their findings report that human influences have:

- *very likely* contributed to sea level rise and increased storm surge during the latter half of the 20th century;
- *likely contributed* to changes in wind patterns, affecting extra-tropical storm tracks and temperature patterns;
- *likely increased* temperatures of extreme hot nights, cold nights and cold days;

[1] The Intergovernmental Panel on Climate Change is a scientific intergovernmental body set up by the World Meteorological Organization and by the United Nations Environment Programme. Its role is to assess on a comprehensive, objective, open and transparent basis the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts, and options for adaptation and mitigation.

- *more likely than not* increased risk of heat waves, area affected by drought since the 1970s, and frequency of heavy precipitation events (IPCC, 2007).

The IPCC predicts that global mean temperature increase from 1990-2100 could range from 2.0 to 11.5 degrees Fahrenheit. They project a global sea level rise of seven to 23 inches by the end of this century, with a greater rise possible depending on the rate of polar ice sheet melting.

Regional and Local Impacts

According to the California Climate Action Team, accelerating GCC has the potential to cause adverse impacts in California, including but not limited to: a shrinking Sierra snowpack that would threaten the state's water supply; public health threats caused by higher temperatures and more smog; damage to agriculture and forests due to reduced water storage capacity, rising temperatures, increasing salt water intrusion, flooding, and pest infestations; critical habitat modification and destruction; eroding coastlines; increased wildfire risk; and increased electricity demand (CCAT, 2006).

While all of these impacts may be felt to some extent in the San Joaquin Valley, of particular concern are sea level rise (primarily in the Sacramento-San Joaquin Delta), higher temperatures, air quality and smog; changes in surface water quality and groundwater characteristics, loss of property and habitats, increased flood risk and potential loss of life, loss of nonmonetary cultural resources and values, impacts on agriculture and aquaculture through decline in soil and water quality, and loss of tourism, recreation, infrastructure, and transportation functions. Also of concern is the potential for GCC to increase fire threat at the urban-wildland interface, and the potential for an imbalance between electricity supply and demand.

Greenhouse Gases

Gases that trap heat in the Earth's atmosphere are called greenhouse gases. These gases play a critical role in determining the Earth's surface temperature. Part of the solar radiation that enters Earth's atmosphere from space is absorbed by the Earth's surface. The Earth reflects this radiation back toward space, but GHGs absorb some of the radiation. As a result, radiation that otherwise would have escaped back into space is retained, resulting in a warming of the atmosphere. Without natural GHGs, the Earth's surface would be about 61°F cooler (CCAT, 2006). This phenomenon is known as the greenhouse effect. However, many scientists believe that emissions from human activities—such as electricity generation, vehicle emissions, and even farming and forestry practices—have elevated the concentration of GHGs in the atmosphere beyond naturally-occurring concentrations, contributing to the larger process of GCC. The six primary GHGs are:

- **Carbon Dioxide** (CO_2)**,** emitted when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned;

- **Methane** (CH_4)**,** produced through the anaerobic decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion;

- **Nitrous oxide** (N_2O)**,** typically generated as a result of soil cultivation practices, particularly the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning;

- **Hydrofluorocarbons** (HFCs)**,** primarily used as refrigerants;

- **Perfluorocarbons (PFCs),** originally introduced as alternatives to ozone depleting substances and typically emitted as by-products of industrial and manufacturing processes; and

- **Sulfur hexafluoride (SF_6),** primarily used in electrical transmission and distribution.

Though there are other gases that can contribute to global warming,[2] these six are identified explicitly in California legislation and litigation as being of primary concern. GHGs have varying potentials to trap heat in the atmosphere, known as global warming potential (GWP), and atmospheric lifetimes. GWP ranges from one (CO_2) to 23,900 (SF_6). GHG emissions with a higher GWP have a greater global warming effect on a molecule-by-molecule basis. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2(CCAR, 2009). GWP is alternatively described as "carbon dioxide equivalents", or CO_2e. The parameter "atmospheric lifetime" describes how long it takes to restore the system to equilibrium following an increase in the concentration of a GHG in the atmosphere. Atmospheric lifetimes of GHGs range from tens to thousands of years.

California GHG Emissions

The State of California alone produces about 2% of the entire world's GHG emissions. Major emission sources in California include transportation (39%), electric power (22%), commercial and residential buildings (9%), industrial (20%), recycling and waste (1%), and agricultural (6%). Forestry is expected to have a have a net reduction on total emissions by about 1%. The State of California is looking at options and opportunities for drastically reducing GHG emissions with the hope of thereby delaying, mitigating, or preventing at least some of the anticipated impacts of GCC on California communities (ARB, 2009b).

San Joaquin Valley Emissions

To date, few GHG emissions inventories have been completed for the San Joaquin Valley. As part of its General Plan Update, San Joaquin County prepared a GHG inventory for government and Countywide activities, including contributions from agriculture, energy, transportation, and waste. In addition, in 2008 the San Joaquin Valley Air Pollution Control District adopted a Climate Change Action Plan (see Regulatory Setting).

Lodi Emissions

To date, no GHG emissions inventories have been completed for the City of Lodi. However, many of the City's current practices and policies already seek to reduce GHG emissions. For instance, Lodi's average power mix in 2008 included more renewable (27%) than the State average (10%) and less coal (21%) than the state average (32%).

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[2] Diesel particulate matter, which is also referred to as black carbon, is a strong absorber of solar radiation; scientists have known for many years that when black carbon particles combine with dust and chemicals in air they become more efficient in absorbing solar radiation, and black carbon mixtures may be the second biggest contributor to global warming. See California Air Resources Board, Health Effects of Diesel Particulate Matter pages 4-5, available at http://www.arb.ca.gov/research/diesel/dpm_draft_3-01-06.pdf [as of October 14, 2008]. See also *Chapter 2.2: Air Quality* of this EIR for an analysis of diesel particulate matter emissions.

REGULATORY SETTING

Federal Regulations

Global Change Research Act (1990) (15 United States Code Sections 2921 et seq.)

In 1990, Congress passed and the President signed Public Law 101-606, the Global Change Research Act. The purpose of the legislation was: "…to require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions towards international protocols in global change research, and for other purposes." To that end, the Global Change Research Information Office (GCRIO) was established in 1991 (it began formal operation in 1993) to serve as a clearinghouse of information. The Act requires a report to Congress every four years on the environmental, economic, health and safety consequences of climate change; however, the first and only one of these reports to-date, the *National Assessment on Climate Change*, was not published until 2000. In February 2004, operational responsibility for GCRIO shifted to the U.S. Climate Change Science Program.

Energy Policy Act of 2005

The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products. Because driving fuel-efficient vehicles and installing energy-efficient appliances can provide many benefits, such as lower energy bills, increased indoor comfort, and reduced air pollution, businesses are eligible for tax credits for buying hybrid vehicles, building energy efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are given for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

Massachusetts v. EPA (2007) (549 U.S. 497)

In this U.S. Supreme Court case, 12 states, three cities, and 13 environmental groups filed suit that the U.S. Environmental Protection Agency (EPA) should be required to regulate carbon dioxide and other GHGs as pollutants under the federal Clean Air Act. In April 2007, the U.S. Supreme Court found that the EPA has a statutory authority to formulate standards and regulations to address GHG emissions, which it historically has not done. In April 2009, EPA released an Endangerment Finding that GHGs significantly contribute to air pollution, triggering the process under the Clean Air Act for potentially developing National Ambient Air Quality Standards for GHGs and establishing emissions standards for stationary and mobile sources.

Federal Fuel Efficiency Standards

The Energy Independence and Security Act of 2007 (Public Law 110-140, at 42 USC Section 7545(o) (2)) increased the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS), requiring fuel producers to use at least 36 billion gallons of biofuel in 2022. It also tightened the Corporate Average Fuel Economy (CAFE) standards that regulate the average fuel economy in the vehicles produced by each major automaker, requiring that these standards be increased such that, by 2020, new cars and light trucks deliver a combined fleet average of 35 miles per gallon.

In May 2009, President Barack Obama ordered vehicle makers to increase mileage standards to 35.5 miles per gallon by 2016, four years earlier than required by law. The nationwide fuel-economy standards would be phased in beginning in 2012. Rules are to be finalized by the end of March 2010. Carmakers had wanted a national standard, saying that meeting a quilt of state standards would be too difficult.

In June 2009, the EPA approved California's rules to regulate GHG emissions from cars and light trucks, putting the standards into effect immediately for much of the nation and reversing a Bush administration policy. California had urged the EPA to allow the state's rules to go into effect immediately, arguing that the lengthy federal rulemaking process would delay action that could begin immediately. California's rules apply beginning with the sale of 2009 model year cars, and extend to much of the nation, since 13 other states and the District of Columbia have adopted the California standard. In 2012, companies may comply with the national standard in place of the state standard.

State Regulations

Senate Bill 1771 Sher (Chapter 1018, Statutes of 2000)

SB 1771 requires the California Energy Commission (CEC) to prepare an inventory of the state's GHG emissions, to study data on GCC, and to provide government agencies and businesses with information on the costs and methods for reducing GHG emissions. It also established the California Climate Action Registry to serve as a certifying agency for companies and local governments to quantify and register their GHG emissions for possible future trading systems.

Assembly Bill 1493 (Chapter 200, Statutes of 2002) (Calif. Health & Safety Code Sections 42823 and 43018.5)

Assembly Bill (AB) 1493 (Pavley) amended California Health & Safety Code sections 42823 and 43018.5 requiring the California Air Resources Board (ARB) to develop and adopt, by January 1, 2005, regulations that achieve maximum feasible reduction of GHGs emitted by passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California. The regulations apply to motor vehicles manufactured in the 2009 or later model year.

In September 2004, pursuant to AB 1493, the ARB approved regulations to reduce GHG emissions from new motor vehicles. Under the regulation, one manufacturer fleet average emission standard is established for passenger cars and the lightest trucks, and a separate manufacturer fleet average emission standard is established for heavier trucks. The regulation took effect on January 1, 2006 and set near-term emission standards, phased in from 2009 through 2012, and mid-term emission standards, phased in from 2013 through 2016 (referred to as the Pavley Phase 1 rules). The ARB intends to extend the existing requirements to obtain further reductions in the 2017 to 2020 timeframe (referred to as Pavley Phase 2 rules). The ARB has included both Pavley 1 and 2 rules in its Climate Change Proposed Scoping Plan (October 2008), pursuant to the Global Warming Solutions Act of 2006 (AB 32), which outlines the State's strategy to achieve 2020 GHG emission reductions. After initially refusing to grant a waiver on June 30, 2009, the EPA granted a waiver that allows California to implement these standards.

The ARB calculates that in calendar year 2016, the Pavley Phase 1 rules will reduce California's GHG emissions by 16.4 million metric tons of carbon dioxide equivalents, and by 2020, Pavley Phase 2 would reduce emissions by 31.7 million metric tons of carbon dioxide equivalents.

Further, the AB 1493 new vehicle requirements would cumulatively produce 45% more GHG reductions by 2020 compared to the federal CAFE standard in the Energy Independence and Security Act of 2007 (above) (ARB, 2008a).

Without Pavley rules, both state and regional CO_2 emissions would increase steadily between now and 2035 as vehicle miles traveled (VMT) increases with population growth; with Pavley rules, CO_2 emissions are projected to decrease between now and 2035. This decrease in regional 2035 CO_2 emissions compared to current levels is in large part a result of technological changes expected to reduce CO_2 emissions per VMT. The regulations would reduce climate change emissions from the light duty passenger vehicle fleet by 12.6% statewide and 22.9% in the Bay Area in the 2035 calendar year compared to 2006.

Senate Bill 1078 Sher (Chapter 516, Statutes of 2002)

SB 1078 established a Renewable Portfolio Standard, requiring electricity providers to increase purchases of renewable energy resources by 1% per year until they have attained a portfolio of 20% renewable resources by 2010. The City of Lodi is currently meeting this standard, with 27% of its energy coming from renewable sources in 2008.

Executive Order S-20-04 (Gov. Schwarzenegger, July 2004)

Executive Order S-20-04 requires that the State commit to aggressive action to reduce state building electricity use, and more specifically, that State agencies, departments and other entities take measures to reduce energy use by 20% by 2015. In addition, the Order requires that the CEC increase energy efficiency standards by 20% by 2015, compared to the 2003 Titles 20 and 24 standards.

Executive Order S-3-05 (Gov. Schwarzenegger, June 2005)

Executive Order S-3-05 recognizes California's vulnerability to climate change, noting that increasing temperatures could potentially reduce snow pack in the Sierra Nevada, which is a primary source of the State's water supply. Additionally, according to this Order, climate change could influence human health, coastal habitats, microclimates, and agricultural yield. The Order set the GHG reduction targets for California: by 2010, reduce GHG emissions to 2000 levels; by 2020 reduce GHG emissions to 1990 levels; by 2050 reduce GHG emissions to 80% below 1990 levels.

Title 24 Building Energy Efficiency Standards (2005)

Title 24 of the California Code of Regulations is the California Building Code, governing all aspects of building construction. Included in Part 6 of the Code are standards mandating energy efficiency measures in new construction. Since its establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas costs in California. The standards are updated every three years to allow new energy efficiency technologies to be considered. The latest update to Title 24 standards became effective on October 1, 2005. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local plan check and permit process. The 2008 Building Energy Efficiency Standards will be effective on January 1, 2010.

California Global Warming Solutions Act of 2006 (AB 32) (Calif. Health & Safety Code Sections 38500 et seq.)

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act (Health and Safety Code Section 38500 et. seq.). The Act requires the reduction of statewide GHG emissions to 1990 levels by the year 2020. This change, which is estimated to be a 30% reduction from business as usual emission levels projected for 2020, will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. The Act also directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources and address GHG emissions from vehicles. The ARB has stated that the regulatory requirements for stationary sources will be first applied to electricity power generation and utilities, petrochemical refining, cement manufacturing, and industrial/commercial combustion. The second group of target industries will include oil and gas production/distribution, transportation, landfills and other GHG-intensive industrial processes. The ARB developed a Climate Change Scoping Plan, finalized in December 2008, outlining the State's strategy to achieve 2020 greenhouse gas emission limits. The Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions.

Senate Bill 1368 (Chapter 598, Statutes of 2006) (Calif. Public Utilities Code Sections 8340 et seq.)

Senate Bill (SB) 1368 required the CPUC to establish a GHG emissions performance standard for "baseload" generation from investor-owned utilities by February 1, 2007. The CEC was required to establish a similar standard for local publicly-owned utilities by June 30, 2007. The legislation further required that all electricity provided to California, including imported electricity, must be generated from plants that meet or exceed the standards set by the CPUC and the CEC. In January 2007, the CPUC adopted an interim performance standard for new long-term commitments (1,100 pounds of CO_2 per megawatt-hour), and in May 2007, the CEC approved regulations that match the CPUC standard.

Executive Order S-01-07 (Gov. Schwarzenegger, January 2007)

In January 2007, a Low-Carbon Fuel Standard was established by Executive Order S-01-07. The Order calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 ("2020 Target"), and that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California. Further, it directs the ARB to determine if an LCFS can be adopted as a discrete early action measure pursuant to AB 32, and if so, consider the adoption of a LCFS on the list of early action measures required to be identified by June 30, 2007, pursuant to Health and Safety Code Section 38560.5. The LCFS applies to all refiners, blenders, producers or importers ("Providers") of transportation fuels in California, will be measured on a full fuels cycle basis, and may be met through market-based methods by which Providers exceeding the performance required by a LCFS shall receive credits that may be applied to future obligations of traded to Providers not meeting the LCFS. In response, ARB identified the LCFS as an early action item with a regulation to be adopted and implemented by 2010.

Senate Bill 97 (Chapter 185, Statutes of 2007) (Calif. Public Resources Code Sections 21083.5 and 21097)

Senate Bill (SB) 97 directs the Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Resources Agency guidelines for feasible mitigation of GHG emissions or the effects of GHG emissions. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for greenhouse gas emissions. The Natural Resources Agency will conduct formal rulemaking in 2009, prior to certifying and adopting the amendments on or before January 1, 2010. These new CEQA Guidelines will provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents. In the interim, the OPR offered informal guidance regarding steps lead agencies should take to address climate change in their CEQA documents (OPR, 2008).

State of California Integrated Energy Policy (2007)

In 2002, the Legislature passed Senate Bill 1389. The legislation reconstituted the state's responsibility to develop an integrated energy plan for electricity, natural gas, and transportation fuels, or Energy Report. The CEC adopts and transmits to the Governor and Legislature a report of findings biannually. Reports have been prepared since 2002, with the latest, the 2007 Integrated Energy Policy adopted by the CEC on December 5, 2007. The report addresses the balance between meeting energy demands from economic and population growth, while seeking to achieve environmental goals and emissions reduction targets. It focuses on energy, land use and transportation strategies.

Senate Bill 375 (Chapter 728, Statutes of 2008)

On September 30, 2008, Governor Schwarzenegger signed Senate Bill (SB) 375 into law. This legislation links transportation and land use planning with the CEQA process to help achieve the GHG emission reduction targets set by AB 32. Regional transportation planning agencies are required to include a sustainable community strategy (SCS) in regional transportation plans. The SCS must contain a planned growth scenario that is integrated with the transportation network and policies in such a way that it is feasible to achieve AB 32 goals on a regional level. SB 375 also identifies new CEQA exemptions and stream lining for projects that are consistent with the SCS and qualify as Transportation Priority Projects (TPP). TPPs must meet three requirements: 1) contain at least 50% residential use; commercial use must have floor area ratio (FAR) of not less than 0.75; 2) have a minimum net density of 20 units per acre; and 3) be located within one-half mile of a major transit stop or high quality transit corridor included in the regional transportation plan.

Executive Order S-14-08 (Gov. Schwarzenegger, November 2008)

Executive Order S-14-08 mandates a Renewable Portfolio Standard of 33% by 2020. This means that all retail sellers of electricity are required to fulfill one-third of their load with renewable energy by this date.

Regional Regulations

The San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District is the regional agency responsible for implementing State and federal air quality requirements in the eight Central Valley counties

including San Joaquin County. The district has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents and develops regulations consistent with State and federal air quality agencies. It does not presently regulate or monitor the emission of carbon dioxide or significant greenhouse gases.

San Joaquin County Valley Air Pollution Control District Climate Change Action Plan

In August 2008 the District's Governing Board adopted the Climate Change Action Plan (CCAP) (SJVAPCD, 2009). The CCAP authorized the Air Pollution Control Officer (APCO) to develop guidance documents to assist land use agencies and other permitting agencies in addressing GHG emissions as part of the CEQA process, investigate the development of a greenhouse gas banking program, enhance the existing emissions inventory process to include greenhouse gas emissions reporting consistent with new state requirements, and administer voluntary greenhouse gas emission reduction agreements. Details on mandated documents follow.

Greenhouse Gas Guidance for CEQA: The CCAP authorizes the APCO to develop guidance and procedures for assessing the significance of project-related GHG emissions in order to reduce some of the uncertainty of characterizing the impacts on GCC during the CEQA process. Also, for projects that are determined to have significant GHG emissions, or otherwise require GHG mitigation to reduce or offset the GHG emissions, sources of potential and approvable GHG mitigation must be clearly identified.

Carbon Exchange Program: The CCAP authorizes the APCO to develop regulations and procedures for a greenhouse gas emission reduction banking system. This voluntary banking system, the San Joaquin Valley Carbon Exchange, would provide a mechanism for the voluntary banking of GHG emission in the San Joaquin Valley.

Voluntary Greenhouse Gas Mitigation Agreements: The CCAP authorizes the APCO to develop guidance and procedures for implementing a program by which project proponents can voluntarily enter into contractual arrangements with the District to fund projects, mitigating their projects cumulative impact on GCC.

The report also includes proposed Best Performance Standards (BPS) for stationary source projects and development projects that result in GHG emissions from operational and transportation related activities. Development project BPSs include bicycle/ pedestrian/ transit, parking measures, site design, mixed-use, building component, transportation demand, and other miscellaneous measures.

Local Regulations

Energy Sources and Service Providers

Electrical service to the City is provided by the Lodi Electric Utility. The Lodi Electric Utility is a customer-owned and city operated utility that provides electrical services for residential, commercial and industrial customers in the City.

For 30 years, the Lodi Electric Utility has been a member of the Northern California Power Agency (NCPA), which is a collective comprised of utilities that own and operate their own power plants. The NCPA is a California Joint Action Agency, with membership open to municipalities, rural electric cooperatives, irrigation districts and other publicly owned entities interested in the purchase, aggregation, scheduling and management of electrical energy. The

NCPA allows the Lodi Electric Utility to purchase and supply electricity at cost. The NCPA owns and operates a variety of electric generation facilities, which include the following:

- Five quick-response Combustion Turbine units (G.E. frame 5) located in the cities of Alameda, Roseville, and Lodi.
- Combustion Turbine Project No. 2, a 49 MW steam-injected gas turbine (STIG) plant, located near Lodi.
- The North Fork Stanislaus River Hydroelectric Development Project is a hydroelectric project on the North Fork of the Stanislaus River.
- Two geothermal power plants and the associated steam field.

The two NCPA power plants have two generators each and the project produces 147 megawatts. Dry, superheated steam is delivered to the power plants from 65 to 70 production wells via approximately eight miles of pipeline.

Natural gas service for the Planning Area is provided by Pacific Gas and Electric Company (PG&E) and is piped from gas fields in Tracy and Rio Vista.

Resolution No. 2006-205: A Resolution of the Lodi City Council Endorsing the California Municipal Utilities Association's Principles Addressing Greenhouse Gas Reduction Goals

The resolution, passed by the Lodi City Council in November of 2006, endorses the California Municipal Utilities Association's Principles Addressing Greenhouse Gas Reduction Goals, which include several measures consistent with AB 32. These measures include:

- Developing a GHG reduction plan consistent with the state's reduction goals.
- Proactively implementing state law, which requires that "…each local publicly owned electric utility, in procuring energy, shall first acquire all available energy efficiency and demand reduction resources that are cost-effective, reliable and feasible."
- After first investing in energy efficiency, then pursuing renewable energy supplies, and other non-GHG emitting energy resources and clean fossil resources:
    - Continuing to aggressively pursue renewable energy supply.
    - Facilitating distributed generation/combined heat and power projects.
- Quantifying the financial risk of GHG-producing resources in the planning and procurement process, including, but not limited to, quantifying a carbon emissions risk "adder" (credit) for both in-state and out-of-state resources.
- Considering environmental justice issues in its overall resource procurement and greenhouse gas reduction policies.
- Supporting standardized, mandatory greenhouse gases reporting from all significant sources.

- Providing measurement and verification of programs that reduce greenhouse gas emissions.
- Providing education to customers on ways they can reduce their greenhouse gas emissions, and providing assistance where feasible.

City Energy Conservation Programs

The City currently administers and implements a variety of local energy conservation and sustainability programs. They include, but are not limited to, the following:

- The City implements a Water Conservation program that includes restricted watering schedules, education programs, and enforcement personnel.
- Energy conservation is included in the design and construction of public infrastructure including traffic signals that are equipped with low-voltage LED lighting equipment.
- The City requires solar assisted equipment to be furnished at all new bus shelters/stops.
- The Lodi Electric Utility has lighting, heating, and air conditioning rebate programs when energy-conserving facilities are installed for non-residential customers.
- Transit services in Lodi are often added in areas where new development is proposed or augmented in existing developed areas where an increase in transit ridership is anticipated.
- The City routinely amends its Citywide Bikeway Master Plan to address the need for new or expanded bikeways in areas undergoing new development.
- The City's entire transit fleet is composed of compressed natural gas (CNG) vehicles. The Public Works Department also has three CNG vehicles for use by staff.
- The Electric Utility Department operates two electric vehicles.
- The City encourages the use of drought-tolerant landscape species in landscape plans that are submitted to the City for review and approval.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

To-date, neither the State nor the San Joaquin Valley Air Pollution Control District has approved thresholds of significance for greenhouse gas (GHG) emissions. However, OPR published a draft of the proposed amendments to CEQA Guidelines in April 2009, and the proposed revisions were used in this EIR to develop the significance criteria below.

The proposed Lodi General Plan would result in a significant impact if it would do one or more of the following:

- Increase GHG emissions over existing conditions, either directly or indirectly;

- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases; or
- Result in a substantial increase in per capita energy consumption in the city which would suggest more wasteful, inefficient, or unnecessary consumption of energy;

METHODOLOGY & ASSUMPTIONS

The climate change analysis is provided in response to the most recent recommendations and guidance materials from the OPR, CARB, Attorney General, CAPCOA, and other responsible agencies. The GHG analysis focuses on CO_2, CH_4, and N_2O emissions, which make up the overwhelming majority of GHG emissions. For purposes of comparison, all three gases are described in carbon dioxide equivalents (CO_2e). The California Climate Action Registry General Reporting Protocol (CCAR GRP) Version 3.1, and the Local Government Operations Protocol (LGOP), version 1.0, developed by CARB, CCAR, ICLEI and the Climate Registry are the primary references used for conversion factors and methodology, unless otherwise noted. The existing condition for each sector is defined by the most recent data available by sector; thus data from past years (such as transportation data from 2006) is used as a proxy for the existing condition.

Service Population

This analysis employs the concept of "service population" to account for growth in both residential population and jobs within the community. Distributing GHG emissions across a whole service population, not just across residential population (as in a per capita approach), allows this analysis to more accurately describe the future change in land uses. Given the substantial increase in jobs in the proposed General Plan and the importance of job creation for the City of Lodi, the service population is more useful that per capita comparisons when analyzing the efficiency of the proposed General Plan.

Application of Regulatory Framework

The analysis of GHG emissions takes into consideration emissions reductions that would result from effective implementation of State legislation, including Assembly Bill 1493: Pavley; Senate Bill 1078 Sher and Executive Order S-14-08: Renewables Portfolio Standard; and Executive Order S-01-07: Low Carbon Fuel Standard. These mandates described above in the regulatory setting and are included in CARB's Climate Change Scoping Plan, which outlines the State's strategy to achieve the 2020 GHG emissions limit established by AB 32 (CARB, 2008c). The Scoping Plan is used as an example in application of the Renewables Portfolio Standard and Low Carbon Fuel Standard in this EIR. Application of mandates is described in the methodology details below by emission sector.

Emissions from Electricity Use

Indirect emissions associated with the purchase and use of electricity are estimated based on kWh data for 2008-2009 provided by Lodi Electric Utility. Total kWh is translated into CO_2e using emission factors developed for the State, as recommended in the LGOP. This is considered a conservative estimate since Lodi's power mix consists of a greater portion of renewable energy sources than the State average (10%), indicating that the baseline analysis does not account for the 27% renewable typically included in Lodi's power mix.

Forecast emissions for residential electricity use are based on population growth between 2009 and 2030, assuming that per capita electricity use remains constant. Forecast emissions for

commercial/ industrial electricity use are based on job growth between 2009 and 2030, assuming that electricity use per job would remain constant. These are conservative estimates given policies in the proposed General Plan that will reduce energy use in both residential and commercial settings, as described in Impact 3.6-1.

Electricity Mandates

Based on Governor Schwarzenegger's call for a statewide 33% Renewables Portfolio Standard in Executive Order S-14-08, the Scoping Plan anticipated that California will have 33% of its electricity provided by renewable resources by 2020, and included the reduction of greenhouse gas emissions based on this level. Since emissions factors used to calculate CO_2e are based on the State average, which includes about 10% renewable energy, the remaining 23% reduction was applied to the GHG emissions generated from residential electricity use and commercial/industrial electricity use in Lodi.

Transportation Emissions

The transportation model developed by Fehr and Peers was used to estimate VMT for existing conditions (2006), the proposed project, and the No Project scenario. VMT projections were then used to calculate fuel use and resultant CO_2e emissions from transportation. Section 3.2: Traffic and Circulation describes the transportation model in more detail.

Transportation Mandates

US EPA granted California a waiver in June 2009 that allows the state to implement stricter fuel efficiency standards than federal regulations. ARB has indicated that it will be able to enforce AB 1493 (Pavley), the state legislation that mandates greater fuel efficiency. Therefore, this EIR includes Pavley Phases 1 and 2 in the GHG and energy analyses. This EIR shows fuel efficiency estimates for No Pavley, as well as Pavley Phase 1 and 2. The No Pavley estimates are based on implementation of proposed 2009 federal CAFE standards.

In addition, the Scoping Plan estimates that Executive Order S-01-07 Low Carbon Fuel Standard would result in a reduction of 15 million metric tons of CO_2e in 2020, which would represent a reduction of approximately 6.6% in GHG emissions from the State's transportation sector. Therefore, a 6.6% reduction was applied to the GHG emissions generated from Lodi's transportation sector.

Waste

Two methods were used to calculate baseline emissions from waste. The first method used the CARB Landfill Emissions Tool, Version 1.1, released in May of 2009, which is an implementation of IPCC's Mathematically Exact First-Order Decay Model. The CARB model results showed 16,152 metric tons of CO_2e ($MTCO_2e$) in 2008 based on waste deposits from 1996 to 2008 (CIWMB, 2009). While the CABB model is designed to analyze emissions from a landfill over time, this analysis considers only waste deposited by residents and businesses in Lodi.

A second method used the Waste Reduction Model (WARM), developed by the US EPA. The WARM model estimates 23,893 metric tons of CO_2e ($MTCO_2e$) from Lodi's 65,146 tons of landfilled waste and 10 tons of burned waste, both recorded in 2008. The analysis assumes that all waste is mixed municipal solid waste. These results are substantially larger than the CARB model outputs. This is most likely due to the fact that the EPA model is based on a life-cycle approach

and therefore also reflects emissions and avoided emissions upstream and downstream from the point of use. The WARM model is designed to provide a new benefit comparison between waste management options, and the EPA notes that, "this life-cycle approach is not appropriate for use in inventories because of the diffuse nature of the emissions and emission reductions within a single emission factor" (EPA, 2009). So, while this method is not appropriate for the analysis in this EIR, it should be noted that additional emissions may be unaccounted for in the CARB estimates.

In the analysis that follows, the CARB baseline estimate is used since it is deemed more appropriate for an emissions baseline, and waste emissions are expected to increase at the same rate as population growth. This too is likely to be a conservative estimate, since waste reduction measures are included in proposed General Plan policies but are not accounted for in the modeling.

Cumulative Impact Analysis

A cumulative impact analysis considers the possible effects of the proposed Project together with projected regional growth and anticipated increases in regional travel that are not a result of the proposed Project. Greenhouse gas and global climate change impacts are the result of many interrelated regional changes, and thus the significance of the proposed Project's impact is only apparent when considered in conjunction with these wider development patterns.

For purposes of determining the overall significance of greenhouse gas impacts, this analysis compares the proposed Project in year 2030 to existing conditions (year 2006 for transportation related emissions, year 2008 for electricity). However, this analysis also compares the proposed Project to the No Project alternative because this comparison helps to identify the contribution of the proposed General Plan to the cumulative population and employment growth that would affect GHG emissions in the region as a whole. This surrounding regional growth and development would occur even if the Plan were not adopted, and is largely independent from proposed Plan policies. The No Project alternative is equivalent to what would occur in and around Lodi if the proposed General Plan were not adopted and implemented. This additional level of comparison provides a meaningful perspective on the potential impacts and benefits of the proposed General Plan.

SUMMARY OF IMPACTS

Under the proposed General Plan, future emissions are estimated to increase to 419,221 $MTCO_2e$ in 2030 with State mandates, an increase of approximately 32% over the existing condition. However, per service population emissions decline by nearly 23% under the proposed General Plan when compared to existing conditions. The proposed General Plan would result in 38% more emissions than the No Project. The proposed General Plan would also result in more CO_2e per service population than the existing condition and No Project. This indicates that the increase in emissions under the proposed General Plan is largely a result of growth, and in particular job growth, under the proposed General Plan. These estimates, however, do not account for several policies in the proposed General Plan that would contribute to lowering emissions, but that are difficult to quantify. For instance, the proposed General Plan seeks to reduce total greenhouse gas emissions by 15% over 2008 levels by 2020, in part through policies in the proposed General Plan and in part through additional policies that would be developed as part of a climate action plan (CAP). The proposed General Plan includes several polices that are consistent with guidance from regional and State agencies, that together seek to reduce per capita energy consumption, establish

a balanced and mixed-use land use pattern, promote sustainable development practices, reduce sprawl, promote walkability, and reduce VMT.

Given the current uncertainty in quantifying the impacts of the measures, it is not possible to determine in this analysis if the proposed policies would reduce emissions sufficiently. Therefore, despite policies in the proposed General Plan, and given that the proposed General Plan results in an increase over both existing conditions and the No Project in the analysis below, the proposed General Plan would result in a considerable contribution to the significant cumulative impact.

Implementation of the proposed General Plan would be consistent with applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions, indicating that there is no impact regarding the second significance criteria. Under AB 32, which requires a statewide reduction of GHG emissions to 1990 levels by 2020, ARB has developed a Climate Change Scoping Plan outlining the State's strategy to achieve the 2020 GHG emissions limit and which proposes a comprehensive set of actions designed to reduce overall GHG emissions in California (CARB 2008c). As AB 32 does not provide a requirement for individual sectors or jurisdictions to reduce emissions by a specific amount, this analysis evaluates qualitatively whether the proposed General Plan is consistent with the suggested measures and overall approach of the Scoping Plan and other guidance, such as from the Attorney General's office. Recommended actions addressed in the Scoping Plan that are relevant to the proposed General Plan include reducing energy use, establishing green building strategies, increased recycling, and improved water conservation, all of which are covered extensively in proposed General Plan policies.

The City of Lodi currently does not have any adopted policy or plan regarding the reduction of GHG emissions. The proposed General Plan, however, includes several policies that address GHG emissions. Specifically, the proposed General Plan seeks to reduce GHG emissions by 15% from 2008 levels, consistent with the Scoping Plan's estimate for overall California reductions, and calls for adoption of a climate action plan which would provide the framework for achieving the reduction. The proposed General Plan introduces several policies that are representative of measures included in the Scoping Plan as well as the Attorneys General and CAPCOA's recommended measures and policies to offset or reduce global warming impacts. These policies are listed in Impact 3.6-1. Because the proposed General Plan is consistent with these plans and policies, implementation of the proposed General Plan would have no impact regarding consistency with relevant adopted plans.

Population and employment growth envisioned by the proposed General Plan may increase energy demand required by new housing and additional motor vehicles. Compliance with energy-saving building codes and an effective use of alternative modes of transportation, combined with the proposed General Plan policies outlined below, would reduce wasteful energy consumption to a less than significant level.

Phasing

Climate change impacts summarized here were determined based on an analysis of the full development potential of the General Plan, consistent with CEQA requirements. As described in Chapter 2: Project Description, it is anticipated that new development in Lodi would generally follow a phased approach. If the full development potential of the proposed General Plan is not realized, then it would be expected that GHG emissions would be lower than projected in the impact analysis below. For example, development through Phase 1 of the proposed General Plan projects 84,500 residents (including residents resulting from approved/under construction

projects) and 39,200 jobs. Therefore, Phase 1 would result in lower VMT, fewer GHG emissions, and less energy demand. However, because of the increased emissions, it would still result in a considerable contribution to the significant cumulative impact of emissions compared to existing conditions. This issue is not discussed further in the impact analysis below (which describes full implementation of the proposed General Plan, through Phase 3).

IMPACTS AND MITIGATION MEASURES

Impact

3.6-1 Implementation of the proposed General Plan would increase total carbon dioxide equivalent emissions in Lodi, compared to existing conditions. (*Overall Significant Cumulative Impact, Project Contribution Cumulatively Considerable*)

Concurrent implementation of the proposed General Plan and forecast development of residential and employment land uses in the region could result in increased GHG emissions, thereby contributing to GCC, including regional climate impacts. These regional impacts could include a shrinking Sierra snowpack that would threaten the state's water supply; public health threats caused by higher temperatures and more smog; damage to agriculture and forests due to reduced water storage capacity, rising temperatures, increasing salt water intrusion, flooding, and pest infestations; critical habitat modification and destruction; eroding coastlines; increased wildfire risk; and increased electricity demand. It is reasonable to generalize that GCC is a significant cumulative impact, as the scientific community has acknowledged its detrimental effects on ecosystems and human communities, and it is caused by the cumulative GHG emissions from human activities across the globe and over many decades. Furthermore, as GCC is accelerated by GHG emissions, any increase in annual emissions compared to what exists today can generally be considered to be part of a significant cumulative impact. For the purposes of this EIR, this analysis makes a determination about whether the proposed General Plan makes a cumulatively considerable contribution to the overall cumulative impact, through comparison to existing conditions and the No Project condition which represents the future condition without the implementation of the proposed General Plan.

As shown in Table 3.6-1, substantial growth is expected in Lodi, both in comparison to existing conditions and the No Project. The population is expected to increase by 57% under the proposed General Plan when compared to existing conditions, and by 20% when compared to the No Project. Even more significant, jobs increase by 107% under the proposed General Plan when compared to existing conditions and by 56% when compared to the No Project. This growth results in increased electricity use and demand on the transportation system, as reflected within this chapter in terms of vehicle miles traveled. By combining these projections, the service population increases by 71% under the proposed General Plan when compared to existing conditions and by 31% when compared to the No Project.

Table 3.6-1: Service Population in Lodi

	Existing	*No Project*	*Proposed General Plan*	*Change from Existing to Proposed General Plan*	*Change from No Project to Proposed General Plan*
Population	63,362	82,600	99,500	57%	21%
Jobs	24,655	32,700	51,000	107%	56%
Service Population	**88,017**	**115,300**	**150,500**	**71%**	**31%**

Source: Dyett & Bhatia, 2009.

Electricity Use

As shown in Table 3.6-2, emissions from electricity use are greater under the proposed General Plan than existing conditions and the No Project. This is largely due to the increase in jobs in the proposed General Plan, but also the increase in population, as described above and shown in Table 3.6-1.

The calculation of residential electricity use is based on population growth; commercial and industrial electricity use is based on job growth. Both calculations maintain a consistent per capita/ per job rate of electricity use over time. Based on existing residential electricity use, residential kWh per capita was 2,422 per year. Based on existing commercial and industrial electricity use, the kWh per job was 12,111 per year (City of Lodi, 2009). This difference indicates that an increase in jobs leads to substantially more emissions than an increase in population. The proposed General Plan includes more jobs than the existing condition and No Project, and therefore, given the higher electricity use per job, results in higher emissions. Both the No Project and proposed General Plan result in more electricity emissions than existing conditions, both with and without State mandates. The proposed General Plan results in the highest emissions per service population without State mandates. With State mandates, however, electricity CO_2e per service population is less than in the existing condition for both the proposed General Plan and No Project.

As mentioned in the methodology section, total kWh is translated into CO_2e using emission factors developed for the State, as recommended in the LGOP. Therefore the electricity use estimates in the table below are consider considered conservative since Lodi's power mix consists of a greater portion of renewable energy sources (27%) than the State average (10%). Actual GHG emissions would likely be lower.

Table 3.6-2: Projected Indirect GHG Emissions from Electricity Use ($MTCO_2e$)

	Existing	*No Project Business as Usual*	*No Project with State Mandates*[1]	*Proposed General Plan Business as Usual*	*Proposed General Plan with State Mandates*	*% Change Existing to Proposed Business as Usual*	*% Change Existing to Proposed with State Mandates*	*% Change No Project to Proposed*
Service Population	88,017	115,300	115,300	150,500	150,500	71%	71%	31%
Residential	67,011	87,356	67,264	105,230	81,027	57%	21%	21%
Commercial/ Industrial	130,360	172,896	133,130	269,655	207,634	107%	56%	56%
Electricity Total	**197,370**	**260,253**	**200,395**	**374,884**	**288,661**	**90%**	**44%**	**44%**
CO_2e Per Service Population	**2.2**	**2.3**	**1.7**	**2.5**	**1.9**	**11%**	**-15%**	**10%**

1. Residential and commercial emissions reflect a 23% reduction based on application of Senate Bill 1078 Sher and Executive Order S-14-08: Renewables Portfolio Standard, reflecting the additional percentage of renewable required in California.

Source: Dyett & Bhatia, 2009; City of Lodi 2009; Local Government Operations Protocol, Version 1.0, September 2008

Table 3.6-3: Projected Transportation GHG Emissions (emissions in metric tons)

	Before 6.6% state mandate reduction							*With 6.6% state mandate reduction*		
	Service Population	*Fleet Miles per Gallon*	*Annual VMT (millions)*	*Total Annual CO2e Emissions*	*% Change from Existing*	*% Change from No Project*	*CO2e Per Service Population*	*Total Annual CO2e Emissions*	*% Change from Existing*	*CO2e Per Service Population*
Existing Conditions	88,017	24.4	280	103,479	-	-	1.18	-	-	-
Proposed General Plan										
Federal CAFE (No Pavley)	150,500	36.6	521	129,941	26%	27%	0.86	121,365	17%	0.81
Pavley 1 and 2	150,500	42.5	521	112,630	9%	27%	0.75	105,196	2%	0.70
No Project										
Federal CAFE (No Pavley)	115,300	36.6	410	102,183	-1%	n/a	0.89	95,439	-8%	0.83
Pavley 1 and 2	115,300	42.5	410	88,570	-14%	n/a	0.77	82,725	-20%	0.72

1. Transportation emissions reflect Pavley 1 and 2 from Assembly Bill 1493, as described in Table 3.6-1, and a 6.6% reduction to reflect Executive Order S-01-07.

Source: Dyett & Bhatia, 2009; Fehr and Peers, 2009; CCAR GRP v.3.1, 2009; CARB 2008.

Vehicle Miles Traveled

As shown in Table 3.6-3, emissions from transportation are greater under the proposed General Plan when compared to existing conditions and the No Project. This increase in emissions is the result of increased demand on the transportation system from population and job growth. Demand on the transportation sector is reflected in this analysis in terms of VMT. In addition, Table 3.6-3 reflects the importance of implementing State regulations in significantly reducing CO_2e emissions. However, even when Pavley 1 and 2 and the Low Carbon Fuel Standard are considered, the proposed General Plan results in a slight increase in transportation CO_2e emissions over the existing condition and a 27% increase in emissions over the No Project. With and without State mandates, the proposed General Plan and No Project each result in lower emissions per service population when compared to existing conditions. Further, the proposed General Plan results in lower emissions per service population than the No Project. The lower per service population rates indicate that the new growth is being more efficiently accommodated under the proposed General Plan, despite the overall increase in emissions.

Total Emissions

Table 3.6-4 shows the estimated emissions projected for 2030. Under the proposed General Plan, future emissions would be 419,221 metric tons of CO_2e in 2030, an increase of approximately 1.3% per year and 32% higher than the existing condition, resulting in an overall significant cumulative impact. Overall, emissions from commercial and industrial electricity use make up 50% of total emissions. State mandates result in a substantial proportion of emissions reduction under both the proposed General Plan and the No Project alternative.

Regarding the proposed Project's contribution to the overall cumulative impact, total future emissions under the General Plan would be greater than under the No Project alternative, suggesting that the proposed Project does result in population or employment growth beyond what would be expected based solely on regional forces. This would be a cumulatively considerable contribution to the overall cumulative effect.

However, another important comparison is that of the relative service populations under existing conditions, the No Project, and the proposed Project. Emissions per service population are 23% less under the proposed General Plan in 2030 when compared to existing conditions. Emissions per service population under the No Project would be less than both existing conditions and the proposed General Plan. The No Project results in fewer emissions per service population than the proposed General Plan due to a much smaller increase in jobs (and job-related electricity use) in comparison to the proposed General Plan (each additional job results in more emissions from electricity use than each additional resident). The service population comparison shows that the proposed General Plan accommodates growth more efficiently (with fewer GHG emissions per service population) than existing conditions.

Table 3.6-4: Projected Comparative GHG Emissions ($MTCO_2e$)

	Existing	*No Project*	*Proposed General Plan*	*% Change Existing to Proposed*	*% Change No Project to Proposed*
Service Population	88,017	115,300	150,500	71%	31%
Electricity Use Emissions[1]	197,370	200,395	288,661	46%	44%
Transportation Emissions[2]	103,479	82,725	105,196	2%	27%
Waste Emissions[3]	16,152	21,056	25,364	57%	21%
Total	**317,001**	**304,175**	**419,221**	**32%**	**38%**
CO_2e Per Service Population	**3.6**	**2.6**	**2.8**	**-23%**	**6%**

1. Residential and commercial emissions reflect a 23% reduction based on application of Senate Bill 1078 Sher and Executive Order S-14-08: Renewables Portfolio Standard, reflecting the additional percentage of renewable required in California.
2. Transportation emissions reflect Pavley 1 and 2 from Assembly Bill 1493, as described in Table 3.6-1, and a 6.6% reduction to reflect Executive Order S-01-07: Low-Carbon Fuel Standard.
3. Calculated based on CARB Landfill Emissions Tool, Version 1.1.

Source: Dyett & Bhatia, 2009; Fehr & Peers, 2009; City of Lodi, 2009; CCAR GRP v.3.1, 2009; Local Government Operations Protocol, Version 1.0, September 2008; CARB, 2008; CARB, 2009.

Proposed General Plan Policies that Reduce the Impact

The estimated emission levels above are conservative; they do not account for several policies in the proposed General Plan that would contribute to lowering emissions, beyond reductions associated with State mandates, but that are difficult to quantify. If policies in the proposed General Plan are effectively implemented, emission levels in 2030 would be substantially lower than those reflected in Table 3.6-4.

The proposed General Plan seeks to reduce greenhouse gas emissions to 15% below 2008 levels by 2020, reduce per capita energy consumption, establish a balanced and mixed use land use pattern, restrict sprawl, promote sustainable development practices, promote walkability, and reduce VMT. Among the many policies that would contribute to GHG emission reductions, the proposed General Plan calls for the adoption of a comprehensive CAP. The CAP would include targets and enforceable control measures that would aim to achieve the 15% reduction by 2020. Several proposed General Plan policies will establish the basis of the CAP, as identified in Appendix A of the proposed General Plan, and in Table 3.6-5 below.

Unfortunately, quantifying the impacts of these policies on GHG emission reductions is challenging. For instance, transit mode shares—which would result in VMT reductions—have been found to range from 5% to nearly 50% as a result of transit oriented development and walkability (Arrington and Cervero, 2008). Further, some measures have both positive and negative impacts on projected GHG emissions. For instance, under the proposed General Plan the increase in jobs improves the jobs/housing balance, which changes from 0.77 in the existing condition to 1.01 in 2030, which should help reduce VMT. However, this increase in jobs is largely responsible for the significant increase in emissions, with commercial and industrial electricity use making up 50% of total emissions. As a result of the uncertainty in quantifying these impacts, guidance from regional and State agencies is used to determine appropriate policies for GHG emissions reductions.

Several documents have been prepared by regional and State agencies that provide guidance on developing policies to reduce GHG emissions. In June 2009, CAPCOA published a guide for developing policies at the local level in general plans. The document includes over 350 policy suggestions. It also includes a list of the top ten strategies that are widely applicable throughout California, and are recommended for initial local government focus for general plan policies and climate action plan development. This list is also referred to in the Attorney General's most recent guidance documents regarding sustainability and general plans (Attorney General, 2009). Table 3.6-5 identifies the top ten strategies identified by the Attorney General and corresponding proposed General Plan policies.

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

1. Promotion of smart growth, jobs/ housing balance, transit oriented development, and infill development through land use designations, zoning, and public private partnerships;	*Chapter 2: Land Use Policies*	
	LU-G1	Create a balanced and sustainable land use pattern that provides for a diversity of uses and satisfies existing and future needs.
	LU-G2	Encourage development of downtown as a mixed-use activity center with a range of commercial, residential, and civic uses.
	LU-G3	Promote revitalization of key commercial spines of the community with focused, mixed-use development.
	LU-G4	Foster development of walkable new neighborhoods, with a mix of uses and diversity of housing types.
	LU-P2	Require sites designated for mixed-use development—downtown, corridors, and in new neighborhood centers—to be developed with a variety of residential and non-residential uses, in accordance with the General Plan designation.
	LU-P3	Do not allow development at less than the minimum density prescribed by each residential land use category.
	LU-P6	Locate new medium- and high-density development adjacent to parks or other open space, in order to maximize residents' access to recreational uses; or adjacent to mixed-use centers or neighborhood commercial developments, to maximize access to services.
	LU-P18	Encourage medium- and high-density residential development in downtown by permitting residential uses at upper levels; and east and northwest of downtown, as depicted on the Land Use Diagram, by identifying vacant and underutilized sites that are appropriate for redevelopment.
	LU-P25	Guide new residential development into compact neighborhoods with a defined Mixed-Use Center, including public open space, a school or other community facilities, and neighborhood commercial development.
	LU-P26	Require a centrally located Mixed-Use Center within each new residential neighborhood: one west of Lower Sacramento Road and two south of Harney Lane, as shown on the Land Use Diagram. Centers should serve as a focal point for the surrounding neighborhood, be pedestrian-oriented and encourage a mix of uses to serve local needs.

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

LU-P27 Require a master or specific plan in areas with a Mixed-Use Center and adjacent complementary uses, as a condition of subdivision approval. Uses should include neighborhood commercial, civic and institutional uses, parks, plazas, and open space—consistent with Land Use Diagram (unless any of these uses are found infeasible and/or alternative locations are available to carry out mixed-use policies). Streets should adhere to the pattern depicted on the Land Use Diagram.

Chapter 3: Growth Management and Infrastructure Polices

GM-G1 Ensure contiguous, paced, and orderly growth by identifying phases for development. Allow development in subsequent phases only once thresholds of reasonable development in prior phases have been achieved.

GM-G2 Provide infrastructure, including water, sewer, stormwater, and solid waste/recycling systems that is designed and timed to be consistent with projected capacity requirements and development phasing.

GM-G3 Promote conservation of resources in order to reduce the load on existing and planned infrastructure capacity, and to preserve existing environmental resources.

GM-P1 Define Lodi's southern boundary and establish limits on development to the south through the establishment the Armstrong Road Agricultural/Cluster Study Area. Cooperate with San Joaquin County, the San Joaquin County Local Agency Formation Commission and property owners to ensure maintenance of this area as a separator from the City of Stockton.

GM-P2EDIT Target new growth into identified areas, extending south, west, and southeast. Ensure contiguous development by requiring development to conform to phasing described in Figure 3-1. Enforce phasing through permitting and infrastructure provision.

Development may not extend to Phase 2 until Phase 1 has reached 75% of development potential, and development may not extend to Phase 3 until Phase 2 has reached 75% of development potential. <u>In order to respond to market changes in the demand for various land use types, exemptions may be made to allow for development in future phases before these thresholds in the previous phase have been reached.</u>

GM-P3 Use the Growth Management Allocation Ordinance as a mechanism to even out the pace, diversity, and direction of growth. Update the Growth Management Allocation Ordinance to reflect phasing and desired housing mix. Because unused allocations carry over, as of 2007, 3,268 additional permits were available. Therefore, the Growth Management Allocation Ordinance will not restrict growth, but simply even out any market extremes.

GM-P4 Update allocation of units by density to ensure that development density occurs as recommended in Chapter 2: Land Use. For instance, approved permits should be allocated to provide 45.4% of permits for low density, 27.3% medium density, and 27.3% high density/ mixed use housing during phase 1. This represents a shift towards slightly more medium and high density housing in Lodi.

GM-P6 Annex areas outside the existing sphere of influence to conform with development needs for Phase 1, Phase 2, and Phase 3. Subsequent phases shall be annexed as current phases reach development thresholds.

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

	Chapter 4: Community Design and Livability Policies	
	CD-G1	Enhance Lodi's identity and livability by maintaining a compact urban form, with clear edges and delineation between urban and rural uses.
	CD-P1	Incentivize infill housing—within the Downtown Mixed Use district and along Mixed Use Corridors—through the development review, permitting and fee processes.
2. Support for and funding of transit, bicycle, and pedestrian connections through transit and trail planning and regional cooperation;	*Chapter 4: Community Design and Livability Policies*	
	CD-G-4	Structure new neighborhoods to promote walkability, and ensure they are integrated with the surrounding urban fabric.
	CD-G-5	Foster a well connected street network that enhances accessibility to jobs, services, parks, schools, and shopping, particularly at the scale of pedestrians and bicyclists.
	CD-P31	Integrate new Mixed Use Centers into the city's existing fabric and proposed new development. Provide a network of streets and connections that expands circulation opportunities for pedestrians and bicyclists and ensures connections by multiple modes between the new centers, and existing neighborhoods. Update Subdivision ordinance to require: • Master plans for new development that show publicly accessible parks, and a connected street grid. • Blocks that do not exceed 600 feet in length unless additional pedestrian connections or public space is included. • Street trees on public streets. • Sidewalks on public streets.
	CD-P21	Limit maximum block lengths in new neighborhoods to 600 feet, with pedestrian/bicycle connection no more than 400 feet apart (where resulting from connection at end of cul- de-sac), and 400 feet between through streets along Neighborhood Mixed Use Centers.
	CD-P24	Use bike lanes, trails, or linear parks to improve connectivity throughout the city and in particular between housing located south of Kettleman and amenities located north of Kettleman, as shown in Figure 4-7. These pathways should employ easy and safe crossings and connect to destinations such as downtown, shopping centers, parks, and/or schools.
	Chapter 5: Transportation Policies	
	T-G2	Maintain and update street standards that provide for the design, construction, operation, and maintenance of City streets based on a "complete streets" concept that enables safe, comfortable, and attractive access for pedestrians, bicyclists, motorists, and transit users of all ages and abilities, in a form that is compatible with and complementary to adjacent land uses.
	T-G4	Provide for safe and convenient pedestrian, bicycle, and transit circulation.
	T-P13	Foster walkable streets through streetscape improvements, continuous sidewalks on both sides of streets, and encouraging pedestrian access wherever feasible. Update the Subdivision Ordinance to include requirements for sidewalks, street trees, and lighting. Where sidewalks do not exist within existing developments, and are desired, explore a program to provide sidewalks by reducing the curb-to-curb road width, in cases where safety and traffic flow are not compromised.

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

	T-P14	To maintain walkability and pedestrian safety, consider roadway width and roadway design features such as islands, pedestrian refuges, pedestrian count-down timers, and other such mechanisms. This policy applies to new roadway construction as well as existing roadways where pedestrian hazards may occur due to roadway design or width.
	T-P15	In new development areas, include pedestrian connections to public transit systems, commercial centers, schools, employment centers, community centers, parks, senior centers and residences, and high-density residential areas.
	T-P16	Work cooperatively with the Lodi Unified School District on a "safe routes to schools" program that aims to provide a network of safe, convenient, and comfortable pedestrian routes from residential areas to schools. Improvements may include expanded sidewalks, shade trees, bus stops, and connections to the extended street, bike, and transit network.
	T-P17	Use the City's Bike Master Plan as comprehensive method for implementing bicycle circulation, safety, and facilities development. Update the Plan to match Figure 5-2, which defines bike routes connections in new General Plan development areas.
	T-P18	Coordinate the connection of local bikeways and trails to regional bikeways identified in the San Joaquin County Bicycle Transportation Plan.
	T-P19	Require the placement of bicycle racks or lockers at park-and-ride facilities.
	T-P23	Continue to support the efficient operation of the Lodi Station, and to explore opportunities to expand the multi-modal transportation services provided there.
	T-P25	Encourage ridership on public transit systems through marketing and promotional efforts. Provide information to residents and employees on transit services available for both local and regional trips.
	T-P28	Require new development to provide transit improvements where appropriate and feasible, including direct pedestrian access to transit stops, bus turnouts and shelters, and local streets with adequate width to accommodate buses.
	T-P29	Continue to actively support and manage the Lodi Grapeline bus service, and to expand public transit services when justified by new demand.
3. Promotion of energy- and water-efficient buildings (e.g., LEED buildings) through green building ordinances, project timing prioritization, and other implementing tools;	*Chapter 3: Growth Management and Infrastructure Polices*	
	GM-P11	Require water conservation in both City operations and private development to minimize the need for the development of new water sources and facilities. To the extent practicable, promote water conservation and reduced water demand by: • Requiring the installation of non-potable water infrastructure for irrigation of landscaped areas over one acre of new landscape acreage, where feasible. Conditions of approval shall require connection and use of nonpotable water supplies when available at the site. • Encouraging water-conserving landscaping, including the use of drought-tolerant and native plants, xeriscaping, use of evapotranspiration water systems, and other conservation measures. • Encouraging retrofitting of existing development with water-efficient plumbing fixtures, such as ultra low-flow toilets, waterless urinals, low-flow sinks and showerheads, and water-efficient dishwashers and washing machines.

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

GM-P12 Support on-site gray water and rainwater harvesting systems for households and businesses.

The City should develop a strategy for the legal, effective, and safe implementation of gray water and rainwater harvesting systems, including amendment of the Building Code as appropriate to permit gray water and provision of technical assistance and educational programming to help residents implement gray water and rainwater harvesting strategies.

GM-P13 Continue to implement the Water Meter Retrofit Program (consistent with State requirements as indicated in AB 2572), whereby all existing non-metered connections would be retrofitted with a water meter. This program is expected to be completed in 2013.

GM-P14 Require water meters in all new and rehabilitated development.

GM-P15 Monitor water usage and conservation rates due to installed meters, to ensure water demand assumptions are correct. If actual usage and conservation rates vary from planning assumptions, reassess requirements for future water resources.

Chapter 4: Community Design and Livability Policies

CD-G8 Promote sustainable development practices and conservation of resources to reduce environmental impact and ensure long-term sustainability.

CD-G9 Encourage green building and construction in new development and renovations.

CD-P38 Promote location and siting of buildings that minimizes energy use by features such as enhancing use of daylight, minimizing summer solar gain, and use of ventilating breezes.

CD-P39 Design any City-owned buildings or City-owned buildings that are proposed for new construction, major renovation to meet the standards set by LEED™ or equivalent.

CD-P40EDIT Prepare, or incorporate by reference, and implement green building and construction guidelines and/or standards, appropriate to the Lodi context, by 2012. The guidelines and/or standards shall ensure a high level of energy efficiency and reduction of environmental impacts associated with new construction, major renovation, and operations of buildings. Ensure that these guidelines/standards:

- Require documentation demonstrating that building designs meet minimum performance targets, but allow flexibility in the methods used.
- Exceed California's 2005 Title 24 regulation standards for building energy efficiency by 15%, with particular emphasis on industrial and commercial buildings.
- Reduce resource or environmental impacts, using cost-effective and well-proven design and construction strategies.
- Reduce waste and energy consumption during demolition and construction.
- Identify street standards, such as street tree requirements, appropriate landscaping practices, and acceptable materials.
- Incorporate sustainable maintenance standards and procedures.
- Promote incorporation of energy conservation and weatherization

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

	features in existing structures. Develop programs that specifically target commercial and industrial structures for energy conservation and weatherization measures in order to reduce annual kWh per job. These guidelines could be developed directly from the LEED (Leadership in Energy and Environmental Design) system developed by the U.S. Green Building Council, the California-based Build It Green GreenPoint rating system, or an equivalent green building program. **CD-P32** In order to use less energy and reduce light pollution, ensure that lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent artificial lighting from illuminating adjacent residential neighborhoods and/or natural areas at a level greater than one foot candle above ambient conditions.
4. Promotion of green procurement and alternative fuel vehicle use through municipal mandates and voluntary bid incentives;	*Chapter 7: Conservation Policies* **C-P39** Reduce energy consumption within City government facilities and motor fleets. **C-PNEW** Ensure environmentally responsible municipal operations by implementing the following measures: • Procure environmentally preferable products and services where criteria have been established by governmental or other widely recognized authorities (e.g. Energy Star, EPA Eco Purchasing Guidelines). • Integrate environmental factors into the City's buying decisions where external authorities have not established criteria, such as by replacing disposables with reusables or recyclables, taking into account life cycle costs and benefits, and evaluating, as appropriate, the environmental performance of vendors in providing products and services; • Raise staff awareness on the environmental issues affecting procurement by providing relevant information and training; • Encourage suppliers and contractors to offer environmentally preferable products and services at competitive prices; • Require all departments and divisions to practice waste prevention and recycling. • When City fleet vehicles are retired, replace vehicles through the purchase or lease of alternative fuel or hybrid substitutes. • As contracts for City-contracted fleet services (such as transit buses, trash haulers, and street sweeper trucks) are renewed, encourage contractors to replace their vehicles with alternative fuel or hybrid substitutes through the contract bid process.
5. Support for alternative fuel facilities and infrastructure through land use designations, zoning, and public-private partnerships;	**C-PNEW** Continue to offer rebates to residential, commercial, industrial and municipal customers of Lodi Electric Utility who install photovoltaic (PV) systems or that participate in the Lodi Energy Efficient Home Improvement Rebate Program. Ensure that rebate programs are well advertised to the community and offer rebates that are sufficient to gain community interest and participation.

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

6. Support for renewable energy generation (utility and residential) through feasibility evaluations, land use designations, and zoning;	*Chapter 7: Conservation Policies* **C-P37** Promote incorporation of energy conservation and weatherization features into existing structures. Update the Zoning Ordinance and make local amendments to the California Building Code, as needed, to allow for the implementation of green building, green construction, and energy efficiency measures. **C-P38** Encourage the development of energy efficient buildings and communities. All new development, including major rehabilitation, renovation, and redevelopment projects, shall incorporate energy conservation and green building practices to the maximum extent feasible and as appropriate to the project proposed. Such practices include, but are not limited to: building orientation and shading, landscaping, and the use of active and passive solar heating and water systems. The City may implement this policy by adopting and enforcing a Green Building Ordinance. **C-P40** Encourage the use of passive and active solar devices such as solar collectors, solar cells, and solar heating systems into the design of local buildings. Promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional, and public buildings. **C-P42** Develop, adopt, and implement a heat island mitigation plan to reduce carbon dioxide emissions, smog, and the energy required to cool buildings. This plan should contain requirements and incentives for the use of cool roofs, cool pavements, and strategic shade tree placement, all of which may result in as much as 6-8° F temperature decrease from existing conditions.
7. Promotion of waste diversion, recycling, energy efficiency and energy recovery in cooperation with public services districts and private entities;	*Chapter 3: Growth Management and Infrastructure Polices* **GM-P19** Continue to improve waste diversion rates through recycling and resource conservation measures. Support waste reduction and recycling programs through public education.
8. Support for urban and rural forestry through tree planting requirements and programs;	*Chapter 4: Community Design and Livability Policies* **CD-P15** Improve or maintain streetscapes, along Mixed Use Corridors. Streetscape improvements could be implemented through a city streetscape program. Amenities may include: • Street trees • Wide sidewalks • Special paving • Street lighting • Seating • Info kiosks, particularly in the downtown area • Open bus stop shelters • Bicycle racks

Table 3.6-5: CAPCOA Top Ten Actions by Local Governments and Communities and Corresponding proposed General Plan Policies

	CD-P16 Provide continuous street trees along the curb, between the vehicle roadway and the sidewalk, unless this is physically impossible due to constraints such as underground utility lines. Minimize curb cuts to emphasize continuous unbroken curb lengths. **CD-P19** Develop requirements for street trees in all new growth areas that maximize shade to minimize urban heat island impacts. *Chapter 7: Conservation Policies* **C-P43** Encourage the planting of shade trees along all City streets and residential lots (but, particularly in areas that currently lack street trees) to reduce radiation heating and greenhouse gases. Develop a tree planting informational packet to help future residents understand their options for planting trees.
9. Community outreach and education to foster community involvement, input, and support for GHG reduction planning and implementation; and	*Chapter 7: Conservation Policies* **C-P44** Promote public education energy conservation programs that strive to reduce the consumption of natural or human-made energy sources. **C-P45** Post and distribute hard-copy and electronic information on currently available weatherization and energy conservation programs.
10. Regional cooperation to find cross-regional efficiencies in GHG reduction investments and to plan for regional transit, energy generation, and waste recovery facilities.	*Chapter 7: Conservation Policies* **C-P41** Work with the California Energy Commission and other public and non-profit agencies to promote the use of programs that encourage developers to surpass Title 24 Energy Efficiency standards by utilizing renewable energy systems and more efficient practices that conserve energy, including, but not limited to natural gas, hydrogen or electrical vehicles. Offer incentives such as density bonus, expedited process, fee reduction/waiver to property owners and developers who exceed California Title 24 energy efficiency standards.

Source: Dyett & Bhatia, 2009; CAPCOA Model Policies for Greenhouse Gases in General Plans, Appendix E, June 2009.

In addition to the policies included in Table 3.6-5, the following General Plan Policies are consistent with additional policy recommendations found in the Scoping Plan and would further reduce the impact:

Chapter 7: Conservation Policies

C-G9 Conserve energy and reduce per capita and per job energy consumption.

C-G10EDIT Reduce greenhouse gas emissions to 15% below 2008 levels by 2020, to slow the negative impacts of global climate change.

C-P36EDIT Prepare and adopt a comprehensive climate action plan (CAP) by 2012, with implementation beginning in 2013. The CAP will be an additional policy document for the City of Lodi, based on polices listed in Appendix A of the proposed General Plan. The CAP should include the following provisions:

- An inventory of citywide greenhouse gas emissions and emissions projections for 2020 or beyond,
- Emissions targets that apply at reasonable intervals through the life of the CAP and that meet or exceed AB 32 and/or Executive Order S-3-05 reduction targets,
- Enforceable greenhouse gas emissions control measures,
- A detailed funding and implementation component,
- A monitoring and reporting program to ensure targets are met, and
- Mechanisms to allow for revision of the CAP, as necessary.

Chapter 5: Transportation Policies

T-G8 Encourage reduction in vehicle miles traveled as part of a strategy to reduce greenhouse gas emissions.

T-P43 Promote ridesharing and cooperate with regional travel demand management programs to reduce peak-hour traffic congestion and help reduce regional vehicle miles traveled.

T-P44 Promote employment opportunities within Lodi to reduce commuting to areas outside of Lodi.

T-P45 Reduce the total vehicle miles of travel per household by making efficient use of existing transportation facilities and by providing for more direct routes for pedestrians and bicyclists through the implementation of "smart growth" and sustainable planning principles.

Chapter 3: Growth Management and Infrastructure Policies

GM-P17 Explore a program of complete wastewater reclamation and reuse at the White Slough Water Pollution Control Facility.

GM-P18 Encourage the use of tertiary treated wastewater for irrigation of agricultural lands, large landscaped areas, and recreation/open space areas within close proximity to the White Slough Water Pollution Control Facility.

Mitigation Measures

A wide range of policies recommended by State agencies are included in the proposed General Plan. In addition, policies in the CAP, which would be adopted by 2012, would build on the above measures and increase enforceability. Policies included in the proposed General Plan are expected to substantially reduce GHG emissions. However, given the current uncertainty in quantifying the impacts of the measures, it is not possible to determine in this analysis if the proposed policies would reduce emissions sufficiently, particularly given the estimated increase in emissions by 32% from existing conditions under the proposed General Plan. Therefore, despite policies in the proposed General Plan, and given that the proposed General Plan results in an

increase over both existing conditions and the No Project in the analysis above, the proposed General Plan would result in a considerable contribution to the significant cumulative impact.

Impact

3.6-2 Buildout of the proposed General Plan could result in a substantial increase in per capita energy consumption in the city which would suggest more wasteful, inefficient, or unnecessary consumption of energy. ***(Less than Significant)***

Development considered under the proposed General Plan could potentially increase demand for gas and electrical services. A project sponsor could be required to expand existing service or construct new infrastructure to provide gas and electrical service for new businesses and homes. Improved site planning and building design as well as energy conservation measures, as outlined in California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6), would minimize the potential for wasteful, inefficient, or unnecessary consumption of energy. Building design review, for example, would provide an opportunity for assisting developers in the selection of appropriate energy conservation measures and programs. As described under Impact 3.6-1, proposed General Plan policies seek to reduce energy consumption, and in turn, GHG emissions, through compact land us development, alternative transportation, infrastructure phasing, and environmental stewardship.

Proposed General Plan Policies that Reduce the Impact

Implementation of the policies listed above, under Impact 3.6-1, would ensure that this potential impact is less than significant.

Mitigation Measures

None required.

3.7 Hydrology and Water Quality

This section focuses on hydrology and water quality issues related to the implementation of the proposed General Plan, including its consistency with applicable local, State, and federal plans, policies, and regulations. Lodi's position within the regional watershed system, its groundwater basin, and surface water drainage system are described. Issues relating to flooding are addressed in Section 3.9: Flood Hazards; water supply and distribution issues are addressed in Section 3.13: Infrastructure.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Planning Area Topography and Climate

The Planning Area is a low-lying, gently sloping former floodplain of the Mokelumne River that lies within 6 miles of the San Francisco Bay-San Joaquin River Delta (Delta). The Mokelumne River originates in the Sierra Nevada Mountains to the east of the Central Valley and passes through the northeastern portion of the Planning Area. Elevations of the Planning Area range from about 50 feet above sea level along the river bank in the northeastern portion to about 25 feet in the southwest corner. The average slope is about 0.1-0.2 percent, with west-southwest aspect toward the Delta sloughs.

The climate in the Planning Area consists of long, dry, hot summers and mild winters. Between 1948 and 2006, the average annual temperature ranges from a low of 46 degrees Fahrenheit and a high of 74 degrees Fahrenheit. Within this same time period, average annual rainfall is approximately 18 inches (Western Regional Climate Center, 2007).

Surface Water Resources

The Planning Area is located in a predominately level alluvial plain that is located east of the Coast Ranges and west of the Sierra Nevada mountains in the Central Valley of California. Waterways passing through the Planning Area and in the vicinity of the Planning Area generally originate in the Sierra Nevada and are tributaries to the larger San Joaquin River.

Small streams or creeks that pass through the Planning Area include Pixley Slough and Bear Creek, located in the southeastern portion of the Planning Area (see Figure 3.7-1). A number of canals and drainages are scattered throughout the Planning Area and in particular near the western boundary closer to the Delta. No other surface streams are recognized within the Planning Area.

Lodi Lake is located behind Woodbridge Dam on the Mokelumne River within the City's northern boundary. Lodi Lake also serves as a diversion for Woodbridge Irrigation District's (WID) South Main Canal, providing irrigation waters to currently undeveloped lands in the western and southern portions of the Planning Area. The South Main Canal runs through the central portion of the Planning Area and within the existing city limits.

The Mokelumne River is the major waterway running through the northeastern portion of the Planning Area (see Figure 3.7-1). The northern boundary for the City of Lodi is formed by the Mokelumne River. This important waterway is located within the San Joaquin Valley watershed

and drains about 660 square miles above the Planning Area and extends to 10,000 feet in the Sierra Nevada. The Comanche Reservoir is located on the Mokelumne River approximately 20 miles northeast of the Planning Area (City of Lodi, 1988; Department of Water Resources, 2006).

Surface Water Quality

Impacts to water quality result from runoff during wet weather events, direct discharge associated with industrial/commercial activities, leaking sewer infrastructure, and illicit dumping. Additionally, sewage generated in the Planning Area is eventually discharged to the San Joaquin River via the City's wastewater treatment facility. Additional pollutant sources within the Planning Area include past waste disposal practices, agricultural chemicals, and chemicals and fertilizers applied to landscaping. Typical contaminants may include sediment, hydrocarbons and metals, pesticides, nutrients, bacteria, and trash.

The State Water Resources Control Board (SWRCB), in compliance with the Clean Water Act, Section 303(d), has prepared a list of impaired water bodies in the State of California. The list was updated by the SWRCB and submitted to the EPA for approval in September 2006. The Lower Mokelumne River is listed as being impaired by zinc and copper. These contaminants likely originated upstream of the Planning Area from mining activities. The Central Valley Regional Water Quality Control Board (CVRWQCB) is required to develop and implement a plan to lower the amounts of these contaminants in this water body to an acceptable level (SWRCB, 2006).

Groundwater Resources

The Planning Area overlies the Eastern San Joaquin sub-basin of the greater San Joaquin Valley Groundwater Basin (see Figure 3.7-1). Groundwater in the Planning Area is recharged by local precipitation and through percolation from surface waters. The Mokelumne River is the primary source of groundwater recharge in the Planning Area. This is indicated by the higher water table in the areas around the Mokelumne River.

The City of Lodi, as well as the entire Central Valley, is underlain by a vast thickness of alluvium that was derived from surrounding mountains, transported by the Mokelumne River and other streams, and deposited in shallow seas of river floodplains. This alluvium is now saturated below a relatively shallow depth. Thus, the sedimentary layers underlying the Planning Area are a part of the major aquifer system that extends throughout the Central Valley from Red Bluff to Bakersfield (DWR, 2006).

Groundwater Quality

As the primary source of water supply for the City of Lodi, any potential groundwater quality issues can seriously threaten the City's water supply. The four primary contaminants of concern within the city are Dibromochloropropane (DBCP), Methyl-Tert-Butyl-Ether (MTBE), Tetrachloroethylene (PCE), and Trichloroethylene (TCE). Several of the City's wells are equipped with chlorination equipment intended to release controlled amounts of chlorine to help purify the water supply. It is not necessary to constantly chlorinate the City's water and, thus, chlorine is only released into the water in the event of an emergency (City of Lodi, 2006b).

DBCP was formerly used in vineyards as a fumigant and nematocide. Although its use has been banned since 1977, the groundwater still contains trace amounts of DBCP. Six of the City's wells utilize granular activated carbon to remove DBCP from the water (City of Lodi 2006).

MTBE, PCE, and TCE have affected the City's groundwater supply to a lesser extent than DBCP. MTBE is an additive to gasoline that may leak from gas stations into the groundwater. The City's 2005 Urban Water Management Plan did not identify any MTBE contamination in the City's groundwater (City of Lodi 2006a).

PCE primarily originates from dry cleaning operations. TCE is commonly present with PCE as a by-product of PCE. PCE and TCE groundwater contamination is generally found in the north and central Lodi area. While PCE and TCE have been detected in some of the City's wells, the wells are still compliant with drinking water standards. Efforts to clean up the contamination are underway (City of Lodi, 2006b).

Over the past 40 years, pumping for municipal and industrial uses in eastern San Joaquin County has exceeded the basin's sustainable yield and caused groundwater elevations to decline at an average rate of 1.7 feet per year and has dropped by as much as 100 feet in some areas. Groundwater overdraft during the past 40 years has reduced storage in the basin by as much as 2 million acre-feet. Groundwater depressions present in the subbasin have resulted from the groundwater overdraft. The nearest groundwater depression to the Planning Area is in the area east of Lodi. Over-drafting has the potential to decrease the water quality in the groundwater basin by allowing saltwater from the Delta to move into the basin underlying the western portion of the Planning Area (DWR, 2006).

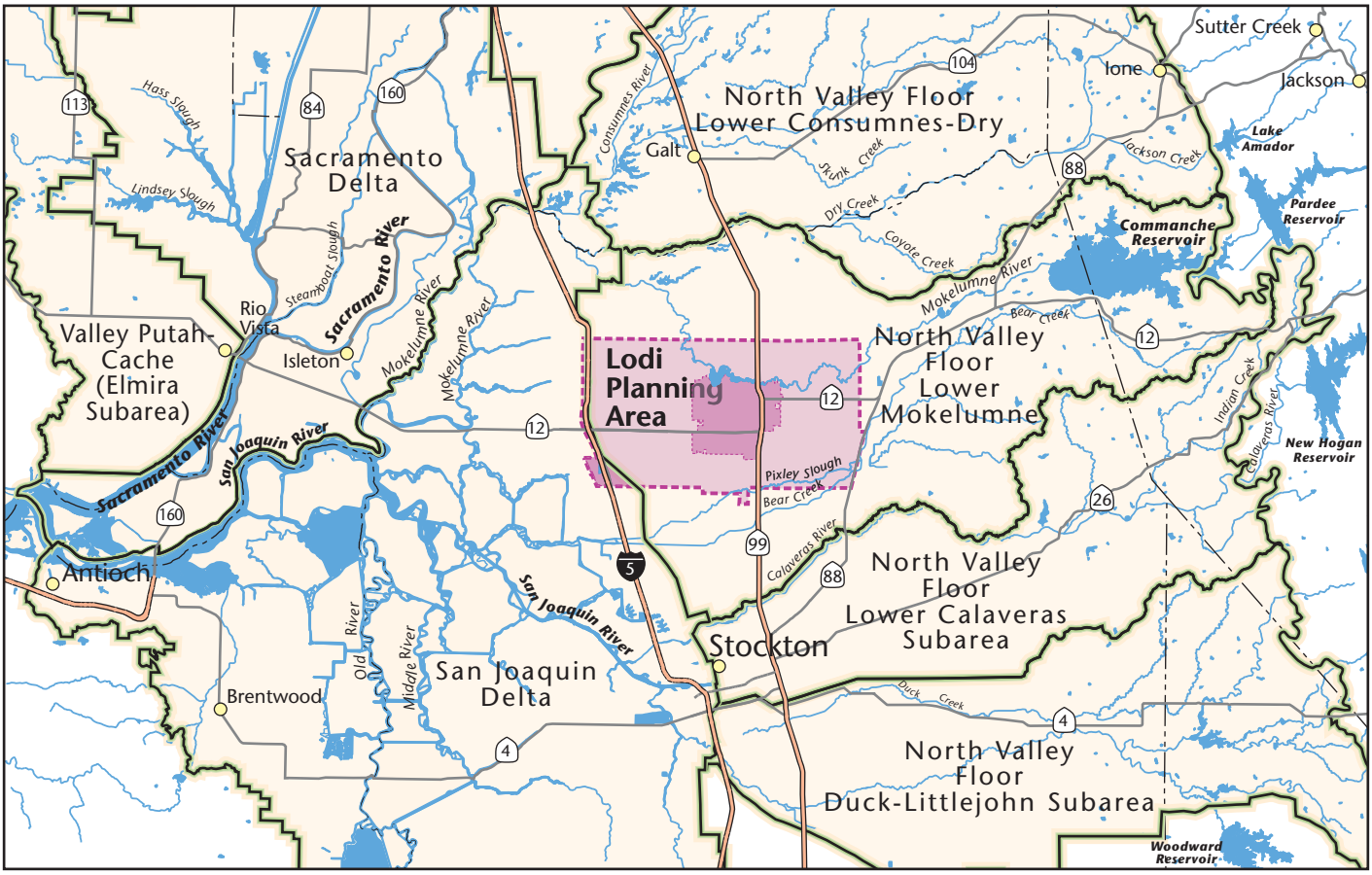
REGULATORY SETTING

Federal Regulations

Clean Water Act

The Federal Clean Water Act (CWA, 33 USC 1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's water." Important applicable sections of the federal CWA are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity which may result in a discharge to "waters of the United States" to obtain certification from the state that the discharge will comply with other provisions of the Act. The local Regional Water Quality Control Board (RWQCB) provides certification.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB, and is discussed further below.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. The U.S. Army Corps of Engineers administers this permit program.



Watershed
Waterway
Lodi Planning Area
Lodi City Limits

Figure 3.7-1
Regional Watersheds and Waterways

State Regulations

California Water Code

The California Water Code establishes the foundation for acquisition and protection of water rights. The code is derived from several sources, including the riparian doctrine taken from English common law, Spanish pueblo rights, the appropriative doctrine of western mining and irrigation tradition, and the correlative doctrine as it related to groundwater. These water doctrines, with some originating hundreds of years ago, remain relevant to current water law discussions to varying extents, and they have been used by the court system over the years to resolve conflicts and establish precedents.

During the middle to late 1800s, when the mining and agricultural industries were growing throughout California, questions often arose regarding who had rights to how much surface water. In general, the deciding factor was who was there first. This is characterized as the appropriative doctrine of water rights: "first in time, first in right." Currently, new acquisitions of surface water are obtained under the appropriative doctrine, as constrained by the reasonable and beneficial use test and California's public trust doctrine.

Rights to groundwater are more complex and groundwater as a resource is generally considered in three separate classes: (1) as stream underflow, (2) as definite underground streams, and (3) as percolating waters. The first two are treated legally as surface water, and all underground water is legally considered percolating water unless proven otherwise.

Landowners whose property overlies an aquifer have rights to develop the water. That right is conditional, however, through provisions of the correlative doctrine. Under the correlative doctrine, all landowners must share scarce water resources during shortages and must limit their use to the amount of water reasonably required to meet each landowner's beneficial needs. This doctrine assumes that all landowners have similar and equal rights to the underlying groundwater.

To provide a basis for groundwater management, the California State Legislature has passed a law to allow for the creation of groundwater management districts.

Porter-Cologne Water Quality Control Act

The State of California's Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides the basis for water quality regulation within California. The Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. Waste Discharge Requirements resulting from the Report are issued by the RWQCB.

California State Water Resources Control Board

Responsibility for administering California water rights procedures lies with the California State Water Resources Control Board (SWRCB), which also is responsible for managing and administering various federal and state water quality control programs (see Table 3.7-1). Procedures are provided by statute, but the board has the authority to establish rules and regulations to help it carry out its work. All board activities are governed by state water policy and are administered in accordance with policies and procedures in the California Water Code.

Table 3.7-1: Summary of State Agency Responsibilities

State Agency	*Primary Responsibilities*
State Water Resources Control Board	Administers water rights, water pollution control, and water quality functions.
Regional Water Quality Control Board	Conducts planning, permitting, and enforcement activities.

The SWRCB carries out its water quality protection authority through the adoption of specific Water Quality Control Plans. These plans establish water quality standards for particular bodies of water. California water quality standards are composed of three parts: the designation of beneficial uses of water, water quality objectives to protect those uses, and implementation programs designed to achieve and maintain compliance with the water quality objectives.

The SWRCB recently adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. This policy provides implementation measures for numerical criteria contained in the California Toxics Rule, promulgated in May 2000 by the U.S. EPA (SWRCB, 2005). When combined with the beneficial use designations in the Basin Plan, these documents establish statewide water quality standards for toxic constituents in surface waters.

Central Valley Regional Water Quality Control Board

Within the City's Planning Area, the CVRWQCB is responsible for the protection of beneficial uses of water resources. Designation of beneficial uses defines the resources, services, and qualities of the aquatic system that are the ultimate goals of protecting and achieving high water quality. The CVRWQCB uses planning, permitting, and enforcement authorities to meet this responsibility, and has adopted the Central Valley Region Water Quality Control Plan (Basin Plan) to implement plans, policies, and provisions for water quality management. Beneficial uses of surface waters are described in the Basin Plan and are designated for major surface waters and their tributaries. In addition to identification of beneficial uses, the Basin Plan also contains water quality objectives that are intended to protect the beneficial uses of the Basin. The CVRWQCB has region-wide and water body-specific beneficial use water quality objectives.

Beneficial uses of the surface waters of the Delta include municipal, agricultural, industrial, and recreational uses, freshwater habitat, migration, spawning, wildlife habitat, and navigation. Beneficial uses for all groundwater resources in the Central Valley region include or potentially include municipal, agricultural, and industrial uses.

The CVRWQCB has set water quality objectives for all surface waters in the region concerning bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, salinity, sediment, settleable material, suspended material, sulfide, tastes and odors, temperature, toxicity, turbidity, and ammonia. Water quality **objectives for groundwater include standards for bacteria, chemical constituents, radioactivity, tastes and odors, and toxicity.**

The CVRWQCB also administers the NPDES stormwater permitting program for both construction and industrial activities. NPDES requirements for these two activities are more fully described below.

- **Construction Activities.** Construction sites disturbing one acre or more of land are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). For qualifying projects, the project applicant must submit a Notice of Intent (NOI) to the RWQCB to be covered by the General Construction Permit prior to the beginning of all construction activities. The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which also must be completed before construction, begins. Implementation of the plan starts with the commencement of construction and continues though the completion of the project. Upon completion of the project, the applicant must submit a Notice of Termination to the RWQCB to indicate that construction is completed.
- **Industrial Activities.** Stormwater discharges associated with industrial facilities are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Associated with Industrial Activities excluding Construction Activities (General Industrial Permit). The regulations defining "storm water discharges associated with industrial activity" were published on November 16, 1990, with the EPA identifying eleven categories of industrial activities that are required to obtain permit coverage. To obtain authorization for continued and future storm water discharge under the General Industrial Permit, each facility operator must submit a NOI. All storm water discharges from industrial sites must meet all applicable provisions of Sections 301 and 402 of the Clean Water Act. These provisions require control of pollutant discharges using the best available technology (BAT) that is economically achievable and best conventional pollutant control technology (BCT) to prevent and reduce pollutants and to meet water quality standards. Stormwater discharges from an industrial site shall not cause or contribute to a violation of all applicable water quality standards, which include all federal receiving water standards and all state standards under the Regional Board Basin Plan. The General Industrial Permit generally requires facility operators to:
    - Eliminate unauthorized non-storm water discharges;
    - Develop, retain on site, and implement a SWPPP to identify sources of pollution and to prescribe implementation of best management practices to reduce or prevent pollutants in industrial storm water discharges and authorized non-storm water discharges; and
    - Perform monitoring of storm water discharges and authorized non-storm water discharges.

Areas of industrial activity where surface runoff must be controlled and treated include all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and all other areas of industrial activity that are potential pollutant sources. Any changes to the industrial site or activity require an update of the SWPPP and implementation of new control measures.

Local Plans and Regulations

City of Lodi Stormwater Management Program

In 2003, the City of Lodi established a Stormwater Management Program (SMP) to protect the quality of water in Lodi Lake, Mokelumne River, and the Woodbridge Irrigation Canal and meet requirements set forth by the Federal Water Pollution Control Act and the National Pollutant Discharge Elimination System. The SMP contains six program areas: public education and outreach, illicit discharge detection and elimination, public participation/involvement, construction site runoff control, post-construction runoff control, and pollution prevention/good

housekeeping. The SMP outlines Best Management Practices, measurable goals, and timetables for implementing the components of each of these program areas (City of Lodi, 2003).

City of Lodi Stormwater Development Standards Plan

In 2008, the City of Lodi adopted the Stormwater Development Standards Plan. The Stormwater Development Standards Plan identifies the water quality Best Management Practices (BMPs) required for all new development and significant redevelopment activities within the City. It identifies specific BMPs for the three drainage zones in the city, which include drainage to the Mokelumne River, drainage to the WID canal, and drainage to a retention basin with no discharge, as well as BMPs appropriate for specific types of industries and businesses. Compliance with the requirements in this document protects the quality of the city's urban runoff, and ultimately protects the quality of the Mokelumne River and WID canal (City of Lodi, 2008).

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant impact if it would:

- Violate any water quality standards, including U.S. Environmental Protection Agency and the State Water Resources Control Board criteria;
- Alter existing drainage patterns of the area, including stream or river course, in a manner which would result in substantial erosion or siltation on- or offsite, or increase sediment loads thereby affecting water quality;
- Increase substantially nonpoint source pollution entering storm water runoff and entering the regional storm drain system or surrounding water resources (from either construction or long-term development); or
- Increase substantially construction-related erosion (including erosion from cut-and-fill slopes) and sedimentation into surface waters.

METHODOLOGY AND ASSUMPTIONS

This analysis evaluated buildout under the proposed General Plan and effects on hydrologic conditions within the Planning Area after accounting for applicable State and federal laws, regulations and guidelines. The proposed General Plan will facilitate development and growth in the Planning Area which will affect water quality, storm drainage, and groundwater recharge. The analysis assumes physical impacts and indirect effects are attributable to new residential, commercial, and industrial development and its associated infrastructure, as mitigated by best management practices for environmental protection.

SUMMARY OF IMPACTS

Construction and post-construction activities associated with the buildout of the proposed General Plan could result in specific water quality and stormwater drainage impacts, such as dewatering, increased nonpoint source pollutant discharges, erosion, and alterations to drainage patterns and reductions to groundwater recharge by increasing impervious surfaces. These impacts are considered less than significant given the regulatory requirements and standards to which existing and future development must comply. Additionally, General Plan policies have been proposed to ensure potential environmental effects remain less than significant.

IMPACTS AND MITIGATION MEASURES

Impact

3.7-1 Buildout of the proposed General Plan could alter existing drainage patterns of the area in a manner which would result in substantial erosion or siltation on- or offsite or increase sediment loads thereby affecting water quality, but this impact would be mitigated by existing State and local regulations and proposed General Plan policies. (*Less than Significant*)

Increased urban development, such as that proposed under the proposed General Plan, is generally accompanied by decreases in natural ground cover and an increase in impervious surfaces (such as paved areas and buildings). Increasing the area of imperious surface reduces the amount of rain that can be absorbed by the land, increases storm water runoff, and decreases groundwater recharge. Development may also cause erosion, such as when ground is cleared for construction or the integrity of stream banks is impaired, resulting in the siltation of creeks and reduction of their capacity to accommodate stormwater. Changes in existing drainage patterns through grading or alterations to the creeks and sloughs can also alter sheetflow and surface water flow levels and patterns, potentially overwhelming downstream capacity and resulting in flooding. Compliance with existing State and local regulations, standards, and best management practices will reduce these impacts substantially. As described in Chapter 3.13 Infrastructure, additional improvements and expansion of the storm drain network would be necessary to provide services to new development in the City.

Proposed General Plan Policies that Reduce the Impact

The following proposed policies would further reduce potential impacts associated with increases in storm water runoff and concurrent affects on water quality and decreases in recharge of groundwater aquifers:

C-P-26 Monitor water quality regularly to ensure that safe drinking water standards are met and maintained in accordance with State and EPA regulations and take necessary measures to prevent contamination. Comply with the requirements of the Clean Water Act with the intent of minimizing the discharge of pollutants to surface waters.

C-P-27 Monitor the water quality of the Mokelumne River and Lodi Lake, in coordination with San Joaquin County, to determine when the coliform bacterial standard for contact recreation and the maximum concentration levels of priority pollutants, established by the California Department of Health Services, are exceeded. Monitor the presence of pollutants and variables that could cause harm to fish, wildlife, and plant species in the Mokelumne River and Lodi Lake. Post signs at areas used by water recreationists warning users of health risks whenever the coliform bacteria standard for contact recreation is exceeded. Require new industrial development to not adversely affect water quality in the Mokelumne River or in the area's groundwater basin. Control use of potential water contaminants through inventorying hazardous materials used in City and industrial operations.

C-P-28 Regularly monitor water quality in municipal wells for evidence of contamination from dibromochloropropane (DBCP), saltwater intrusion, and other toxic substances that could pose a health hazard to the domestic water supply. Close or treat municipal wells that exceed the action level for DBCP.

C-P-29 Minimize storm sewer pollution of the Mokelumne River and other waterways by maintaining an effective street sweeping and cleaning program.

C-P-30 Require, as part of watershed drainage plans, Best Management Practices, to reduce pollutants to the maximum extent practicable.

C-P-31 Require all new development and redevelopment projects comply with the post-construction Best Management Practices (BMPs) called for in the Stormwater Quality Control Criteria Plan, as outlined in the City's Phase 1 Stormwater NPDES permit issued by the California Water Quality Control Board, Central Valley Region. Require that owners, developers, and/or successors-in-interest to establish a maintenance entity acceptable to the City to provide funding for the operation, maintenance, and replacement costs of all post-construction BMPs.

C-P-32 Require, as part of the City's Storm Water NPDES Permit and ordinances, the implementation of a Grading Plan, Erosion Control Plan, and Pollution Prevention Plan during the construction of any new development and redevelopment projects, to the maximum extent feasible.

C-P-33 Require use of stormwater management techniques to improve water quality and reduce impact on municipal water treatment facilities.

C-P-34 Protect groundwater resources by working with the county to prevent septic systems in unincorporated portions of the county that are in the General Plan Land Use Diagram, on parcels less than two acres.

C-P-35 Reduce the use of pesticides, insecticides, herbicides, or other toxic chemical substances by households and farmers by providing education and incentives.

Implementation of the policies listed above would ensure that this potential impact is less than significant.

Mitigation Measures

None required.

Impact

3.8-2 Implementation of the proposed General Plan would may result in increased nonpoint source pollution entering storm water runoff and entering the regional storm drain system or surrounding water resources (from either construction or long-term development), but this impact would be mitigated by existing State and local regulations and proposed General Plan policies. (*Less than Significant*)

At buildout, areas designated for urban uses will increase over existing conditions. New and increased levels of urban land uses can increase the level of nonpoint source pollution through creation of new impervious surface areas, intensification of hazardous material use, and other factors that could ultimately wash materials to area surface waters adversely affecting water quality. Along with construction-related activities, landscaping chemicals, cleaning solvents, paint, litter, pet waste, accumulation of petroleum products and metals in parking lots and streets, and other debris are all sources of pollutants in stormwater and surface water runoff. Nonpoint source pollution has a cumulative negative impact on water quality in urban areas.

However, compliance with CVRWQCB standards and permit requirements on the use of best management practices and prohibitions of uncontrolled dumping will minimize the effects of these nonpoint sources.

Proposed General Plan Policies that Reduce the Impact

The proposed General Plan policies listed under Impact 3.7-1, together with existing State and local regulations, standards, and best management practices, will ensure that Lodi's water quality is not substantially affected by increased nonpoint source pollution, so that the non point source impacts of proposed General Plan development are less than significant.

Mitigation Measures

None required.

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3.8 Air Quality

This section presents the environmental setting and evaluates the potential impacts on air quality in the Lodi Planning Area from implementation of the proposed General Plan.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Climate and Atmospheric Conditions

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, and air temperature gradients interact with physical landscape features to determine the movement and dispersal of air pollutants.

The City of Lodi lies within the San Joaquin Valley Air Basin (SJVAB), basically a flat area bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San Joaquin-Sacramento Delta empties into the San Francisco Bay (SJVAPCD, 2002). The region's topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time (SJVAPCD, 2002). Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality.

Wind speed and direction play an important role in dispersion and transport of air pollutants. During summer periods, winds usually originate from the north end of the San Joaquin Valley and flow in a south-southeasterly direction through the valley, through the Tehachapi pass and into the neighboring Southeast Desert Air Basin. During winter months, winds occasionally originate from the south end of the valley and flow in a north-northwesterly direction. Also, during winter months, the valley experiences light, variable winds, less than 10 miles per hour (mph). Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB has an inland Mediterranean climate that is characterized by warm, dry summers and cooler winters. Summer high temperatures often exceed 100 degrees Fahrenheit (°F), averaging from the low 90s in the northern part of the valley to the high 90s in the south. The daily summer temperature variation can be as high as 30°F. Winters are for the most part mild and humid. Average high temperatures during the winter are in the 50s, while the average daily low temperature is approximately 45°F.

The vertical dispersion of air pollutants in the valley is limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because of differences in air density thereby restricting air pollutant dispersal.

Existing Emission Sources and Emission Levels

The San Joaquin Valley Air Pollution Control District's (SJVAPCD) regional air quality monitoring network provides information on existing ambient concentrations of criteria air pollutants. Monitored ambient air pollutant concentrations reflect the number and strength of emissions sources and the influence of topographical and meteorological factors. Table 3.8-1 presents a three-year summary of air pollutant (concentration) data collected at the nearest monitoring stations in the vicinity of the project area on Hazelton Street and at the Wagner-Holt School in Stockton. The Hazelton Street station measures concentrations of all air pollutants, including the three for which the SJVAB remains "nonattainment:" ozone, PM10, and PM2.5. The Wagner-Holt School Station measures PM10 concentrations only. Pollutant concentrations measured at these stations should be representative of background air pollutant concentrations at or near the Planning Area. In Table 3.8-1, these measured air pollutant concentrations are compared with state and national ambient air quality standard.

SJVAPCD describes ozone and particulate matter as the two pollutants that are responsible for the bulk of the San Joaquin Valley's air quality problems. Due to the region's meteorology, topography, and the chemical composition of the air pollutants, nitrogen oxide (NOx) is the primary factor in the formation of both ozone and PM2.5. Motor vehicle transportation (including automobiles, trucks, transit buses, and other modes) is the major contributor to NOx and subsequently regional air pollution. In particular, heavy heavy-duty diesel trucks have the sole greatest contribution. Stationary sources contribute substantially fewer emissions.

Table 3.8-1: Air Quality Data Summary (2006-2008) For The Planning Area

Pollutant	*Monitoring Data by Year*		
	2006	*2007*	*2008*
Ozone (Stockton – Hazelton St. Station)			
Highest Hour Average (ppm)[2]	0.109	0.093	0.105
Days over State Standard (0.09 ppm)[1]	6	0	2
Highest 8 Hour Average (ppm)[2]	0.092	0.082	0.091
Days over National Standard (0.075 ppm)[1]	13	3	4
Days over State Standard (0.075 ppm)[1]	21	4	7
Particulate Matter (PM10) (Stockton – Hazelton St Station)			
Highest 24 Hour Average – State/National (μg/m^3)[2]	**85.0**/82.0	**75.0**/71.0	**105.0**/104.5
Estimated Days over National Standard (150 μg/m^3)[1,3]	0	0	0
Estimated Days over State Standard (150 μg/m^3)[1,3]	62.9	23.5	48.7
State Annual Average (State Standard 20 μg/m^3)[1,2]	33.4	27.7	31.2
Particulate Matter (PM10) (Stockton – Wagner-Holt School Station)			
Highest 24 Hour Average – State/National (μg/m^3)[2]	**71.0**/69.0	**65.0**/61.0	**76.0**/71.5
Estimated Days over National Standard (150 μg/m^3)[1,3]	0	0	0
Estimated Days over State Standard (150 μg/m^3)[1,3]	36.7	25.1	38.5
State Annual Average (State Standard 20 μg/m^3)[1,2]	26.8	24.1	29.5

Table 3.8-1: Air Quality Data Summary (2006-2008) For The Planning Area

Pollutant	*Monitoring Data by Year*		
	2006	*2007*	*2008*
Particulate Matter (PM2.5) (Stockton – Stockton – Hazelton St Station)			
Highest 24 Hour Average (μg/m^3)[2] – National Measurement	47.0	52.0	81.2
Estimated Days over National Standard (35 μg/m^3)[1,3]	20.8	34.1	27.7
State Annual Average (12 μg/m^3)[2]	13.5	13.5	14.4

Note:: Values in Bold exceed the respective air quality standard

1. Generally, state standards and national standards are not to be exceeded more than once per year.
2. ppm = parts per million; μg/m^3 = micrograms per cubic meter.
3. PM10 and PM2.5 are not measured every day of the year. Number of estimated days over the standard is based on 365 days per year

Source: California Air Resources Board (CARB), 2009. Summaries of Air Quality Data, 2006-2008

Pollutants Affecting Air Quality/Health Effects

A discussion of the air pollutants of interest to the regulatory agencies for their potential adverse impacts on the environment and sensitive receptors are described below.

Ozone

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and NOx. ROG and NOx are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NOx under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

Carbon Monoxide

Ambient carbon monoxide (CO) concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence carbon monoxide concentrations. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

CO concentrations have declined dramatically in California due to existing controls and programs and most areas of the state including the project region have no problem meeting the carbon monoxide state and federal standards. CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California. In more recent

years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, fewer emissions from new vehicles and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the California Air Resources Board *2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas* (CARB 2004), shown below:

> "The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (CARB or Board) requirements for cleaner vehicles, equipment and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as non-attainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard."

Respirable Particulate Matter

PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter.) PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and State ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs.

Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing. Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health (Dockery and Pope, 2006). The CARB has estimated that achieving the ambient air quality standards for PM10 could reduce premature mortality rates by 6,500 cases per year (CARB, 2002).

Nitrogen Dioxide

Nitrogen Dioxide (NO_2) is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. NO_2 may be visible as a

coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

NO_2 is an air quality concern because it acts as a respiratory irritant and is a precursor of ozone. NO_2 is a major component of the group of gaseous nitrogen compounds commonly referred to as nitrogen oxides (NOx). Nitrogen oxides are produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, nitrogen oxides emitted from fuel combustion are in the form of nitric oxide (NO) and nitrogen dioxide (NO_2). NO is often converted to NO_2 when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Therefore, emissions of NO_2 from combustion sources are typically evaluated based on the amount of NOx emitted from the source.

Sulfur dioxide

SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of atmospheric sulfate, particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead

Ambient lead concentrations meet both the federal and State standards in the project area. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline products. The phase-out of leaded gasoline in California resulted in decreasing levels of atmospheric lead.

Toxic Air Contaminants

Non-criteria air pollutants or TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases.

This definition includes both solids and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon, heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons found in diesel exhaust. Diesel particulates include small nuclei mode particles of diameters below 0.04μm and their agglomerates of diameters up to 1μm. Ambient exposures to diesel particulates in California are significant fractions of total TAC levels in the State.

Odorous Emissions

Because offensive odors rarely cause any physical harm and no requirements for their control are included in state or national air quality regulations, the SJVAPCD has no rules or standards related to odor emissions, other than its nuisance rule. Any actions related to odors are based on

citizen complaints to local government agencies including the SJVAPCD. The SJVAPCD uses screening distances to determine the potential for odor impacts from various land uses.

Sensitive Receptors

Sensitive receptors are typically defined as populations or uses that are more susceptible to the effects of air pollution than the general population. Sensitive receptors may include the following populations or uses:

- Long-term healthcare facilities;
- Rehabilitation centers;
- Convalescent centers;
- Retirement homes;
- Residences;
- Schools;
- Playgrounds;
- Childcare centers; and
- Athletic facilities.

REGULATORY SETTING

Federal Regulations

The Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (U.S. EPA) to identify National Ambient Air Quality Standards (NAAQS, or national standards) to protect public health and welfare. National standards have been established for ozone, CO, NO^2, SO^2, PM10, PM2.5 and lead. These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the FCAA. California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard. Table 3.8-2 presents current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.

Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the U.S. EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the NAAQS had been achieved. Table 3.8-3 shows the current attainment status of the project area.

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the

agencies with jurisdiction over them. The U.S. EPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the U.S. EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Regulation of TACs, termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, State and local controls on individual sources. The 1977 Clean Air Act Amendments required the U.S. EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals.

Table 3.8-2: State And National Criteria Air Pollutant Standards, Effects, And Sources

Pollutant	*Averaging Time*	*State Standard*	*National Standard*	*Pollutant Health and Atmospheric Effects*	*Major Pollutant Sources*
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NOx) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm[1]	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	---	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	---	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Avg.	---	0.03 ppm		

Table 3.8-2: State And National Criteria Air Pollutant Standards, Effects, And Sources

Pollutant	*Averaging Time*	*State Standard*	*National Standard*	*Pollutant Health and Atmospheric Effects*	*Major Pollutant Sources*
Respirable Particulate Matter (PM-10)	24 hours Annual Avg.	50 μg/m^3 20 μg/m^3	150 μg/m^3 ---	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
Fine Particulate Matter (PM-2.5)	24 hours Annual Avg.	--- 12 μg/m^3	35 μg/m^3 15 μg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.
Lead	Monthly Ave. Quarterly	1.5 μg/m^3 ---	--- 1.5 μg/m^3	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal Power Plants, Petroleum Production and refining
Sulfates	24 hour	25 μg/m^3	No National Standard	Breathing difficulties, aggravates asthma, reduced visibility.	Produced by the reaction in the air of SO2.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, discourages tourism.	See PM2.5.

Note: ppm = parts per million; μg/m^3 = micrograms per cubic meter.

1. This concentration was approved by the Air Resources Board on April 28, 2005 and became effective May 17, 2006.

Source: California Air Resources Board (CARB), 2008. Ambient Air Quality Standards, available at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf Standards last updated November 17, 2008. California Air Resources Board, 2001. ARB Fact Sheet: Air Pollution Sources, Effects and Control, http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm, page last updated December 2005.

Table 3.8-3: San Joaquin Valley Attainment Status

	Designation/Classification	
Pollutant	*Federal Standards*	*State Standards*
Ozone – one hour	No Federal Standard1	Nonattainment/Severe2
Ozone – eight hour	Nonattainment/Serious[3]	Nonattainment[4]
PM10	Attainment[5]	Nonattainment
PM2.5	Nonattainment[6]	Nonattainment
CO	Unclassified/Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Vinyl Chloride	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

1. Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005.
2. On October 16, 2008, EPA proposed to approve the District's 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone.
3. On April 30, 2007 the Governing Board of the SJVAPCD voted to request EPA to reclassify the SJVAB as extreme nonattainment for the federal 8-hour ozone standards. The CARB, on June 14, 2007, approved this request. This request must be forwarded to EPA by the CARB and would become effective upon EPA final rulemaking after a notice and comment process; it is not yet in effect.
4. The State 8-hour ozone standard was approved by the CARB on April 28, 2005, and became effective May 17, 2006.
5. On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 NAAQS and approved the PM10 Maintenance Plan.
6. The Valley is designated nonattainment for the 1997 PM2.5 federal standards. EPA designations for the 2006 PM2.5 standards will be finalized in December 2009.

Source: SJVAPCD, 2009. Ambient Air Quality Standards and Valley Attainment Status, available at http://www.valleyair.org/aqinfo/attainment.htm; accessed July 2, 2009.

State Regulations

The California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. CARB establishes State ambient air quality standards and vehicle emissions standards.

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These are shown in Table 3.8-2 (above). Under the California Clean Air Act (CCAA) patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards. Table 3.8-3 (above) summarizes the attainment status with California standards in the project area.

Toxic Air Contaminants

The SJVAPCD regulates TACs in District Policies 1905 and 1910, and in regulation VII. The district recognizes all TAC's as defined by the State. The District recognizes federal Maximum Achievable Control Technology standards for HAPs in District Rule 4002.

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) HAPs adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. TACs emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. CARB subsequently developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). The document represents proposals to reduce diesel particulate emissions, with the goal of reducing emissions and associated health risks by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

CARB recently published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The primary goal in developing the handbook was to provide information that will help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. The handbook highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. However, the health risk is greatly reduced with distance. For that reason, CARB provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

Local Plans and Regulations

San Joaquin Valley Air Pollution Control District

The SJVAPCD is the primary local agency responsible for protecting human health and property from the harmful effects of air pollution in the SJVAB, and has jurisdiction over most stationary source air quality matters in the SJVAB, including the New Source Performance Standards program. The SJVAPCD includes all of Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings and Tulare counties, and the Valley portion of Kern County.

The SJVAPCD is responsible for developing attainment plans for the SJVAB, for inclusion in California's SIP, as well as establishing and enforcing air pollution control rules and regulations. The attainment plans must demonstrate compliance with federal and state ambient air quality standards, and must first be approved by CARB before inclusion into the SIP. The SJVAPCD regulates, permits, and inspects stationary sources of air pollution. Among these sources are industrial facilities, gasoline stations, auto body shops, MSW landfills, and dry cleaners. While the state is responsible for emission standards and controlling actual tailpipe emissions from motor vehicles, the SJVAPCD is required to regulate emissions associated with stationary sources such as agricultural burning and industrial operations. The SJVAPCD also works with eight local

transportation planning agencies to implement transportation control measures, and to recommend mitigation measures for new growth and development designed to reduce the number of cars on the road. The SJVAPCD promotes the use of cleaner fuels, and funds a number of public and private agency projects that provide innovative approaches to reducing air pollution from motor vehicles.

While all criteria pollutants are a concern of the SJVAPCD, a project's air quality impacts are considered significant if they would violate any of the state air quality standards. Ozone precursors, PM10 emissions and toxic air contaminants are emphasized in the review of applications for an Authority to Construct / Permit to Operate. Federal and state air quality regulations also require regions designated as nonattainment to prepare plans that either demonstrate how the region will attain the standard or demonstrate reasonable improvement in air quality conditions. As noted, the SJVAPCD is responsible for developing attainment plans for the SJVAB for inclusion in California's SIP.

The SJVAPCD's primary means of implementing air quality plans is by adopting and enforcing rules and regulations. Stationary sources within the jurisdiction are regulated by the District's permit authority over such sources and through its review and planning activities. In 2001, the SJVAPCD revised its Regulation VIII-Fugitive PM Prohibitions, in response to commitments made in the 1997 PM10 Attainment Plan to incorporate best available control measures. The revision also includes new rules for open areas and agricultural operations. The provisions of the revised regulation took effect in May 2002. Regulation VIII consists of a series of dust control rules that emphasize reducing fugitive dust as a means of achieving attainment of the federal standards for PM10.

District Rules that may apply to the proposed General Plan are as follows:

- ***District Rule 2201 (New and Modified Stationary Source Review Rule).*** This rule applies to all new stationary sources and all modifications of existing stationary sources that are subject to the SCVAPCD permit requirements and after construction emit or may emit one or more affected pollutants.

- ***District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).*** Prior to any demolition activity, an asbestos survey of existing structures on the project site may be required to identify the presence of any asbestos containing building materials (ACBM). Any identified ACBM having the potential for disturbance must be removed by a certified asbestos-contractor in accordance with CAL-OSHA requirements.

- ***District Regulation VIII (Fugitive PM10 Prohibitions).*** Regulation VIII (Rules 8011-8081) is a series of rules designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction, road construction, bulk materials storage, landfill operations, etc. Regulation VIII specifically addresses the following:

    - Rule 8011: General Requirements;

    - Rule 8021: Construction, Demolition, Excavation, Extraction and other Earthmoving Activities;

    - Rule 8031: Bulk Materials;

- Rule 8041: Carryout and Trackout;
- Rule 8051: Open Areas;
- Rule 8061: Paved and Unpaved Roads; and
- Rule 8071: Unpaved Vehicle/Equipment Traffic Areas.

- ***District Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).*** If asphalt paving will be used, then paving operations specific to a project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt, and emulsified asphalt for paving and maintenance operations.

- ***District Rule 4102 (Nuisance).*** This rule applies to any source operation that emits or may emit air contaminants or other materials. In the event that a specific project or construction of a project creates a public nuisance, it could be in violation and subject to District enforcement action.

- ***District Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters).*** The purposes of this rule are to limit emissions of CO and particulate matter from wood burning fireplaces and wood burning heaters, and to establish a public education program to reduce wood burning emissions. This rule applies to: any person who manufactures, sells, offers for sale, or operates a wood burning fireplace or wood burning heater; any person who sells, offers for sale, or supplies wood intended for burning in a wood burning fireplace or wood burning heater; any person who transfers or receives a wood burning stove or wood burning heater as part of a real property sale or transfer; any person who installs a wood burning fireplace or wood burning heater in a new residential development.

In addition to the above-described rules, District Rule 9510 Indirect Source Review (ISR) was adopted December 15, 2005. ISR was adopted to fulfill the SJVAPCD's emission reduction commitments in the PM10 and Ozone Attainment Plans. ISR requires submittal of an Air Impact Assessment (AIA) application no later than the date on which application is made for a final discretionary approval from the public agency. The AIA will be the information necessary to calculate both construction and operational emissions of a development project. Section 6.0 of the Rule outlines general mitigation requirements for developments that include reduction in construction emissions of 20% of the total construction NO_X emissions, and 45% of the total construction PM10 exhaust emissions. Section 6.0 of the Rule also requires applicable projects to reduce operational NO_X emissions by 33.3 percent and operational PM10 emissions by 50%. Section 7.0 of the Rule includes fee schedules for construction or operational excess emissions of NO_X or PM10; those emissions above the goals identified in Section 6.0 of the Rule. Section 7.2 of the Rule identifies fees for excess emissions at a cost of $9,350/ton for NO_X emissions after the year 2008, and $9,011/ton for PM10 emissions after the year 2008. Individual projects included in the proposed General Plan may be subject to Rule 9510 requirements.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would result in a significant impact on 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 projected air quality violation; or
- Expose sensitive receptors to substantial pollutant concentrations.

The SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)* (SJVAPCD 2002) also includes significance criteria for evaluating operational-phase emissions from direct and indirect sources associated with a *project*. Indirect sources include motor vehicle traffic resulting from the *project* and do not include stationary sources covered under permit with the SJVAPCD. Notably, these thresholds are quite strict for this *program* level EIR. For this analysis, the proposed General Plan would be considered to have a significant effect on the environment if it would exceed the following thresholds:

- Cause a net increase in pollutant emissions of reactive organic gases (ROG) or NOx exceeding 10 tons per year.
- Cause a violation of state CO concentration standards. The level of significance of CO emissions from mobile sources is determined by modeling the ambient concentration under project conditions and comparing the resultant 1- and 8-hour concentrations to the respective state CO standards of 20.0 and 9.0 parts per million.
- Cause "visible dust emissions" due to onsite operations and thereby violate SJVAPCD Regulation VIII.

Although the SJVAPCD *GAMAQI* recognizes that PM10 is a major air quality issue in the basin, it does not establish quantitative thresholds for potential impact significance. However, for the purposes of this analysis, a PM10 emission of 15 tons per year is used as a significance threshold. 15 tons per year is the SJVAPCD threshold level at which new stationary sources requiring SJVAPCD permits must provide emissions "offsets." This threshold of significance for PM10 is consistent with the ROG and NOx thresholds of 10 tons per year, which are also offset thresholds established in SJVAPCD Rule 2201. Also for the purposes of this analysis, a PM2.5 emission of 10 tons per year is used as a significance threshold. This threshold level would be equal to the NOx and ROG thresholds of 10 tons per year, which would match the relative thresholds of the South Coast Air Quality Management District (SCAQMD) where the PM2.5, NOx, and ROG thresholds are also equal.

In addition, the operation of any project with the potential to expose sensitive receptors to substantial levels of TACs would be deemed to have a potentially significant air quality impact as well. More specifically, proposed development projects that have the potential to expose the public to project-related TACs in excess of the following thresholds would be considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual exceeds 10 in one million.
- Ground-level concentrations of non-carcinogenic TACs would result in a Hazard Index greater than 1.

Application of these standards would typically apply to the preparation of a more detailed project-specific health risk assessment (based on a detailed air dispersion modeling effort) that would occur as individual projects are considered as part of the proposed General Plan. For the proposed General Plan, the assessment of TACs is conducted at a qualitative level with specific policies provided to address the potential impacts associated with this issue.

METHODOLOGY AND ASSUMPTIONS

The proposed General Plan will allow planned development to occur within both developed (infill) and undeveloped portions of the Planning Area. While the pace and timing of development will ultimately be market driven, for modeling purposes this analysis is based on the assumption that most uses will be developed by the year 2030 and emissions are estimated for this planning horizon. This analysis is based on methodologies and thresholds included in the SJVAPCD's *GAMAQI* (SJVAPCD, 2002).

Mobile sources make the greatest contribution to air quality and emissions and therefore serve as the primary input into the calculation of air quality impacts. The EMFAC2007 Motor Vehicle Emission Factor Model was used to calculate emission rates from motor vehicles, such as passenger cars to heavy-duty trucks, operating on highways, freeways and local roads in California. The model is design to meeting CCAA requirements. Vehicle miles traveled (VMT) is one of the key inputs into the model, along with speed, vehicle mix, and climate/temperature factors.

SUMMARY OF IMPACTS

Air quality impacts resulting from the implementation of the proposed General Plan fall into two categories: short-term impacts due to construction, and long-term impacts due to operation. Construction activities would affect local particulate concentrations primarily due to fugitive dust sources and other criteria pollutant emissions from equipment exhaust. The proposed General Plan commits the City to use Best Management Practices to reduce these emissions, consistent with SJVAPCD guidelines.

Over the long term, the full implementation of the proposed General Plan would result in an increase in criteria pollutant emissions primarily due to related motor vehicle trips. Stationary sources and area sources would result in lesser quantities of criteria pollutant emissions. Stationary sources and diesel-fueled mobile sources would also generate emissions of TACs including diesel particulate matter that could pose a health risk. Overall, implementation of the proposed General Plan would result in a cumulatively considerable net increase of criteria pollutants which would exceed the annual SJVAPCD thresholds for PM10, as well as the threshold used for this analysis for PM2.5. However, the proposed General Plan also commits the City to support federal and State efforts to reduce emissions through its air quality and transportation trip reduction policies. These policies intend that the proposed General Plan would not interfere with the SJVAPCD's efforts to achieve and maintain air quality standards through regional incentives and regulatory programs it has established or is planning to put in

place. However, since the air quality problems in the Valley are regional in nature, this impact is considered significant and unavoidable.

IMPACTS AND MITIGATION MEASURES

Impact

3.8-1 Implementation of the proposed General Plan could result in a cumulatively considerable net increase of criteria pollutants which may conflict with or violate an applicable air quality plan, air quality standard or contribute substantially to an existing or projected air quality violation. *(Significant and Unavoidable)*

Construction

Construction activity that would occur in accordance with the proposed General Plan would cause temporary, short-term emissions of various air pollutants. ROG and NOx, which are ozone precursors, as well as particulate matter (PM10 and PM2.5) would be emitted by construction equipment during various activities, such as grading and excavation, infrastructure construction, building demolition, and a variety of construction activities. Information regarding specific development projects, soil conditions, and the location of sensitive receptors in relation to the various projects would be needed in order to quantify the level of impact associated with construction activity. However, given the amount of development associated with implementation of the proposed General Plan, it is reasonable to assume that some large-scale construction activity would exceed SJVAPCD adopted thresholds over the duration of the proposed General Plan development. Actual significance would be determined on a project-by-project basis as future development applications are submitted. Additionally, a variety of policies are designed to address construction-related air quality impacts including requiring contractors to implement appropriate dust suppression measures.

Operations

Operational impacts would primarily result from local and regional vehicle emissions generated by future population growth associated with buildout of the proposed General Plan. The annual emissions of ROG, NOx, CO, PM10, and PM2.5 associated with General Plan traffic for the analysis years 2006 (baseline) and 2030 (buildout) were estimated using the EMFAC2007 model and traffic information provided by the traffic consultant. These operational emissions are provided below in Table 3.8-5. As shown in the table, future growth in accordance with the proposed General Plan would exceed the thresholds for PM10 and PM2.5, therefore resulting in a significant and unavoidable impact.

As mentioned in the significance criteria section above, these thresholds are project-level metrics adopted by SJVAPCD are a strict threshold to use for evaluating the proposed General Plan at the program level. Moreover, these are unmitigated values, suggesting that they do not account for emission reductions as a result of proposed General Plan policies.

Although traffic would be the primary contributor to operational emissions, an increase in stationary source emissions is also anticipated with buildout of the proposed General Plan. Emissions will be generated from a variety of stationary sources including the use of natural gas, the use of landscape maintenance equipment, and the use of woodburning fireplaces. Information regarding specific development projects would be needed in order to quantify the area and indirect source emissions. A variety of industrial and commercial processes (e.g., dry cleaning, etc.) allowed under the proposed General Plan would also be expected to release

emissions; some of which could be of a hazardous nature. These emissions are controlled at the local and regional level through permitting and would be subject to further study and a health risk assessment prior to the issuance of any necessary air quality permits.

Table 3.8-5: Operational Emissions (Tons Per Year)

	Unmitigated Operational Criteria Pollutant Emissions (Tons/Year)				
Emissions Source	*ROG*	*NOx*	*CO*	*PM10*	*PM2.5*[2]
City of Lodi Onroad Vehicle Emissions[1]					
Baseline (Year 2006)	90	482	1,831	234	232
Buildout (Year 2030)	51	381	792	427	423
Incremental Increase [3]	(39)	(101)	(1,039)	**193**	**191**
SJVAPCD Significance Criteria	10	10	NA	15	10
Significant? (Yes or No) [4]	No	No	NA	**Yes**	**Yes**

1. Onroad vehicle emissions were estimated with the EMFAC2007 model using traffic information provided by Fehr and Peers. Please see Section 3.2: Transportation and Circulation for additional information about traffic volumes.
2. The PM2.5 fraction of PM10 is assumed to be 99 percent of the PM10 emissions for operational sources (SCAQMD, 2006).
3. Values in (parentheses) represent calculated reductions in future year emissions versus the baseline scenario. ROG, NOx, and CO were estimated to decrease in the future scenario due to decreased emission factors in the future year. These emission factors generated by EMFAC2007 assume a cleaner mix of vehicles as older, more polluting vehicles are retired.
4. Bold values are in excess of the applicable standard. The SJVAPCD established thresholds for ROG and NOx are 10 tons per year, and the assumed PM10 and PM2.5 thresholds are 15 tons per year and 10 tons per year, respectively. CO does not have an established emissions threshold of significance.

Sources: ESA, 2009; SCAQMD, 2006.

Proposed General Plan Policies that Reduce the Impact

The following policies would help reduce potential air quality impacts associated with criteria pollutant emissions:

Conservation Element

C-P46 Require all construction equipment to be maintained and tuned to meet appropriate EPA and CARB emission requirements and when new emission control devices or operational modifications are found to be effective, such devices or operational modifications are to be required on construction equipment.

C-P47 Continue to require mitigation measures as a condition of obtaining permits to minimize dust and air emissions impacts from construction.

C-P48 Require contractors to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to:

- Site watering or application of dust suppressants;
- Phasing or extension of grading operations;

- Covering of stockpiles;
- Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour); and
- Revegetation of graded areas.

C-P49 Cooperate with other local, regional, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards and address cross-jurisdictional and regional transportation and air quality issues.

C-P50 Use the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guide for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The City shall consult with the SJVAPCD during CEQA review for projects that require air quality impact analysis and ensure that the SJVAPCD is on the distribution list for all CEQA documents.

C-P51 Support recommendations to reduce air pollutants found in the San Joaquin Valley Air Pollution Control District (SJVAPCD) local attainment plans and use its regulatory authority to mitigate "point" sources of air pollution (e.g., factories, power plants, etc.).

C-P52 Ensure that air quality impacts identified during the project-level CEQA review process are fairly and consistently mitigated. Require projects to comply with the City's adopted air quality impact assessment and mitigation process, and to provide specific mitigation measures as outlined in policies of Chapter 5: Circulation.

C-P53 Assess air quality mitigation fees for all new development, with the fees to be used to fund air quality programs.

C-P54 Require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes. Promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes. Follow the guidelines set forth in San Joaquin Valley Air Pollution Control District's Rule 4901.

C-P55 Review, support, and require implementation (as applicable) of San Joaquin Valley Air Pollution Control District guidance and recommendations (including those identified in the Guide for Assessing and Mitigating Air Quality Impacts) in regards to several key issues including:

- Environmental Assessment;
- Air Quality Mitigation Agreements;
- Integrated Planning;
- Air Quality Education;

- Congestion Management/Transportation Control Measures;
- Toxic and Hazardous Pollutant Emissions;
- Fugitive Dust and PM10 Emissions; and
- Energy Conservation and Alternative Fuels.

C-P56 Require new sensitive uses proposed to be located within 500 feet of high volume traffic routes where daily vehicle counts exceed 100,000, to use an HVAC system with filtration to reduce/mitigate infiltration of vehicle emissions as warranted by exposure analysis.

C-P57 Require industrial development adjacent to residential areas to provide buffers and institute setbacks intended to ensure land use compatibility in regards to potential Toxic Air Contaminant exposure.

Transportation Element

T-G4 Provide for safe and convenient pedestrian, bicycle, and transit circulation.

T-G8 Encourage reduction in vehicle miles traveled as part of a strategy to reduce greenhouse gas emissions.

T-P14EDIT To maintain walkability and pedestrian safety, ~~consider~~ encourage roadway width and roadway design features such as islands, pedestrian refuges, pedestrian count-down signals, and other such mechanisms. This policy applies to new roadway construction as well as existing roadways where pedestrian safety issues may occur due to roadway design or width.

T-P15 In new development areas, include pedestrian connections to public transit systems, commercial centers, schools, employment centers, community centers, parks, senior centers and residences, and high-density residential areas.

T-P16 Work cooperatively with the Lodi Unified School District on a "safe routes to schools" program that aims to provide a network of safe, convenient, and comfortable pedestrian routes from residential areas to schools. Improvements may include expanded sidewalks, shade trees, bus stops, and connections to the extended street, bike, and transit network.

T-P17 Use the City's Bike Master Plan as comprehensive method for implementing bicycle circulation, safety, and facilities development. Update the Plan to match bike route connections in new General Plan development areas.

T-P18 Coordinate the connection of local bikeways and trails to regional bikeways identified in the San Joaquin County Bicycle Transportation Plan.

T-P19 Require the placement of bicycle racks or lockers at park-and-ride facilities.

T-P20 Establish standards requiring new commercial and mixed-use developments (of sizes exceeding certain minimum thresholds) to provide shaded and convenient bicycle

racks, as appropriate. When such facilities are required, use specifications provided in Caltrans' Design Manual, Section 1000, or other appropriate standards.

T-P21 Implement the City's Short Range Transit Plan and SJCOG's Regional Transit Systems Plan, using the most cost effective methods available and based upon professional analysis.

T-P22 Review new development proposals for consistency with the Short Range Transit Plan. Ensure new projects provide needed transit facilities to serve developments and provide all needed facilities and/or contribute a fair share for improvements not covered by other funding sources.

T-P23 Continue to support the efficient operation of the Lodi Station, and to explore opportunities to expand the multi-modal transportation services provided there.

T-P24 Encourage continued commuter rail service in Lodi by cooperating with Amtrak and supporting transit-oriented development and improvements around Lodi Station.

T-P25 Encourage ridership on public transit systems through marketing and promotional efforts. Provide information to residents and employees on transit services available for both local and regional trips.

T-P26 Maintain transit performance measures sufficient to meet State requirements.

T-P27 Coordinate transit services and transfers between the various transit operators serving Lodi.

T-P28 Require new development to provide transit improvements where appropriate and feasible, including direct pedestrian access to transit stops, bus turnouts and shelters, and local streets with adequate width to accommodate buses.

T-P29 Continue to actively support and manage the Lodi Grapeline bus service, and to expand public transit services when justified by new demand.

T-P38EDIT ~~Consider~~ Encourage development of local park-and-ride facilities, particularly in conjunction with future rail and bus services, if the demand for such facilities is warranted and economically feasible.

T-P39 Provide park and ride facilities designed to accommodate public transit, van and car pooling users.

T-P43 Promote ridesharing and cooperate with regional travel demand management programs to reduce peak-hour traffic congestion and help reduce regional vehicle miles traveled.

T-P44 Promote employment opportunities within Lodi to reduce commuting to areas outside of Lodi.

T-P45 Reduce the total vehicle miles of travel per household by making efficient use of existing transportation facilities and by providing for more direct routes for pedestrians and bicyclists through the implementation of "smart growth" and sustainable planning principles.

Mitigation Measures

As stated above, the City will implement a variety of policies designed to address air quality issues. Future project-specific compliance with SJVAPCD permitting will also help to reduce air quality emissions associated with individual projects. However, total air quality emissions associated with development of the proposed General Plan would still exceed SJVAPCD thresholds for PM10 and PM2.5. No additional feasible mitigation measures are currently available to reduce this impact to a less-than-significant level. Consequently, the impact remains significant and unavoidable.

Impact

3.8-2 Buildout of the proposed General Plan could expose sensitive receptors to substantial pollutant concentrations. *(Significant and Unavoidable)*

Development of the proposed General Plan could place sensitive land uses near local intersections or roadways associated with air pollutant emissions that exceed State or federal ambient air quality standards. Similarly, existing sensitive land uses near local roadways that experience increased levels of traffic resulting from development of the proposed General Plan could be exposed to air pollutant emissions that exceed State and/or federal ambient air quality standards. In addition to these air pollutant emissions, a variety of TAC emissions could also be released from various construction and operations (i.e., industrial processes, diesel equipment and vehicles) associated with the proposed General Plan. The CARB has declared that DPM particulate matter from diesel engine exhaust is a TAC. Additionally, the California Office of Environmental Health Hazard Assessment has determined that chronic exposure to DPM can cause carcinogenic and non-carcinogenic health effects.

CEQA documentation prepared for individual projects resulting from implementation of the proposed General Plan would have project-specific data and will be required to address, and to the extent feasible, mitigate any significant or potentially significant air quality impacts. Additionally, a variety of policies are designed to address air pollutant emissions and potential exposure.

Proposed General Plan Policies that Reduce the Impact

Policies listed under Impact 3.8-1 also help to reduce this impact.

Mitigation Measures

As stated above, the City will implement a variety of policies and implementation measures designed to address air quality issues. The City will also continue to discourage the siting of industrial uses near sensitive land uses. In addition, the City will ensure that future CEQA documentation be prepared for individual projects (with project-specific data) that will (if technically possible) mitigate any potential air quality impacts to a less-than-significant level. However, given the uncertainty as to whether future air quality impacts associated with the potential exposure of sensitive receptors to substantial pollutant concentrations could be adequately mitigated, this impact remains significant and unavoidable. No additional feasible mitigation is currently available.

3.9 Flood Hazards

This section presents the environmental setting for flood hazards and characterizes areas that are particularly vulnerable to flooding in the Lodi Planning Area from implementation of the proposed General Plan.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

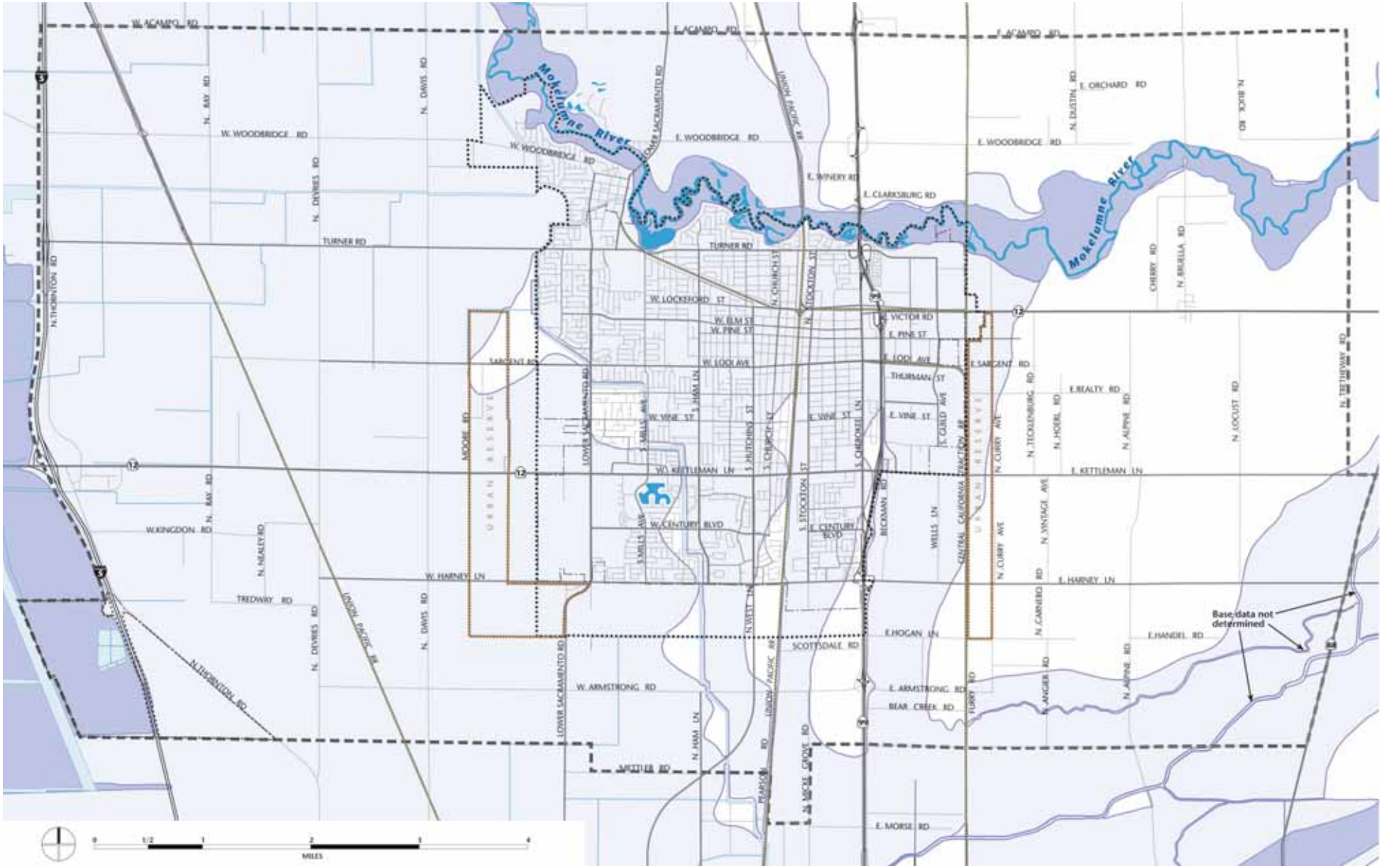
Floodplains

The Planning Area is located in a relatively flat portion of the San Joaquin Valley. The Mokelumne River flows through the northern portion of the Planning Area. The Delta is located west of the Planning Area. Additionally, the Planning Area is located in an area that is surrounded by several smaller waterway systems that originate in the foothills and Sierra Nevada Mountains.

Based on revised flood risk evaluations prepared by the Federal Emergency Management Agency (FEMA) for the City of Lodi and San Joaquin County, effective October 19, 2009, flood hazards are a constraint to development only in two areas of the city: the area immediately adjacent to the Mokelumne River along the city's northern boundary, and the area around the White Slough Water Pollution Control Facility, the City's wastewater treatment facility, in the southwest corner of the Planning Area. As shown on Figure 3.9-1, these areas lie within Zone AE, meaning that they are subject to a 1% annual (100-year) flood. Flooding depths in this area are generally greater than three feet. No new development is planned within either of these areas.

Most of the city and the Planning Area lie within Zone X, which describes lands subject to the 0.2% annual (500-year) flood zone or that lie within the 100-year flood zone, but with flooding depths less than one foot. This suggests that these areas have a low susceptibility to major flooding, but would be inundated, with depths less than one foot, during a 500-year flood event. The remaining portions of the city and Planning Area are classified as Zone X, meaning that they lie outside the 500-year flood zone.

Levees or berms along the Mokelumne River were privately built and vary in height. Upstream of State Route (SR) 99, the adjacent agricultural lands are protected against floods up to the 50-year currents (about 5,000 cfs) by low discontinuous levees. Levee overtopping here from larger events (e.g., the 100-year flood) would not, however, cause inundation in the Planning Area. Levees west of SR-99 are higher and provide protection from flows slightly greater than the 100-year event. As long as levees are not over-topped and maintain their structural integrity, flooding is considered to be very unlikely. Should a major storm event cause levees to be over topped or if a levee fails, flooding would occur. Flooding also can occur when runoff exceeds the capacity of local systems and cannot drain adequately (City of Lodi, 1991).



Zone AE: Special flood hazard area subject to inundation by the 1% annual chance flood. No base flood elevations determined.

Zone X (500): Areas of 0.2% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

Zone X: Areas determined to be outside the 0.2% annual chance flood.

Planning Area

Sphere of Influence

City Limits

Urban Reserve

Figure 3.9-1
Flood Hazards

Dam Inundation

Large quantities of water stored in reservoirs along the Mokelumne, Calaveras, and Stanislaus River systems pose a potential threat to inhabitants of the Planning Area and the larger San Joaquin County area. Flooding in the Planning Area may occur as a result of releases from reservoirs upstream of the Planning Area when releases are at maximum levels. Partial or complete failure of a dam along any of these rivers, especially the Mokelumne River, can cause inundation in the Planning Area. Dams that pose a direct threat to the Planning Area include Camanche Dam, Camanche South and North Dikes, and Pardee Dam. Figure 3.9-2 shows areas within the Planning Area that may become inundated in the event of failure at one of these dams.

San Joaquin County has prepared a Dam Failure Plan that identifies hazards to the County from dams and reservoirs. The Dam Failure Plan also identifies actions that will be taken to respond to flood-related emergencies in the event that flooding occurs. These actions would include implementation of the Standardized Emergency Management System and the County's Multi-Hazard Emergency Plan (San Joaquin County, 2003).

REGULATORY SETTING

Federal Regulations

Federal Emergency Management Agency

FEMA regulations govern delineation of floodplains and establish requirements for floodplain management. FEMA administers the National Flood Insurance Program (NFIP). The NFIP provides available flood insurance to those communities that have enacted local ordinances restricting development within a 100-year floodplain. FEMA requires that these ordinances meet or exceed FEMA's regulations. As part of its program, FEMA prepares a Flood Insurance Rate Map that delineates the flood hazard areas in an area and identifies the location of areas within the 100-year floodplain. These maps form the basis for regulating floodplain development and the rating of insurance policies.

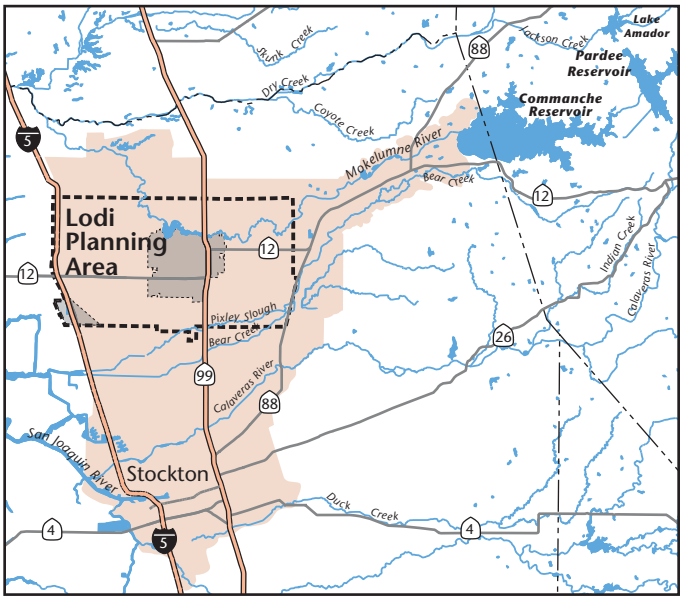
State Regulations

There are no state regulations that apply to this resource topic.

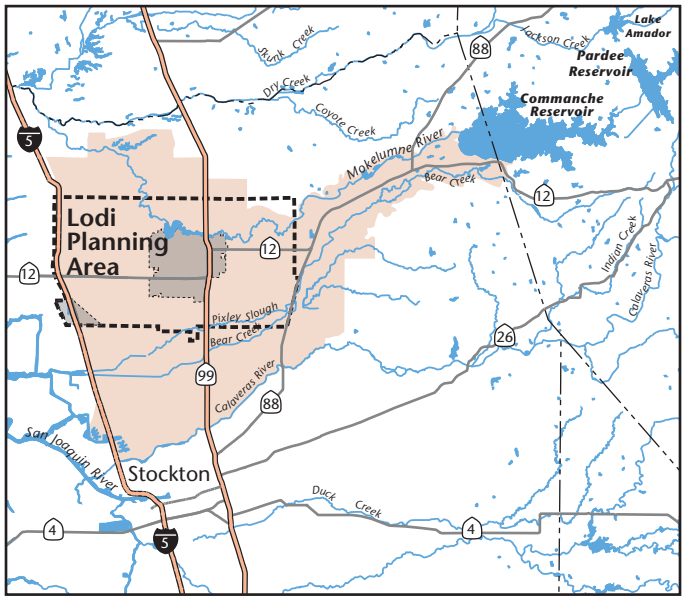
Local Plans and Regulations

City of Lodi Municipal Code (Chapter 15.60 Flood Damage Prevention)

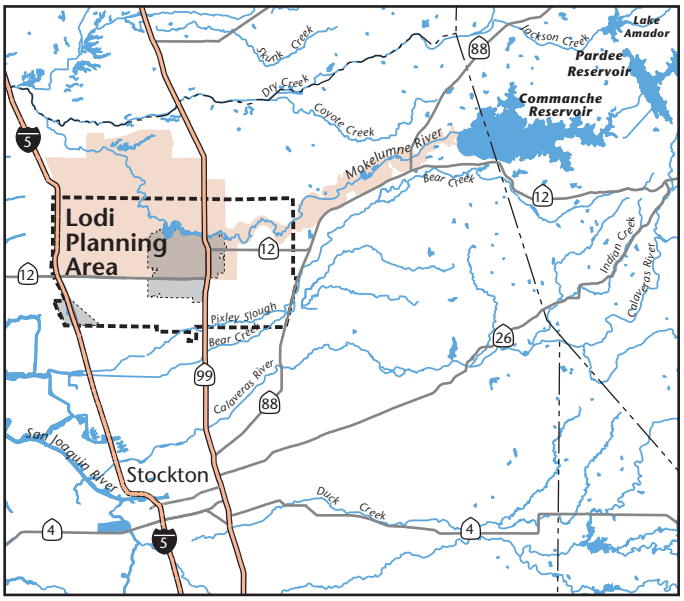
The City's Municipal Code implements a variety of restrictions and measures that are intended to protect public health and safety and to minimize public and private losses due to flood conditions. Additionally, the ordinance requires that projects obtain development permits that demonstrate compliance with the requirements of the ordinance prior to approval of the permit and commencement of construction within areas containing flood hazards (City of Lodi, 2006).



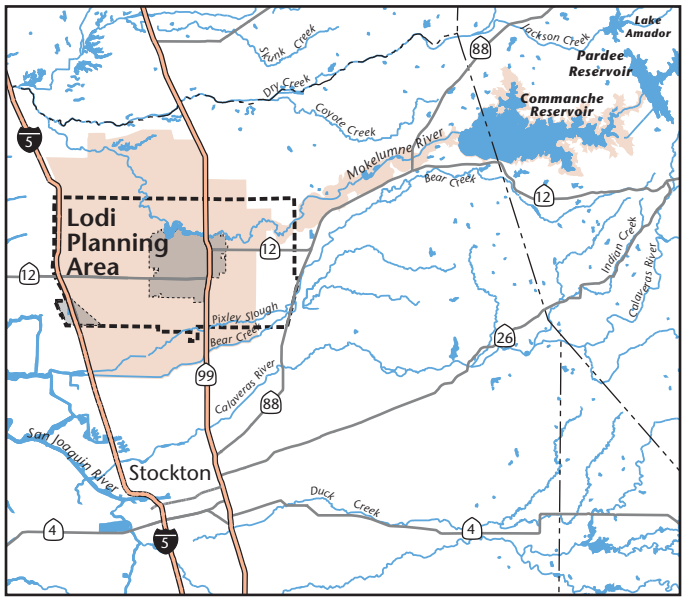
Comanche Dam Inundation Area



Comanche South Dikes Dam Inundation Area

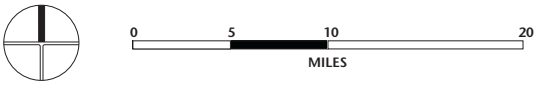


Comanche North Dikes Dam Inundation Area



Pardee Dam Inundation Area

Dam Inundation Area
Waterway
Lodi Planning Area
Lodi City Limits



Source: San Joaquin County, 2003; and ESA, 2007

Figure 3.9-2
Dam Inundation Areas

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant impact if it would:

- 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;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows; or
- 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.

METHODOLOGY AND ASSUMPTIONS

The analysis considered project plans, current conditions in the Planning Area, and applicable regulations and guidelines including:

- City of Lodi, Flood Insurance Study, Federal Emergency Management Agency, April 2002.
- San Joaquin County, Flood Insurance Study, Federal Emergency Management Agency, April 2002.
- San Joaquin County Dam Failure Plan, San Joaquin County Office of Emergency Services, December 2003.

SUMMARY OF IMPACTS

Construction and post-construction activities associated with the buildout of the proposed General Plan could result in some flooding impacts, however these impacts are considered less than significant given the regulatory requirements and standards to which existing and future development must comply. Additionally, General Plan policies have been proposed to ensure potential environmental effects remain less than significant.

Locating facilities within a 100-year flood hazard area may obstruct the floodplain and occupy space that may cause the intensification of flood impacts elsewhere. Some portions of the Planning Area are within this Zone, specifically along the Mokelumne River, the city's northern boundary. Most of this area is the river and open space, although there are some existing residential uses in the Town of Woodbridge and the City of Lodi. New development under the proposed General Plan would have no impact regarding the 100-year flood, as a majority of the Planning Area is outside the FEMA designated Zone AE (100-Year) Flood Zone, and no new development is assumed in the proposed General Plan within this Zone AE area. Moreover, the City's proposed General Plan contains a number of requirements for development within floodplain areas to reduce potential flooding impacts.

IMPACTS AND MITIGATION MEASURES

Impact

3.9-1 Buildout of the proposed General Plan could expose people or structures to a risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. *(Less than Significant)*

Large quantities of water stored in reservoirs along the Mokelumne, Calaveras, and Stanislaus River systems pose a potential threat to inhabitants of the Planning Area and the larger San Joaquin County area. Flooding in the Planning Area may occur as a result of releases from reservoirs upstream of the Planning Area when releases are at maximum levels. Partial or complete failure of a dam along any of these rivers, especially the Mokelumne River, can cause inundation in the Planning Area. Dams that pose a direct threat to the Planning Area include Camanche Dam, Camanche South and North Dikes, and Pardee Dam.

San Joaquin County has prepared a Dam Failure Plan that identifies hazards to the County from dams and reservoirs. The Dam Failure Plan also identifies actions that will be taken to respond to flood-related emergencies in the event that flooding occurs. These actions would include implementation of the Standardized Emergency Management System and the County's Multi-Hazard Emergency Plan. Implementation of the plans above combined with the proposed General Plan policies would ensure that flooding related impacts are less than significant.

Proposed General Plan Policies that Reduce the Impact

The following proposed General Plan policies will ensure that exposure to flooding and impacts on people, hydrology, and local drainage patterns are minimized and that the impact from General Plan buildout is less than significant.

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

S-P1 Continue to participate in the National Flood Insurance Program and ensure that local regulations are in full compliance with standards adopted by FEMA.

S-P2 Cooperate with appropriate local, State, and federal agencies to address local and regional flood issues and dam failure hazards.

S-P3 Require adequate natural floodway design to assure flood control in areas where stream channels have been modified and to foster stream enhancement, improved water quality, recreational opportunities, and groundwater recharge.

S-P4EDIT Prohibit new development, except for public uses incidental to open space development, within Zone A (100-year flood zone) <u>of the most current FEMA floodplain map (see Figure 8-1</u> [in the proposed General Plan] <u>for the most current map).</u>

S-P5 Site critical emergency response facilities— such as hospitals, fire stations, police offices, substations, emergency operations centers and other emergency service facilities and utilities—to minimize exposure to flooding and other hazards.

S-P6 Update Zoning Ordinance and development review process as needed to reduce peak-hour stormwater flow and increase groundwater recharge. These may include provisions for:

- Constructing parking areas and parking islands without curbs and gutters, to allow stormwater sheet flow into vegetated areas.
- Grading that lengthens flow paths and increases runoff travel time to reduce the peak flow rate.
- Installing cisterns or sub-surface retention facilities to capture rainwater for use in irrigation and non-potable uses.

S-P7 Update City street design standards to allow for expanded stormwater management techniques. These may include:

- Canopy trees to absorb rainwater and slow water flow.
- Directing runoff into or across vegetated areas to help filter runoff and encourage groundwater recharge.
- Disconnecting impervious areas from the storm drain network and maintain natural drainage divides to keep flow paths dispersed.
- Providing naturally vegetated areas in close proximity to parking areas, buildings, and other impervious expanses to slow runoff, filter out pollutants, and facilitate infiltration.
- Directing stormwater into vegetated areas or into water collection devices.
- Using devices such as bioretention cells, vegetated swales, infiltration trenches and dry wells to increase storage volume and facilitate infiltration.
- Diverting water away from storm drains using correctional drainage techniques.

S-PNEW The City shall cooperate with and encourage reclamation districts to institute a berm maintenance program to reduce berm failures and shall coordinate with appropriate State, federal, and local flood control agencies in planning efforts to ensure the continued protection of local and regional flood control systems.

S-PNEW The City will continue to ensure, through the development review process, that future developments do not increase peak storm flows and do not cause flooding of downstream facilities and properties. Additionally, the City shall ensure that storm drainage facilities are constructed to serve new development adequate to storm runoff generated by a 100-year storm.

Mitigation Measures

None required.

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3.10 Seismic and Geologic Hazards

This section discusses the general geologic and seismic issues related to the implementation of the proposed General Plan. The City's geologic setting and location relative to faults is described, as well as how underlying materials and soils could contribute to erosion, subsidence, settlement, and seismic hazards such as ground shaking, liquefaction, and landslides.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Geologic Setting

The Central Valley is filled with a thick sequence of sediments eroded from the Sierra Nevada range to the east. The sediments are so thick on the western edge of the Sacramento Valley that the rocks underlying the sediments have not been penetrated by borings. Sixty thousand feet or more of these sediments, known as the Great Valley Sequence, may have been deposited in this region from about 65 million years ago (Hackel, 1966). Most of the sediments deposited in the Planning Area formed about 15 to 20 million years ago were deposited on land rather than in the sea. Prior to that time, the sediments were predominately marine. The continental deposits include increasing amounts of sediments derived from Sierra Nevada bedrock and from volcanic activity in the Sierras toward the end of the Tertiary period. Middle to late Tertiary sediments form the principal ground water aquifers of the Central Valley. In this region, these sediments are estimated to be about 3,000 feet thick. During the last 1.6 million years (the Quaternary Period), large amounts of lake and marsh deposits have accumulated in parts of the Central Valley. The most recent deposits in the region are floodplain deposits, consisting of clay, silt, and some sand (Page, 1986).

During the Tertiary Period (91.5 to 65 million years ago), a structurally high feature known as the Stockton Arch, developed, separating the southern depositional basin (the San Joaquin Basin) from the northern basin (the Sacramento Basin). The pre-Quaternary (older than 1.6 million years) Stockton Fault forms the northern boundary of the Stockton Arch, which extends south to about Modesto. The structural arch is higher than the surrounding region and therefore, sediment deposition typical of this region does not overlie the Stockton Arch (Bartow, 1991).

Soils

A soil survey for San Joaquin County was conducted by the United States Department of Agriculture, Natural Resources Conservation Service, which creates maps of surface soils for use in land use planning decisions. The Planning Area consists of a total of 25 different detailed soil types. Most soil types in the Planning Area are sandy loams (such as Tokay and Acampo), which are highly productive for agriculture and present little constraint to development. Limited acreages of additional of soil types are also found throughout the Planning Area.

The Tokay-Acampo soil group is characterized by moderately well-drained and well-drained moderately coarse textured soils. The soils are deep to hardpan and located on low fan terraces. The primary detailed soil types present within this group include Tokay and Acampo. The Tokay soils are very deep and well-drained. Typically, the surface layer and subsoil are moderately coarse textured. The Acampo soils are 40 to 60 inches to a hardpan and are moderately well-drained. The surface layer and subsoil are moderately coarse textured (NRCS, 1992).

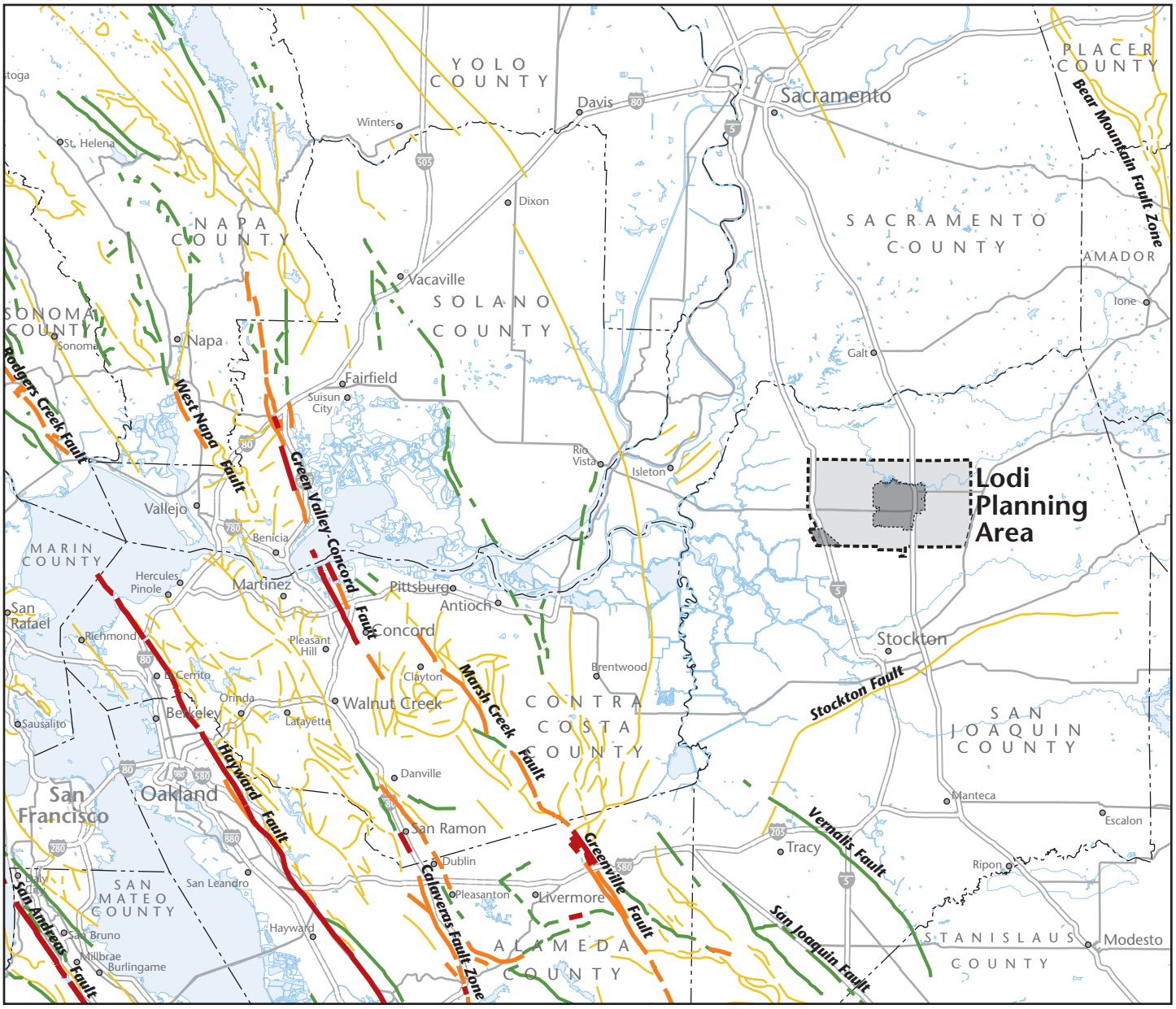
Seismicity

The Planning Area is located 65 miles east of the Bay Area and lies within Seismic Risk Zone 3. Earthquakes in Seismic Risk Zone 3 pose a lesser risk than those experienced in Zone 4 (such as the San Francisco Bay Area). The estimated maximum (moment) magnitudes (Mw) represent characteristic earthquakes on particular faults (Table 3.10-1). The Planning Area may be affected by regionally occurring earthquakes; however, impacts resulting from such an event would generally be less than those experienced in the Bay Area. Figure 3.10-1 identifies active and potentially active faults in the region of the Planning Area.

Regional Faults

Figure 3.10-1 illustrates the locations of the Quaternary or younger faults in the region. According to the Fault Activity Map of California, the nearest active fault is the Greenville Fault, located approximately 34 miles south of the Planning Area (Jennings, 1994). The Maximum Moment magnitude of the maximum probable earthquake on the Greenville Fault is estimated to be 6.9 (Peterson et. al., 1996); however, the largest historic earthquake on the Greenville Fault was a Richter magnitude 5.8, comparable to a 6 Modified Mercalli (MM), earthquake that occurred in 1980. Peak ground acceleration (pga) (measured in g) is a measure of the ground motion, which decreases the further you are from the earthquake. That earthquake produced a peak ground acceleration of 0.15g in Brentwood, approximately 35 miles southwest of the Planning Area. Approximately .10g - .12g indicates the approximate threshold of damage to older (pre - 1965) dwellings or dwellings not made to resist earthquakes. Some post-1985 dwellings, built to California earthquake standards, have experienced severe shaking of .60g with only chimney damage and damage to contents (USGS, 2009). Other nearby faults to the Planning Area exhibiting historic displacement (activity within the last 200 years) are the Concord-Green Valley and Hayward faults located approximately 45 miles west-northwest and 56 miles west of the Planning Area, respectively. Portions of the Calaveras fault zone also have been rated as being active within the last 200 years and those portions are located approximately 46 miles southwest of the site.

The nearest Quaternary fault (2 million years ago to present) to the Planning Area showing evidence of activity within the past 1.6 million years is the San Joaquin Fault located approximately 24 miles southwest of the Planning Area (Jennings, 1994; Bartow, 1991). The nearest mapped fault trace, the Stockton Fault, is not considered an active fault. Table 3.10-1 below, details the active and potentially active faults in the vicinity of the Planning Area.



Active Fault (Historic Displacement)

Active Fault (Holocene Displacement)

Potentially Active Fault (Quaternary Displacement)

Inactive Fault (Pre-Quaternary)

Figure 3.10-1
Regional Faults

Table 3.10-1: Active and Potentially Active Faults in the Vicinity of the Planning Area

Fault	*Location Relative to Lodi*	*Fault Classification*[1]	*Historical Seismicity*[2]	*Slip Rate*[3] *(mm/yr)*	*MM Magnitude*[4]
San Joaquin Fault	24 miles south	Conditionally Active/ Quaternary	N/A	N/A	N/A
Vernalis Fault	25 miles south	Conditionally Active/ Quaternary	Pre-Historic Activity	N/A	N/A
Greenville Fault	34 miles southwest	Active	5.8	2.0	6.9
Concord-Green Valley Fault	45 miles west-northwest	Active	Active Creep[5]	6.0	6.9
Calaveras Fault Zone	46 miles southwest	Active	M 6.1: 1984 M 5.9: 1979 Many <M 6.5	15.0 (Maximum)	6.8
West Napa Fault	51 miles northwest	Active	N/A	1.0	6.5
Hayward Fault	56 miles west-southwest	Active	M 6.8: 1868 M 7.0: 1838 Many <M 4.5	9.0	6.9
Rodgers Creek Fault	61 miles northwest	Active	N/A	0.2-1	7.0
San Andreas Fault (Peninsula and Golden Gate Segments)	72 miles west	Active	M 7.1: 1989 M 8.25: 1906 M 7.0: 1838 Many <M 6	17.0	7.3

1. The California Geological Survey defines an "active fault" as one that has displayed displacement within Holocene time (about the last 10,000 years). A "potentially" active fault is defined as a fault that has shown evidence of surface displacement within the past 1.6 million years. "Late Quaternary" refers to a fault with displacement in the last 700,000 years. "Pre-Quaternary" refers to a fault without recognized displacement within the past 1.6 million years. These faults are not necessarily inactive. The California Division of Safety of Dams fault activity guidelines (Fraser 2001a) differentiate active seismic sources, conditionally active seismic sources, and inactive seismic sources. There are two subcategories of active seismic sources: Holocene active (within the last 11,000 years) and Latest Pleistocene active (less than 35,000 years old but older than 11,000 years). The distinction between these two subcategories is descriptive and both categories are treated as active seismic sources for design purposes. Conditionally Active faults also have two subcategories: Quaternary active fault (displacement within 35,000 to 1.6 million years) and pre-Quaternary active. A pre-Quaternary fault is one that can be reasonably shown to have attributes consistent with the current tectonic regime. Inactive faults have had no surface or subsurface displacement in the last 35,000 years and inactivity is demonstrated by fault traces that are consistently overlain by unbroken geologic materials that are older than 35,000 years.
2. Richter magnitude (M) and year for recent and/or large events.
3. Slip Rate = Long-term average total of fault movement including earthquake movement, slip, expressed in millimeters.
4. The Maximum Moment Magnitude is an estimate of the size of a characteristic earthquake capable of occurring on a particular fault. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event. Richter magnitude estimations can be generally higher than moment magnitude estimations.
5. Slow fault movement that occurs over time without producing an earthquake.

N/A = Not applicable and/or not available.

Sources: Jennings, 1994; Peterson et. al., 1996.

Seismic Structural Safety

The CDMG has determined the probability of earthquake occurrences and their associated peak ground accelerations throughout the State of California. According to the CDMG probabilistic seismic hazard map for California, peak ground accelerations in the Planning Area could range from 0.20 g to 0.30 g (Peterson et. al., 1999).

The susceptibility of a structure to damage from ground shaking is also related to the underlying foundation material. A foundation of rock or very firm material can intensify short-period motions, which affect low-rise buildings more than tall, flexible ones. A deep layer of saturated alluvium can cushion low-rise buildings, but it can also accentuate the motion in tall buildings (ABAG, 1998). Other potentially dangerous conditions include, but are not limited to: building architectural features that are not firmly anchored, such as parapets and cornices; roadways, including column and pile bents and abutments for bridges and overcrossings; and above-ground storage tanks and their mounting devices. Such features could be damaged or destroyed during strong or sustained ground shaking.

Seismic Hazards

Seismic hazards that may exist within the Planning Area include surface fault rupture, groundshaking, and liquefaction. These are discussed below.

Surface Fault Rupture

Surface expression of fault rupture is typically observed and is expected on or within close proximity to a causative fault. The Planning Area is neither located within, nor crosses, a delineated Alquist-Priolo Earthquake Fault Zone and the Greenville fault zone lies over 34 miles west of the Planning Area. For this reason, the risk of surface fault rupture within the Planning Area is considered low (CDMG, 1997).

Groundshaking

The greatest geologic hazard in Lodi is the structural danger posed by groundshaking from earthquakes originating outside of the area. The maximum expected earthquake intensity to be reasonably expected in the Planning Area would correspond to a Modified Mercalli Intensity VIII, or possibly higher (see Table 3.10-2). During an intensity VIII event, some damage would occur to well-made structures and chimneys; some towers would fall; and poorly constructed or weak structures would be heavily damaged. An earthquake with an intensity of VIII would be most probable in areas where the water table is most shallow in proximity to the Mokelumne River. Where the water table is deeper than 30 feet, which it is throughout much of the Planning Area, a Maximum Intensity of VII would be more reasonably expected. In such an earthquake, damage in well-built structures would be slight.

Table 3.10-2: Modified Mercalli Intensity Scale

Intensity Value	*Intensity Description*	*Average Peak Acceleration (% g)*
I.	Not felt except by a very few persons under especially favorable circumstances.	< 0.17
II.	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	0.17 – 1.4
III.	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration similar to a passing of a truck. Duration estimated.	0.17 – 1.4
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	1.4 – 3.9
V.	Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	3.9 – 9.2
VI.	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.	9.2 – 18
VII.	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	18 – 34
VIII.	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	34 – 65
IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	65 – 124
X.	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 124
XI.	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	124
XII.	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	124

1. g is gravity = 980 centimeters per second squared

Source: Bolt, Bruce A., 1988.

Liquefaction

Liquefaction is an unstable ground condition in which water-saturated soils change from a solid to semi-liquid state because of a sudden shock or strain. Liquefaction generally occurs when seismically-induced ground shaking causes pore water pressure to increase to a point equal to the overburden pressure. Areas at risk due to the effects of liquefaction are typified by a high groundwater table and underlying loose to medium-dense, granular sediments, particularly younger alluvium and artificial fill.

The probability of soil liquefaction actually taking place in the Planning Area is considered to be a low to moderate hazard, due to the substantial distance from the active Hayward and Calaveras Fault zones and the type of ground shaking expected from those faults. The presence of liquefaction susceptibility zones located in the Planning Area is unknown. Future site-specific planning and projects within the Planning Area should further investigate the potential for well-graded sand or silt deposits subject to liquefaction to be located at individual sites (City of Lodi, 1988).

Other Geologic Hazards

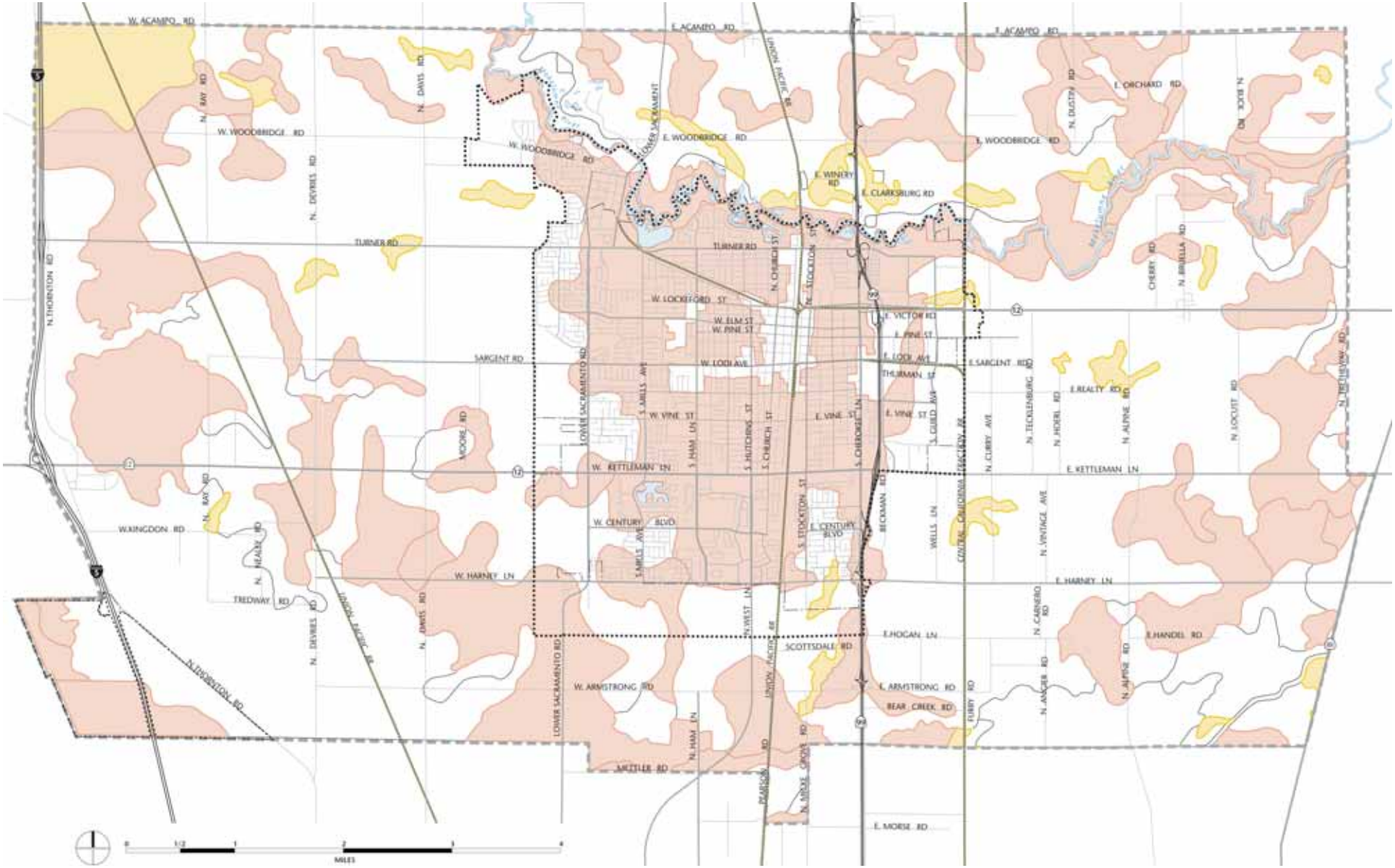
Additional geologic hazards that may exist within the Planning Area include soil erosion and settlement. The Planning Area is primarily flat and, thus, the risk of unstable soils or landslides is considered relatively low and not discussed further.

Soil Erosion

Soil erosion is the process whereby soil materials are worn away and transported to another area either by wind or water. Rates of erosion can vary depending on the soil material and structure, placement, and the general level of human activity. Soil containing high amounts of sand or silt can be easily eroded while clayey soils are less susceptible. The Tokay soils present in the Planning Area have a moderate potential for wind erosion and the Tujunga soils in the Planning Area have a severe potential for wind erosion if vegetative covering is removed. Figure 3.10-2 identifies the degree of erosion susceptibility throughout the Planning Area, which is determined by the k-factor for each soil type (NRCS, 1992).

Expansive Soils

Expansive soils possess a shrink-swell characteristic. Structural damage may result over a long period of time, usually resulting from inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Expansive soils are largely comprised of clay, which expand in volume when water is absorbed and shrink when dried. Several of the soil types located within the Planning Area are comprised of potentially expansive materials. As such, these areas would be considered more likely to contain expansive clays, and therefore these factors should be taken into consideration during future planning activities and site-specific project design. In a majority of the developed portions within the Planning Area, this layer of clay has been blended into more granular soils during site excavation or buried beneath more granular soils during excavation operations to reduce the soil's overall expansiveness (NRCS, 1992). Figure 3.10-3 identifies portions of the Planning Area that are susceptible to low, medium, and high potential for soil shrink-swell. The majority of the Planning Area either has not been measured for soil shrink-swell or has a low potential for soil shrink-swell.



K Factor

Moderate (2.5-4.0)

Low (2.0-2.5)

Not measured

Planning Area

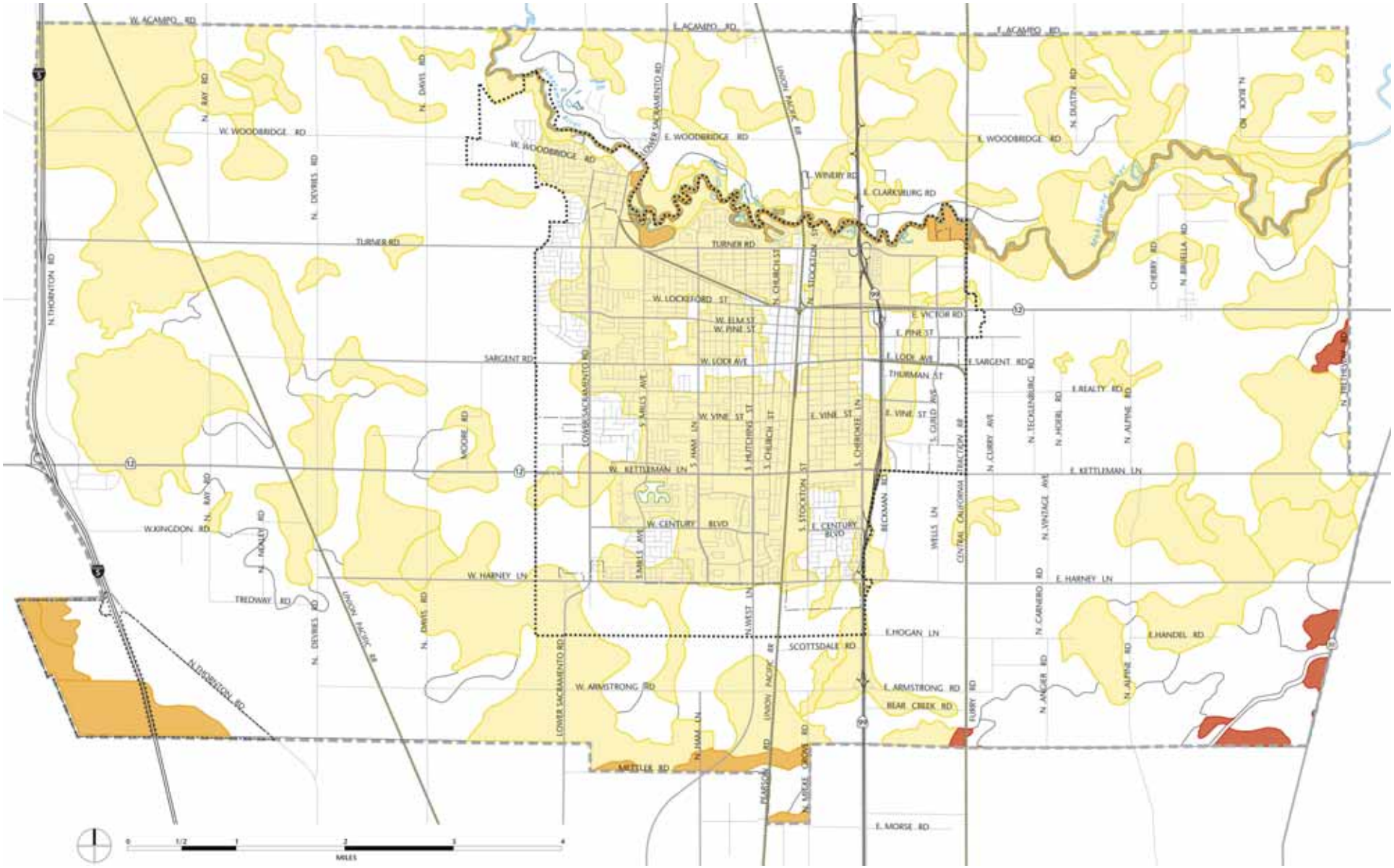
Sphere of Influence

City Limits

Urban Reserve

Figure 3.10-2

Erosion Susceptibility



Shrink-Swell Potential

- High
- Moderate
- Low
- Not measured

- Planning Area
- Sphere of Influence
- City Limits
- Urban Reserve

Figure 3.10-3
Expansive Soils

Settlement

Settlement is the consolidation of the underlying soil when a load, such as that of a building or new fill material, is placed upon it. When soil tends to settle at different rates and by varying amounts depending on the load weight, it is referred to as differential settlement. Settlement commonly occurs as a result of building construction or other large projects that require soil stockpiles. Portions of the Planning Area that contain fill material may be susceptible to

settlement. If the fill materials are unconsolidated they have the potential to respond more adversely to additional load weights as compared to adjacent native soils.

Subsidence

Subsidence is the gradual settling or sinking of the earth's surface with little or no horizontal motion. Subsidence typically occurs in areas that overlie an aquifer where the groundwater level is gradually and consistently decreasing. Additionally, subsidence may also occur in the presence of oil or natural gas extraction. Within the Delta, subsidence can also be caused by oxidation, anaerobic decomposition, shrinkage, and wind erosion (Rojstaczer et. al., 1991).

Subsidence is an ongoing process, occurring since the Delta islands were formed and presently continuing at various rates, with an average estimated rate of 1.0 to 3.0 inches per year. Many of the islands are below sea level and the increasing subsidence puts additional hydrostatic pressure on the levees (Rojstaczer et. al., 1991). A portion of the Planning Area is located to the east of the Delta and therefore is not anticipated to suffer the direct affects of regional subsidence. Subsidence from natural gas or groundwater withdrawals in the Lodi area is not considered to be a significant hazard (City of Lodi, 1988; Rojstaczer et. al., 1991).

REGULATORY SETTING

Federal Regulations

There are no federal regulations that apply to this resource topic.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces. Cities and counties must regulate certain development projects within these zones, which include withholding development permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement (Hart, 1997). Surface fault rupture is not necessarily restricted to the area within an Alquist-Priolo Zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong groundshaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic

hazard zone, a geotechnical investigation of the site has to be conducted and appropriate mitigation measures incorporated into the project design.

California Building Code

The California Building Code is another name for the body of regulations known as the California Code of Regulations Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable (Bolt, 1988).

Published by the International Conference of Building Officials, the Uniform Building Code is a widely adopted model building code in the United States. The California Building Code incorporates by reference the Uniform Building Code with necessary California amendments. About one-third of the text within the California Building Code has been tailored for California earthquake conditions.

California Department of Transportation Highway Design Manual

The California Department of Transportation (Caltrans) has developed roadway design standards including those for seismic safety. Consideration of earthquake hazards in roadway design is detailed in the Highway Design Manual published by Caltrans (2006). Modifications to local highways and roads would be required to adhere to Caltrans engineering standards.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant impact if it increased exposure of people or structures to the risk of property loss, injury, or death involving:

- Rupture of a known earthquake fault, ground shaking, liquefaction, or landslides;
- Substantial soil erosion or unstable soil conditions from excavation, grading or fill; or
- Settlement and/or subsidence of the land, or risk of expansive soils.

METHODOLOGY AND ASSUMPTIONS

This evaluation of geologic and seismic hazard conditions was completed using information collected from the United States Geological Survey, California Division of Mines and Geology (CDMG). In order to reduce or mitigate potential hazards from earthquakes or other local geologic hazards, the City ensures that development will continue to be completed in compliance with local and State regulations. The regulations include the California Building Code, the Uniform Building Code, the Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazard Mapping Act. Policies and implementation measures developed for the proposed General Plan include continued conformance with these applicable local and State building regulations.

SUMMARY OF IMPACTS

Implementation of the proposed General Plan could result in the exposure of people or structures to potentially adverse impacts associated with earthquake-related ground shaking, soil erosion, liquefaction, and shrink-swell hazards. However, compliance with the California Building Code

and other state and local regulations, as well as proposed General Plan policies ensures that impacts are reduced to levels that are less than significant.

IMPACTS AND MITIGATION MEASURES

Impact

3.10-1 Implementation of the proposed General Plan has low to moderate potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death resulting from rupture of a known earthquake fault, ground shaking, landslides or liquefaction, though these risks are minimized through compliance with State regulations and proposed General Plan policies. *(Less than Significant)*

As previously described, several geologic hazards (including liquefaction and expansive soils) have a low to moderate potential to occur within the Planning Area and surrounding lands. The greatest geologic hazard in Lodi is the structural danger posed by groundshaking from earthquakes originating outside of the area. The Planning Area is generally flat; therefore, the risk of landslides is minimal. No specific liquefaction hazard areas have been identified in the Planning Area; however the potential for liquefaction is recognized throughout the San Joaquin Valley. Within Planning Area, the potential for these geologic hazards can likely be addressed through compliance with State regulations (including the California Building Code) and implementation of standard construction practices and should not be considered a high constraint for future development of the Planning Area.

Proposed General Plan Policies that Reduce the Impact

The following proposed policies would minimize potential geologic hazards:

S-P16 Ensure that all public facilities, such as buildings, water tanks, underground utilities, and berms, are structurally sound and able to withstand seismic activity.

S-P17 For buildings identified as seismically unsafe, prohibit a change in use to a higher occupancy or more intensive use until an engineering evaluation of the structure has been conducted and structural deficiencies corrected consistent with City building codes.

S-P18 Require soils reports for new projects and use the information to determine appropriate permitting requirements, if deemed necessary.

S-P19 Require that geotechnical investigations be prepared for all proposed critical structures (such as police stations, fire stations, emergency equipment, storage buildings, water towers, wastewater lift stations, electrical substations, fuel storage facilities, large public assembly buildings, designated emergency shelters, and buildings three or more stories high) before construction or approval of building permits, if deemed necessary. The investigation shall include estimation of the maximum credible earthquake, maximum ground acceleration, duration, and the potential for ground failure because of liquefaction or differential settling.

S-P20 Require new development to include grading and erosion control plans prepared by a qualified engineer or land surveyor.

Implementation of the policies listed above would maintain potential Impact 3.10-1 at a level that is less than significant.

Mitigation Measures

None required.

Impact

3.10-2 Implementation of the proposed General Plan has moderate potential to result in substantial soil erosion or unstable soil conditions from excavation, grading or fill, though impacts would be mitigated with proposed General Plan policies. *(Less than Significant)*

As mentioned above, the Tokay soils present in the Planning Area have a moderate potential for wind erosion and the Tujunga soils in the Planning Area have a severe potential for wind erosion if vegetative covering is removed. Overall, implementation of the proposed General Plan would result in construction activities related to development projects that would involve groundbreaking and could lead to increased erosion rates. Increased soil erosion rates, especially for soils with moderate to high erosion potential, can lead to unstable ground surfaces. Future development and creation of new impervious surfaces also has the potential to contribute to increased stormwater runoff, which could make soil erosion more severe if stormwater is not handled properly. Soil erosion at construction sites can increase sedimentation in nearby streams and drainage channels. The proposed General Plan offers specific new policies to reduce the risk of topsoil loss due to erosion.

Proposed General Plan Policies that Reduce the Impact

Implementation of the policies listed under Impact 3.10-1 above would reduce potential impact 3.10-2 to a level that is less than significant.

Mitigation Measures

None required.

Impact

3.10-3 Implementation of the proposed General Plan has low potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death resulting from settlement and/or subsidence of the land, or risk of expansive soils, and policies in the proposed General Plan would further mitigate this impact. *(Less than Significant)*

Soils with moderate to high shrink-swell potential do exist within the Planning Area. However, all areas that include new development in the proposed General Plan are located on soils with low shrink-swell potential. Expansive soils require particular engineering design, site preparation, and construction practices in order to prevent structure damage from soil movement associated with moisture level changes. When these practices are employed on a project-by-project basis the potential for structural damage is minimal. Furthermore, implementation of the proposed General Plan policies summarized under Impact 3.10-1 would further reduce this impact to a level that is less than significant.

Proposed General Plan Policies that Reduce the Impact

Implementation of the policies listed under Impact 3.10-1 above would reduce potential impact 3.10-3 to a level that is less than significant.

Mitigation Measures

None required.

3.11 Noise

This section presents the environmental setting and evaluates the potential noise impacts in the Lodi Planning Area from implementation of the proposed General Plan.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

This section begins with a brief introduction to the characteristics of sound and follows with an overview of noise sources and levels.

Characteristics of Sound

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude) of a particular sound. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel or dB scale is used to quantify sound intensity. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale (i.e., dB scale) is used to keep sound intensity numbers at a convenient and manageable level.

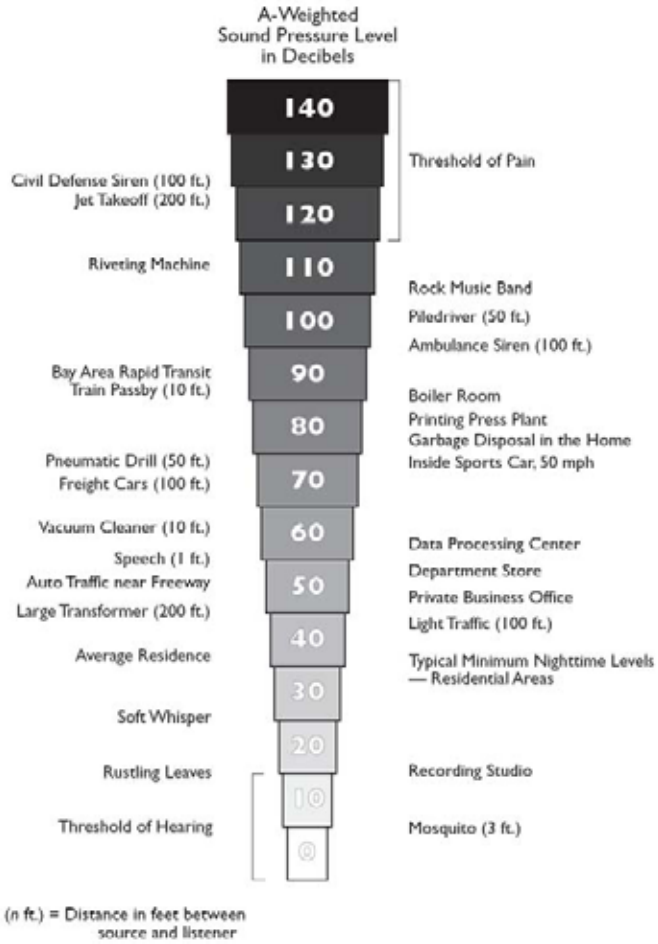


Figure 3.11-1: Typical Sound Levels

Since the human ear is not equally sensitive to all frequencies within the entire spectrum, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting" written as dBA. The human ear can detect changes in sound levels of approximately 3 dBA under normal conditions. Changes of 1 to 3 dBA are typically noticeable under controlled conditions, while changes of less than 1 dBA are only discernable under controlled, extremely quiet conditions. A change of 5 dBA is typically noticeable to the general public in an outdoor environment. Figure 3.11-1 summarizes typical A-weighted sound levels.

Noise Levels

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. Rather, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment varies the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

- **Leq**: The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

- **Lmax**: The instantaneous maximum noise level measured during the measurement period of interest.

- **Lmin**: The instantaneous minimum noise level measured during the measurement period of interest.

- **Lx**: The sound level that is equaled or exceeded x percent of a specified time period. The L50 represents the median sound level.

- **DNL**: The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises. This is also sometimes referred to as the Ldn.

- **CNEL**: Similar to the DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

Cumulative noise descriptors, DNL and CNEL, are directly correlated with the likelihood of public annoyance from transportation noise sources. Individual noise events, such as train passbys, are further described using single-event and cumulative noise descriptors. For single events, the maximum measured noise level (Lmax) is often cited, as is the Sound Exposure Level

(SEL). The SEL is the energy-based sum of a given-duration noise event squeezed into a reference duration of one second.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans, 1998).

Noise Contours

The interpretation of noise contours is a generalization, not an exact science. The measurements by sophisticated instruments are affected by many variables in a particular area. However, these individual effects are generalized so that noise contours describe the impact that can generally be expected. Noise contour lines themselves are not specific boundaries of noise tolerance. A contour line denoting a 65 dBA limit, for example, does not imply that residents on one side of the line are seriously affected, while on the other side of the line tolerable conditions exist. Rather, the area between 75 dBA and 65 dBA indicates that residents within this vicinity may experience a high level of noise and potential interference with daily functions.

Effects of Noise

High noise levels can interfere with a broad range of human activities in a way which degrades public health and welfare. Such activities may include:

- Speech communication in conversation and teaching;
- Telephone communication;
- Listening to television and radio;
- Listening to music;
- Concentration during mental and physical activities;
- Relaxation; and
- Sleep.

Interference with listening situations can be determined in terms of the level of the environmental noise and its characteristics. The amount of interference in non-listening situations is often dependent upon factors other than the physical characteristics of the noise. These may include

attitude toward the source of an identifiable noise, familiarity with the noise, characteristics of the exposed individual, and the intrusiveness of the noise.

Hearing loss, total or partial, and either permanent or temporary, is a well established effect of noise on human health. The primary measure of hearing loss is the hearing threshold level - the level of a tone that can just be detected by an individual. As a person is exposed to increased noise levels, that person may experience a shift in the threshold at which sound can be detected. Exposure to very high noise levels for lengthy periods of time can generate threshold shifts, which can be temporary or permanent. In general, A-weighted sound levels must exceed 60-80 decibels before a person will experience temporary threshold shifts. The greater the intensity level above 60-80 decibels and the longer the exposure, the greater length of the temporary threshold shift.

Noise Sources

Vehicular traffic (mobile noise sources) along State Route (SR) 99, SR-12, local roadways (i.e., Cherokee Lane, etc.), the Union Pacific Railroad line, and a variety of stationary noise sources, are the primary noise generators within the City's Planning Area. Although the Lodi Airport is located some distance from the Planning Area, two smaller air parks (Kingdon and Lodi) are located in the southern portion of the Planning Area. Each of these noise sources is described in greater detail below.

Traffic Noise

As in most typical urbanized areas, the most pervasive noise sources in the city are motor vehicles, including automobiles, trucks, buses, and motorcycles. The noise generated from vehicles using roads within the Planning Area is governed primarily by the number of vehicles, type of vehicles (mix of automobiles, trucks, and other large vehicles), and their speed.

The highest noise levels are adjacent to larger and more heavily traveled roadways including SR-99 and SR-12. Noise levels that would affect noise sensitive land uses such as residences, schools, and hospitals also occur along major arterials, including Cherokee Lane, Lodi Avenue, and Kettleman Lane.

Roadway noise levels for various streets within the Planning Area are provided in Table 3.11-1. Existing noise level contours—generalized depictions of the noise information estimated below—are shown on Figure 3.11-2. Future noise level contours are shown on Figure 3.11-3.

Railroad Noise

Railroad noise primarily occurs from existing operations along the Union Pacific Railroad (UPRR) line, which generally runs north-south through the Planning Area.

Several factors combine to produce railroad noises, including length of train, speed, grade, type of track, number of engines, and number of trips. In order to assess the existing UPRR noise levels and develop noise contours along the railroad in the City of Lodi, one long-term (7-hour) measurement was collected. The Ldn from the 7-hour measurement located 50 feet from the center of the railroad off of Harney lane was estimated to be 66 dBA. This measurement data, as well as an assumed attenuation rate of 3 dBA for every doubling of distance from the railroad, were used to develop the existing noise level contours depicted in Figure 3.11-1. The noise level contours were estimated from the center line of the railroad. At 60 feet from the railroad, the noise level would be approximately 65 dBA. At 200 feet from the railroad, the noise level would

be approximately 60 dBA. Notably, these noise levels do not take into account potential shielding from existing buildings, which could increase the rate of attenuation over distance but is dependent on the specific three-dimensional configuration and layout of the buildings. Future noise level contours for the railroad are shown on Figure 3.11-3.

Table 3.11-1: Existing Traffic Noise Contours[1]

Roadway Segment		Segment Number[2]	Distance to Noise Contour from Middle of Roadway(feet)		
			70 Ldn	65 Ldn	60 Ldn
Century Blvd.	Lower Sacramento Road to Mills Ave.	#1	16	51	161
	Mills Avenue to Ham Lane	#2	27	84	265
	Ham Lane to Hutchins Street	#3	27	84	267
	Hutchins Street to Church Street	#4	20	62	197
	Stockton Street to Cherokee Lane	#5	12	37	117
Cherokee Lane	Victor Road to Pine Street	#6	74	233	737
	Lodi Avenue to Tokay Street	#7	66	210	663
	Tokay Street to Vine Street	#8	62	195	617
	Vine Street to Kettleman Lane	#9	60	190	600
	Kettleman Lane to Century Blvd.	#10	51	161	508
	Pioneer Drive to Victor Road	#11	55	173	546
	Century Blvd. to Harney Lane	#12	13	41	129
Church Street	Pine Street to Lodi Avenue	#13	29	92	289
	Lodi Avenue to Tokay Street	#14	27	86	272
	Tokay Street to Vine Street	#15	26	84	265
	Vine Street to Kettleman Lane	#16	27	85	268
	Kettleman Lane to Century Blvd.	#17	22	68	217
Elm Street	Lower Sacramento Road to Mills Ave.	#18	26	82	259
	Mills Avenue to Ham Lane	#19	29	92	290
	Ham Lane to Hutchins Street	#20	19	59	185
	Hutchins Street to Church Street	#21	14	45	143
	Central Avenue to Cherokee Lane	#22	10	31	97
	Evergreen Dr to Lower Sacramento Rd	#23	8	25	79
Ham Lane	Brandywine Street to Century Blvd.	#24	37	119	375
	Wimbledon Lane to Harney Lane	#25	20	62	197
	Holly Drive to Lockeford Street	#26	37	118	373
	Lodi Avenue to Tokay Street	#27	60	189	598
	Tokay Street to Vine Street	#28	62	197	624
	Pine Street to Lodi Avenue	#29	52	164	519
	Vine Street to Kettleman Lane	#30	61	193	610

Table 3.11-1: Existing Traffic Noise Contours[1]

Roadway Segment		Segment Number[2]	Distance to Noise Contour from Middle of Roadway(feet)		
			70 Ldn	65 Ldn	60 Ldn
Harney Lane	Lower Sacramento Road to Mills Ave.	#31	29	93	294
	Mills Avenue to Ham Lane	#32	35	109	346
	Ham Lane to Hutchins Street	#33	43	135	427
	Hutchins Street to Banyan Drive	#34	54	171	540
	Banyan Drive to Stockton Street	#35	57	180	569
	Stockton Street to Cherokee Lane	#36	42	134	424
Hutchins Street	Lockeford Street to Elm Street	#37	16	49	156
	Pine Street to Lodi Avenue	#38	30	95	302
	Lodi Avenue to Tokay Street	#39	37	117	369
	Vine Street to Kettleman Lane	#40	42	133	420
	Brandywine Drive to Century Blvd.	#41	56	177	560
	Century Blvd. To Wimbledon Drive	#42	53	169	534
	Vineyard Drive to Harney Lane	#43	53	167	528
Kettleman Lane	Lower Sacramento Road to Tienda Dr.	#44	71	223	706
	Tienda Drive to Mills Avenue	#45	96	303	957
	Mills Avenue to Lakeshore Drive	#46	97	307	971
	Lakeshore Drive to Ham Lane	#47	110	347	1,098
	Ham Lane to Hutchins Street	#48	108	340	1,076
	Hutchins Street to Church Street	#49	116	365	1,155
	Church Street to Stockton Street	#50	126	400	1,265
	Stockton Street to Central Avenue	#51	102	324	1,024
	Central Avenue to Cherokee Lane	#52	98	309	978
	Cherokee Lane to State Route 99	#53	89	281	889
	State Route 99 to Beckman Road	#54	63	200	633
	Beckman Road to Curry Avenue	#55	40	127	403
Lockeford Street	Ham Lane to California Street	#56	33	103	325
	Hutchins Street to Church Street	#57	38	119	377
	Church Street to Sacramento Street	#58	41	131	415
	Sacramento Street to Stockton Street	#59	41	129	408
	Central Avenue to Cherokee Lane	#60	33	136	335
	Backman Road to Cluff Avenue	#61	6	18	58
	Cluff Avenue to Guild Avenue	#62	1	4	12
Lodi Avenue	Lower Sacramento Road to Mills Ave.	#63	35	110	347
	Hutchins Street to Church Street	#64	58	183	579
	Sacramento Street to Stockton Street	#65	51	162	511
Lower	Turner Road to Elm Street		82	178	383

Table 3.11-1: Existing Traffic Noise Contours[1]

Roadway Segment		Segment Number[2]	Distance to Noise Contour from Middle of Roadway(feet)		
			70 Ldn	65 Ldn	60 Ldn
Sacramento Road	Elm Street to Paradise Road		102	220	474
	Paradise Drive to Lodi Avenue		91	195	421
	Lodi Avenue to Tokay Street		112	241	519
	Tokay Street to Vine Street		123	266	573
	Vine Street to Kettleman Lane		123	265	570
	Kettleman Lane to Century Boulevard		93	201	434
	Century Boulevard to Harney Lane		92	198	428
Mills Avenue	Turner Road to Lockeford Street	#66	19	61	194
	Elm Street to Lodi Avenue	#67	28	87	276
Stockton Street	Turner Road to Lockeford Street	#68	13	41	131
	Lockeford Street to Elm Street	#69	18	55	175
	Lodi Avenue to Tokay Street	#70	26	83	262
	Vine Street to Kettleman Lane	#71	29	92	292
	Kettleman Lane to Century Blvd.	#72	41	130	410
Turner Road	Lower Sacramento Road to Mills Ave.	#73	66	210	664
	Beckman Road to Cluff Avenue	#74	23	71	226
Victor Road	State Route 99 to Cluff Avenue	#75	56	176	555
	Cluff Avenue to Guild Avenue	#76	43	137	432
State Route 99	Turner Road to Clarksdale Road	#77	199	630	1,992
	Kettleman Lane to State Route 12	#78	263	831	2,629
	Armstrong Road to Eight Mile Road	#79	265	839	2,653

1. Noise contours developed using peak hour traffic volumes for individual roadway segments.
2. Roadway segment numbers provided in this table correspond with the segment numbers identified in Figures 3.11-2 and 3.11-3.

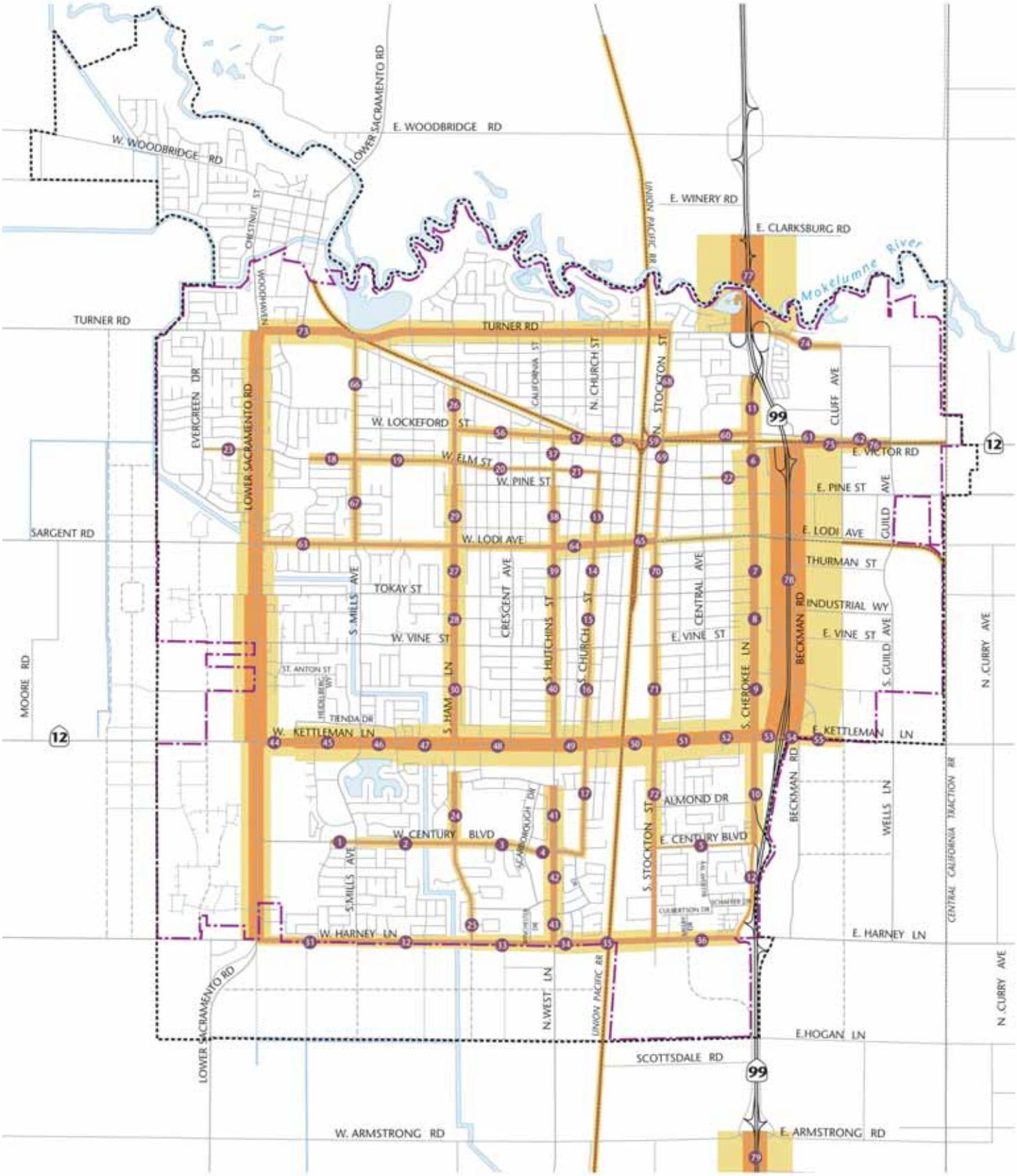
Source: ESA, Charles M. Salter Associates, Inc, 2009.

Airport Noise

The greatest potential for noise intrusion occurs when aircraft land, take off, or run their engines while on the ground. There are three primary sources of noise in a jet engine: the exhaust, the turbomachinery, and the fan. The noise associated with general aviation propeller aircraft (piston and turbo-prop) is produced primarily by the propellers and secondarily from the engine and an exhaust.

Aircraft noise affecting the Planning Area is primarily generated by from the Kingdon and Lodi airparks. Both of these airparks lie outside this General Plan's proposed urban area and are not considered substantial noise sources. The Kingdon Airpark is located about seven miles southwest of the city. This airpark is privately owned and accommodates small twin-engine airplanes and other small general aviation aircraft. Its primary use is for agricultural activities. The Lodi Airpark is located five miles southwest of the city. The facility is owned by an agricultural service firm and

accommodates only small light aircraft. Noise contours developed for these two airports (not shown) report minimal noise impacts—less than 65db—around the airports.



Roadway Noise Contours

- 60 dBA
- 65 dBA

Railroad Noise Contours

- 60 dBA at 200 feet
- 65 dBA at 60 feet

40 acres

10 acres

0 1/2 1 2

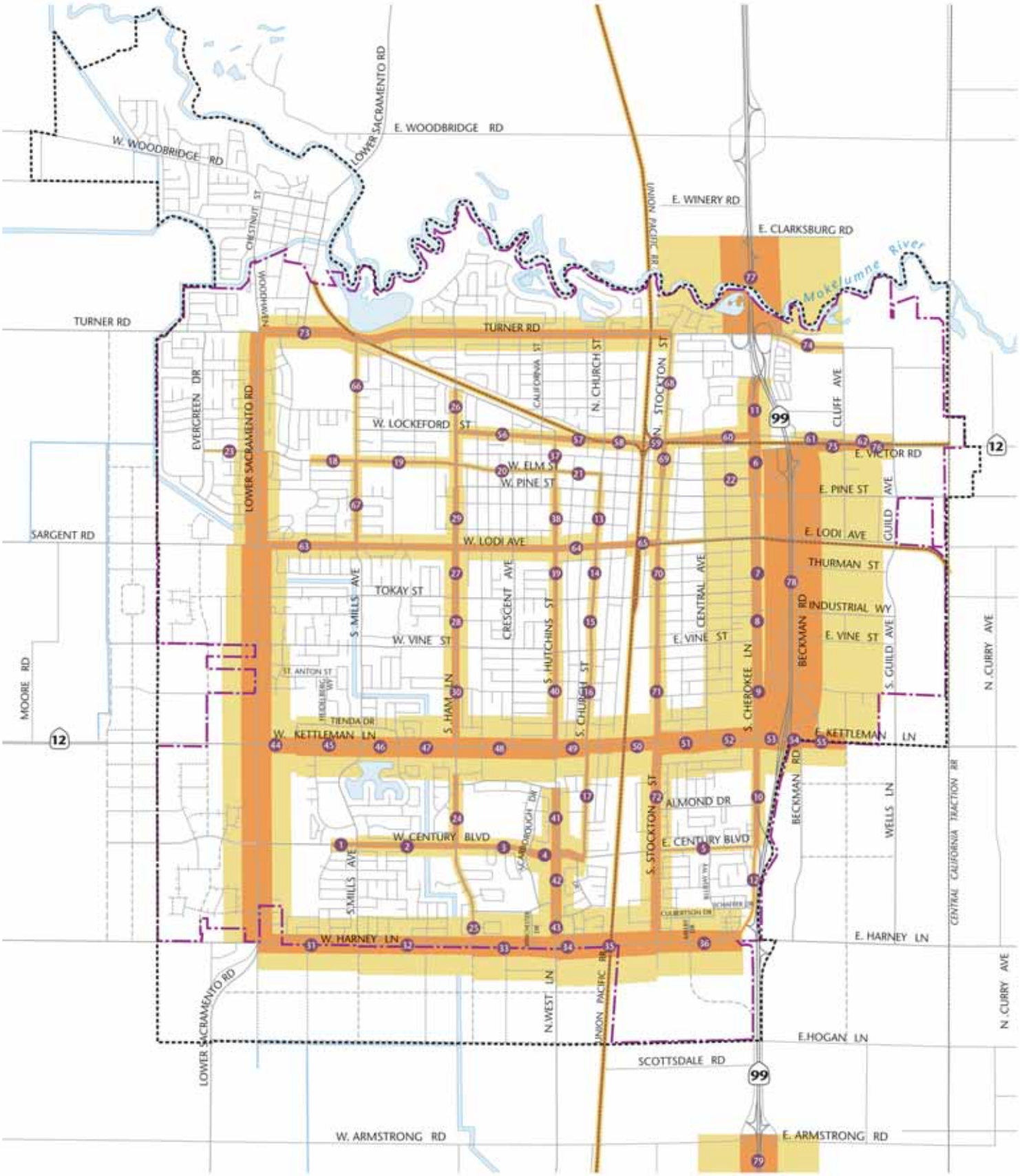
MILES

See Table 3.11-1 for numerical listing of distances.

- Sphere of Influence (2008)
- City Limits (2008)

Figure 3.11-2

Existing Noise Contours



Roadway Noise Contours

- 60 dBA
- 65 dBA

Railroad Noise Contours

- 60 dBA at 200 feet
- 65 dBA at 60 feet

- Sphere of Influence (2008)
- City Limits (2008)

40 acres

10 acres

0 1/2 1 2

MILES

See Table 3.11-1 for numerical listing of distances.

Figure 3.11-3

Future Noise Contours

Community Noise Survey

A community noise survey was conducted in May 2007 at five locations throughout the Planning Area to characterize typical noise levels. The results of this survey are provided below in Table 3.11-2. The highest maximum noise level from this sample was recorded at the intersection of Grant Avenue and Turner Road. All of the maximum values were recorded above 70 db, suggesting intermittent noise levels that could be disturbing to persons in the vicinity of the noise source. The highest average noise level was recorded at Kettleman Lane and Crescent Avenue and was one of only two locations reporting a Leq greater than 65 dBA, which suggests noise levels that may be disturbing to persons in the vicinity.

Table 3.11-2: Short-Term Community Noise Measurements for the Planning Area

Location	*2007 Measured Sound Levels*		
	Time	*Leq(dBA)*	*Lmax*
Lower Sacramento Road & Lodi Avenue	12:08 to 12:18	61.4	78.5
Grant Avenue & Turner Road	12:38 to 12:48	65.5	81.7
Tokay Street &Virginia Avenue	11:37 to 11:47	56	71
Stockton Street & John Blakely Park	11:03 to 11:13	58.7	72.5
Kettleman Lane & Crescent Avenue	10:26 to 10:36	66.6	79.4

Note: Measurements were taken 50 feet from the center of the roadway.

Source: ESA, 2007.

REGULATORY SETTING

Relevant federal, State and local programs specific to noise conditions are discussed in this section.

Federal Regulations

Federal Highway Administration

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772). These noise criteria are based on Leq (h) and are summarized in Table 3.11-3.

Table 3.11-3: FHWA Noise Abatement Criteria

Activity Category	*Design Noise Levels LEQ (h) (DBA)*	*Description of Activity Category*
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas
C	72 (exterior)	Developed lands
D	-	Undeveloped lands
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: Federal Highway Administration 1982

Environmental Protection Agency

The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, a Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at a Leq of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or other needs of the community.

The EPA has set 55 dBA Ldn as the basic goal for residential environments (exterior). However, other federal agencies, in consideration of their own program requirements and goals, as well as the difficulty of actually achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn exterior level as being appropriate for residential uses. At 65 dBA Ldn activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration under the USEPA. Noise exposure of this type is dependent on site-specific work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in general facility construction, site-specific occupational noise is outside the scope of this program level analysis and is not addressed further in this document.

Department of Housing and Urban Development

HUD was established in response to the Urban Development Act of 1965 (Public Law 90-448) and was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA Ldn or less. An acceptable zone where all projects could be approved.

- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn. A normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.

- Exceeding 75 dBA Ldn. An unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that

using standard construction practices, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. However HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

State Regulations

California Noise Insulation Standards, California Code of Regulations, Title 24

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. The noise insulation standards set forth an interior standard of DNL 45 dB in any habitable room. Where such units are proposed in areas subject to noise levels greater than DNL 60 dB, the Code requires an acoustical analysis to demonstrate that the dwelling units have been designed to meet the interior noise standard. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

California Department of Health Services

The Office of Noise Control in the State Department of Health Services has developed criteria and guidelines for local governments to use when setting standards for human exposure to noise and preparing noise elements for General Plans (Office of Planning and Research 2003). These guidelines include noise exposure levels for both exterior and interior environments. In addition, the California Code of Regulations sets forth requirements for the insulation of multiple-family residential dwelling units from excessive and potentially harmful noise. The State indicates that locating units in areas where exterior ambient noise levels exceed 65 dBA is undesirable. Whenever such units are to be located in such areas, the developer must incorporate into building design various construction features which reduce interior noise levels to 45 dBA CNEL. These guidelines have been adapted and set as standards in the proposed General Plan.

California Department of Transportation

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in Caltran's Traffic Noise Analysis Protocol (Caltrans 1998). The noise abatement criteria specified in the protocol are the same as those specified by FHWA (see Table 3.11-3).

Airport Land Use Commission

The Airport Land Use Commission (ALUC) was established to ensure that there are no direct conflicts with land uses, noise, or other issues that would impact the functionality and safety of airport operations. One of the key functions of the ALUC is to require that cities' and counties' general plans and zoning ordinances are consistent with Airport Environs Land Use Plans (AELUPs), which contain noise contours, restrictions for types of construction and building heights in navigable air space, as well as requirements impacting the establishment or construction of sensitive uses within close proximity to airports.

Local Regulations

City of Lodi Noise Ordinance

Chapter 9.24 (Noise Regulation) of the City's Municipal Code is designed to prohibit "public nuisance noise" which "disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal noise sensitivity" through the

establishment of standards that are used in consideration of whether a particular noise violation has occurred. These standards include (but are not limited) to the following:

- The volume of the noise;
- The intensity of the noise;
- Whether the nature of the noise is usual or unusual for the area and hour;
- Whether the origin of the noise is natural or unnatural;
- The volume and intensity of the background noise, if any;
- The proximity of the noise to residential sleeping facilities;
- The nature and the zoning of the area within which the noise emanates;
- The density of the inhabitation of the area within which the noise emanates;
- The time of day or night the noise occurs; and/or
- The duration of the noise.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the General Plan would have a potentially significant impact if it would:

- Result in a substantial permanent increase in ambient noise levels above levels existing without the project;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Cause the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels; or
- Expose persons to noise in excess of 65 dB generated by aircraft originating from or destined for the Lodi Airport, Kingdon Airpark, or Lodi Airpark.

METHODOLOGY AND ASSUMPTIONS

The traffic noise levels were computed using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108). The model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute the Leq. The Leq values were converted into CNEL using FHWA methodology. The traffic volumes are based on traffic data more fully described in Section 3.2: Traffic and Circulation.

The methods used to assess noise are described throughout this section. A summary of noise standards was provided based on a review of all applicable federal, State, and local noise regulations. A discussion of other noise sources was based on collected noise measurements. The most current airport noise contour data was obtained from San Joaquin County (San Joaquin County Aviation System, 2009).

The noise analyses included in this section evaluates the future development scenario as a whole, with the proposed General Plan development applied to projected future growth in the region. Therefore, analysis of noise from implementation of the proposed General Plan represents both the project impacts and cumulative effects. As a result of adding the proposed General Plan to the regional land use and transportation baseline, the associated noise produced for the proposed Plan are considered identical to the cumulative condition for CEQA purposes.

SUMMARY OF IMPACTS

Implementation of the proposed General Plan will result in higher traffic volumes, more industrial and commercial noise sources, and a larger population, all of which will contribute to the noise environment in Lodi. The General Plan anticipates these trends and presents a set of policies to reduce noise impacts on noise-sensitive receptors. Future noise impacts related to traffic, railroads, and stationary sources would remain significant and unavoidable, given the uncertainty as to whether future noise impacts could be adequately mitigated for all the individual projects that will be implemented as part of the General Plan.

Ambient noise levels near areas of new development may temporarily increase due to construction activities. Proposed General Plan development would be required to comply with the limitations on construction activity and associated noise standards, as identified in the proposed General Plan and subsequently through amendments to the City's Zoning and Noise ordinances. Compliance with these provisions is mandatory and will ensure that construction noise impacts, while potentially a temporary nuisance, are less than significant.

Noise contours developed around Kingdon Airpark and Lodi Airpark depict minimal noise impacts—less than 65db—around the airports. New development included in the proposed General Plan would not be in the vicinity (nor specifically, within the 65db contours) and therefore would not expose persons to substantial aircraft noise. This potential impact is not an issue and is not described further.

Development of the proposed General Plan could potentially expose more people to the impacts of excess groundborne vibration. Policies included as part of the proposed General Plan would minimize the impact, but it is still considered potentially significant.

IMPACTS AND MITIGATION MEASURES

Impact

3.11-1 Implementation of the proposed General Plan could result in a substantial permanent increase in ambient noise levels. (*Significant and Unavoidable*)

Noise resulting from vehicles, trains, and stationary operations (e.g. industrial activities and warehousing) are expected to increase as a result of the proposed General Plan. Given the uncertainty as to whether future noise impacts could be adequately mitigated for all the

individual projects that will be implemented as part of the General Plan, future noise impacts related to traffic, railroads, and stationary sources are considered significant and unavoidable.

Operational Noise (On-Road Mobile Sources)

Potential impacts on existing land uses are the result of additional on-road mobile sources (vehicles) traveling along local roadways. Table 3.11-4 identifies the various routes for which traffic data was generated using a spreadsheet based upon algorithms from the FHWA's Highway Traffic Noise Prediction Model and the traffic study prepared for the proposed General Plan. The most substantial increase is along Harney Lane. The table compares noise levels on roadway segments for existing versus future scenarios for roadways with the potential for a significant (3 dBA or greater) increase in noise due to development of the proposed General Plan. However, the actual level of impact would depend on the presence and location of any existing or proposed land uses or barriers in relation to the noise source. While an increase of three or more dBA is considered potentially significant, it is only significant if it affects sensitive land uses.

Due to data availability, a different measurement tool (thought the same FHWA model) was used to assess significance along Lower Sacramento Road. This analysis concluded that potential significant increases of approximately 4 to 5 dBa may occur between Kettleman Lane and Harney Lane, resulting in a potential noise level of nearly 75 dBa, at a distance of 100 feet from the roadway.

Table 3.11-4: Planning Area Roadway Segments Experiencing a Potentially Significant Increase in Traffic Noise[1]

		Weekday Peak-Hour Noise Level, 15 meters from centerline, dBA, Leq[2]		
Roadway Segment		*Existing*	*Proposed General Plan*	*Difference*
Century Boulevard	Lower Sacramento Road to Mills Ave	61	64	3
	Mills Avenue to Ham Lane	63	66	3
	Hutchins Street to Church Street	62	68	6
Harney Lane	Lower Sacramento Road to Mills Ave	63	70	7
	Mills Avenue to Ham Lane	64	71	7
	Ham Lane to Hutchins Street	65	71	6
	Hutchins Street to Banyan Drive	66	72	6
	Banyan Drive to Stockton Street	66	72	6
	Stockton Street to Cherokee Lane	65	71	6
Kettleman Lane	Lower Sacramento Road to Tienda Dr	67	70	3
	Tienda Drive to Mills Avenue	68	71	3
	Mills Avenue to Lakeshore Drive	68	71	3

1. Considered significant if the incremental noise level increased by at least 3 dBA.
2. Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108) (Barry, T.M. and Regan, J.A., 1978).

Source: Fehr & Peers, ESA, 2009; FHWA RD-77-108.

Operational Noise (Railroad Sources)

Railroad noise primarily occurs from existing operations along the UPRR line, which runs north-south through the City. Because of the uncertainties associated with future operational details, no comprehensive noise predictions are included in this analysis. However, development of the proposed General Plan could locate residential land uses in the vicinity of the UPRR (or other railroad) corridor, which could result in the exposure of sensitive receptors to noise levels that exceed City standards. The actual level of impact would depend on the presence and location of any existing or proposed sensitive land uses in relation to the noise source. While an increase of 3 or more dBA is considered potentially significant, it is only significant if it affects sensitive land uses. The proposed General Plan considers the establishment of "Quiet Zones" to minimize noise impacts on a variety of sensitive land uses.

Stationary Noise (Industrial Noise Sources)

The siting of new industrial areas may increase noise levels in their proximity. This could occur due to the continual presence of heavy trucks used for the distribution of goods and supplies; or from the use of equipment actually used in the manufacturing process or on the site to transport goods (primarily forklifts). Potential areas of land use-noise conflict could occur at the borders of these industrial areas with other sensitive land uses (i.e., residential, schools, etc.) or along roadways leading to these industrial areas.

Policies included as part of the proposed General Plan that would minimize these impacts are summarized below. Policies have been developed to provide guidance on the analysis and mitigation of future project-related noise issues. Additional policies have been designed to promote compatible development that minimizes a variety of nuisance related impacts (i.e., visual, noise, etc.). However, even with implementation of the below mentioned policies, this impact is considered potentially significant.

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

N-P1 Control and mitigate noise at the source where feasible, as opposed to at the receptor end.

N-P2 Encourage the control of noise through site design, building design, landscaping, hours of operation, and other techniques for new development deemed to be noise generators.

N-P3 Use the noise and land use compatibility matrix [Table 9-2 of the proposed General Plan] and allowable noise exposure levels [Table 9-3 of the proposed General Plan] as review criteria for all new land uses. Incorporate noise attenuation measures for all projects that have noise exposure levels of "conditionally acceptable" and higher. These may include:

- Facades constructed with substantial weight and insulation;

- Sound-rated windows in habitable rooms;
- Sound-rated doors in all exterior entries;
- Active cancellation;
- Acoustic baffling of vents for chimneys, fans and gable ends;
- Ventilation system affording comfort under closed-window conditions; and
- Double doors and heavy roofs with ceilings of two layers of gypsum board on resilient channels to meet the highest noise level reduction requirements.

N-P4 Discourage noise sensitive uses such as residences, hospitals, schools, libraries, and rest homes from locating in areas with noise levels above 65db. Conversely, do not permit new uses likely to produce high levels of noise (above 65db) from locating in or adjacent to areas with existing or planned noise-sensitive uses.

N-P5 Noise sensitive uses, such as residences, hospitals, schools, libraries, and rest homes, proposed in areas that have noise exposure levels of "conditionally acceptable" and higher must complete an acoustical study, prepared by a professional acoustic engineer. This study should specify the appropriate noise mitigation features to be included in the design and construction of these uses, to achieve interior noise levels consistent with [Table 9-3 of the proposed General Plan].

N-P6 Require developers of potentially noise-generating new developments to mitigate the noise impacts on adjacent properties as a condition of permit approval. This should be achieved through appropriate means, such as:

- Dampening or actively canceling noise sources;
- Increasing setbacks for noise sources from adjacent dwellings;
- Using soundproofing materials and double-glazed windows;
- Screening and controlling noise sources, such as parking and loading facilities, outdoor activities, and mechanical equipment;
- Using open space, building orientation and design, landscaping and running water to mask sounds; and
- Controlling hours of operation, including deliveries and trash pickup.

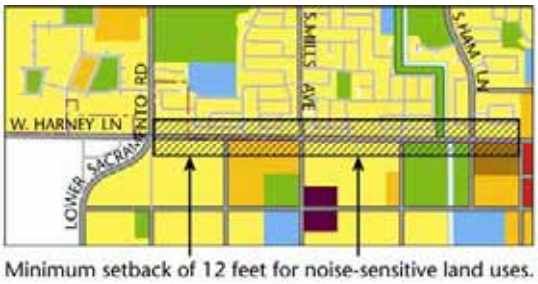
N-P7 Develop and implement noise reduction measures when undertaking improvements, extensions, or design changes to City streets where feasible and appropriate.

N-P8 Encourage transit agencies and rail companies to develop and apply noise reduction technologies for their vehicles to reduce the noise and vibration impacts of bus and rail traffic.

N-P9 Coordinate with the California Public Utilities Commission and other pertinent agencies and stakeholders to determine the feasibility of development a railroad "quiet zone" in downtown, which would prohibit trains from sounding their horns.

N-P10EDIT Restrict the use of sound walls as a noise attenuation method to sites adjacent to State Route (SR) 99, the railroad, and industrial uses east of SR-99.

N-PNEW Where substantial traffic noise increases (to above 70db) are expected, such as on Lower Sacramento Road or Harney Lane, as shown on the accompanying graphic, require a minimum 12-foot setback for noise-sensitive land uses, such as residences, hospitals, schools, libraries, and rest homes.



Mitigation Measures

As stated above, the City will implement a variety of policies designed to address noise issues. In addition, the City will ensure that future CEQA documentation be prepared for individual projects (with project-specific data) that will (if technically possible) mitigate any potential noise impacts to a less-than-significant level. However, it should be noted, the ability to mitigate this potential impact is contingent upon a variety of factors including the severity of the noise impact, existing land use conditions and the technical feasibility of being able to implement any proposed mitigation measures. Given the uncertainty as to whether future noise impacts could be adequately mitigated for all the individual projects that will be implemented as part of the updated General Plan, this impact remains significant and unavoidable. No additional feasible mitigation is currently available.

Impact

3.11-2 New development in the proposed General Plan would potentially expose existing noise-sensitive uses to construction-related temporary increases in ambient noise. *(Less than Significant)*

Construction related noise is considered a short-term noise impact associated with demolition, site preparation, grading, and other construction-related activities. Two types of short-term noise impacts could occur during these construction-related activities. First, the transport of workers and the movement of materials to and from the construction site could incrementally increase noise levels along local access roads. The second source of noise would result from the physical activities (e.g., grading, etc.) associated with any construction-related activities. Construction is performed in various distinct steps, each with its own mix of equipment, workers, and activities. Consequently, each step has its own noise characteristics. However, despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Implementation of the proposed General Plan would result in additional citywide residential and non-residential land use developments that have the potential to result in all of these types of construction-related noises at varying times and intensities throughout the planning period.

Table 3.11-5 shows typical exterior noise levels at various phases of commercial construction, and Table 3.11-6 shows typical noise levels associated with various types of construction related machinery.

Table 3.11-5: Typical Construction Phase Noise Levels

Construction Phase	*Noise Level (dB, Leq)*[1]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

1. Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

Source: U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances 1971.

Table 3.11-6: Typical Noise Levels from Construction Equipment

Construction Equipment	*Noise Level (dB, L_{eq} at 50 feet)*
Truck	88
Concrete Mixer (Truck)	85
Scraper	89
Jack Hammer	88
Dozer	85
Paver	89
Generator	81
Pile Driver (Impact)	101
Loader	85
Grader	85
Backhoe	80

Source: Federal Transit Administration, 2006. Transit Noise and Vibration Impact Assessment, May 2006.

Using estimates, shown in Table 3.11-5 and 3.11-6, composite construction noise for proposed General Plan development can be characterized as 89 dBA Leq when measured at a distance of 50 feet from the construction area. During later phases of building construction, noise levels typically are reduced from these values and the physical structures themselves may further break-up line-of-sight noise propagation. In summary, compliance with the proposed General Plan policy to regulate construction noise through the City's Noise Ordinance, will ensure that temporary noise impacts resulting from construction are less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR.

N-PNEW Update Noise Ordinance regulations to address allowed days and hours of construction, types of work, construction equipment (including noise and distance thresholds), notification of neighbors, and sound attenuation devices.

N-PNEW The City shall ensure that new equipment and vehicles purchased by the City of Lodi are equipped with the best available noise reduction technology.

Mitigation Measures

None required.

Impact

3.11-3 New development in the proposed General Plan could cause the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. *(Less than Significant)*

Similar to Impact 3.11-1, development of the proposed General Plan could potentially expose more people to the impacts of excess groundborne vibration. Increased exposure to sources of groundborne vibration could occur through increased residential or employment densities on lands within proximity to noise generating activities (e.g., railroad lines, industrial uses, etc.). Specifically, vibration created through construction and industrial activities or through the operation of motor vehicles and railways could result in potentially significant impacts on local residents. While it is difficult to quantify and describe the nature and extent of vibration impacts at the programmatic level, subsequent CEQA analysis and documentation for individual projects will have project-specific data and will be required to mitigate any potential construction/operations-related vibration and noise impacts to a less-than-significant level, as feasible.

Policies included as part of the proposed General Plan that would minimize this impact are summarized below. In particular, Policy N-P9 mentioned above, calls for the City to coordinate with relevant public agencies and stakeholders to determine the feasibility of development a railroad "quiet zone" in downtown, which would prohibit trains from sounding their horns and therefore reduce noise and vibration impacts. Moreover, Policy N-P10, revised under Impact 3.11-1 above, permits the use of sound walls as a noise attenuation method on sites adjacent to SR-99, the railroad, and industrial uses (but restricts them elsewhere to reduce their impact on urban design and walkability).

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR.

Policies listed under Impact 3.11-1 and 3.11-2 help to reduce this impact, in addition to the following policy:

N-PNEW Reduce vibration impacts on noise-sensitive land uses (such as residences, hospitals, schools, libraries, and rest homes) adjacent to the railroad, SR-99, expressways, and near noise-generating industrial uses. This may be achieved through site planning, setbacks, and vibration-reduction construction methods such as insulation, soundproofing, staggered studs, double drywall layers, and double walls.

Mitigation Measures

None required.

3.12 Hazardous Materials and Toxics

This section discusses hazardous materials issues related to the implementation of the proposed General Plan, including its consistency with applicable local, State, and federal plans, policies, and regulations. Industrial or commercial operations that involve the use of hazardous materials are described, and potential public health and environmental issues related to these uses are assessed and analyzed.

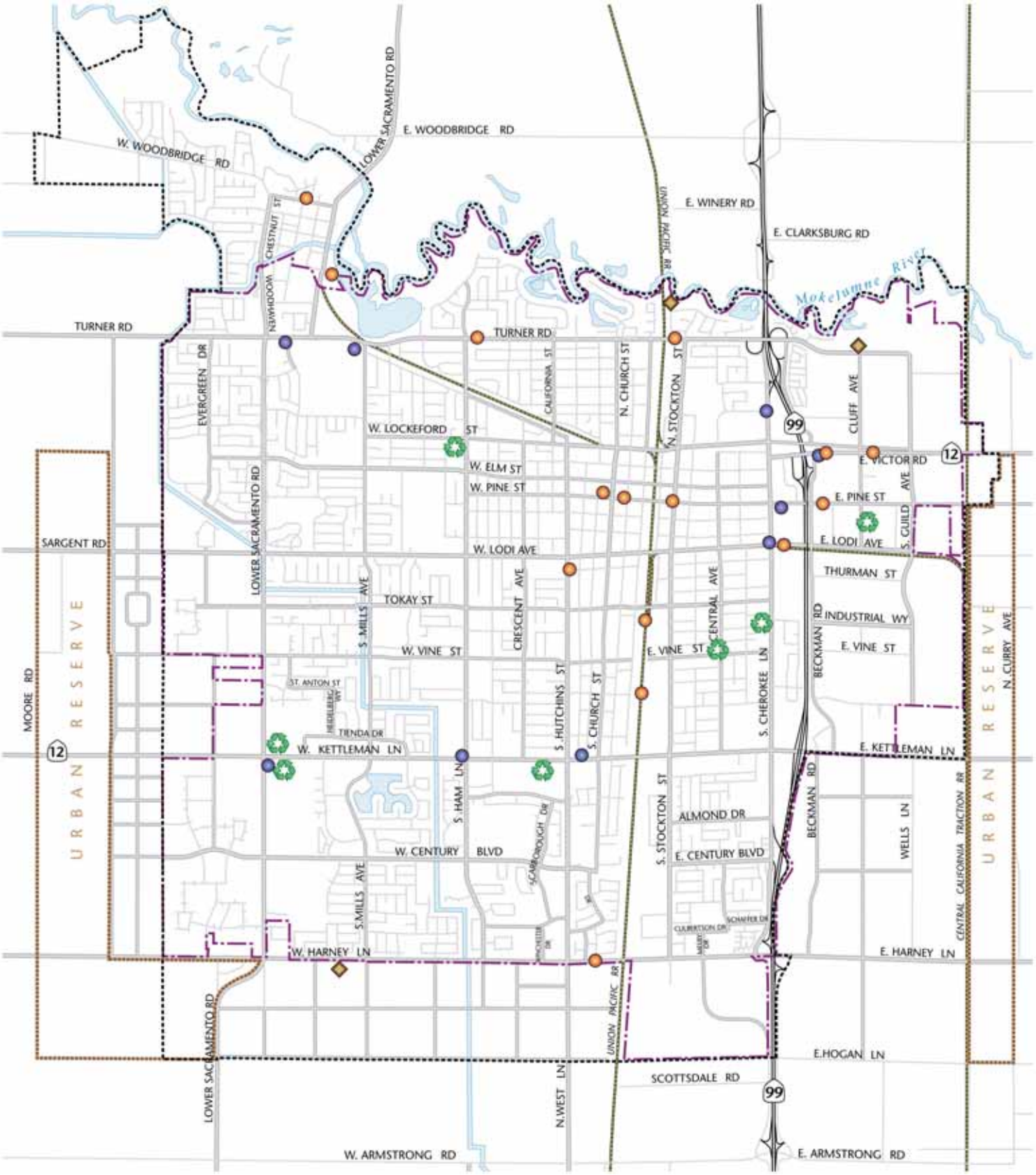
ENVIRONMENTAL SETTING

PHYSICAL SETTING

Hazardous wastes generated by both residents and businesses within the Planning Area contribute to environmental and human health hazards that have become an increasing public concern. However, proper waste management and disposal practices can minimize public concern over toxicity and the contamination of soils, water, and the air. This section provides information on hazardous conditions within the Planning Area, based on existing information from a variety of federal and State agency databases including those maintained by the State Water Resources Control Board (SWRCB) and Department of Toxic Substance Control (DTSC). Listed hazardous sites are shown graphically on Figure 3.12-1.

Underground Storage Tanks and Clean-Up Sites

As of May 2009, the SWRCB reported an inventory, including location and incident status, of Leaking Underground Storage Tanks (LUST) and other (non-fuel) clean-up sites, as shown in Table 3.12-1. The majority of LUST sites have been remediated, with only nine sites listed as still "open" for remediation, monitoring, or assessment. There are 26 other open clean-up sites in Lodi, also identified in Table 3.12-1.



Leaking Underground Storage Tanks (LUST)

Other Cleanup Sites

Solid Waste Facilities and Landfill Sites

Recycling Facilities

Urban Reserve

Sphere of Influence (2008)

City Limits (2008)

40 acres

10 acres

0 1/2 1 2

MILES

Figure 3.12-1

Potential Hazardous Materials Sites

Table 3.12-1: Leaking Underground Storage Tanks and Other Cleanup Sites, by Status

Site Name	*Address*	*Cleanup Status*
Leaking Underground Storage Tanks		
Arco #0760	225 Cherokee Ln S	Open–Verification Monitoring
Chevron Ss #9-5775	301 Kettleman Ln W	Open–Verification Monitoring
Usa Petroleum Service Station	2448 Kettleman Lane	Open–Verification Monitoring
Parmar Texaco	521 Cherokee Ln N	Open – Site Assessment
Plaza Liquors	2420 Turner Rd	Open – Site Assessment
General Mills - Case #2	2000 Turner Rd W	Open – Site Assessment
Geweke Land Development And Marketing	16 Cherokee Ln S	Open – Remediation
Flame Liquors	1301 Kettleman Ln W	Open – Remediation
Shell	880 Victor Rd	Open – Assessment & Interim Remedial Action
Guild Wineries Dist	1 Winemasters Way	Completed – Case Closed
Thater Property (Aka Tucker Const.)	336 Locust St E	Completed – Case Closed
City Of Lodi Safety Blvd	230 Elm St W	Completed – Case Closed
Beacon #3502 (Former)	35 Cherokee Ln N	Completed – Case Closed
Beacon #695	900 Cherokee Ln S	Completed – Case Closed
Arco #434 Case #1	501 Kettleman Ln W	Completed – Case Closed
Usa Petroleum	2500 Lodi Ave W	Completed – Case Closed
Lodi Downtown Theater	107 School St N	Completed – Case Closed
Arts And Artists	204 Lodi Ave E	Completed – Case Closed
Isc Wines Of California	1 Turner Rd W	Completed – Case Closed
General Mills Lodi Case #1	2000 Turner Rd W	Completed – Case Closed
Marval Market/Shopping Center	429 Lockeford St W	Completed – Case Closed
San Joaquin Sulfur Company	711 Sacramento St N	Completed – Case Closed
Idlewild Market	3049 Hwy 12 W	Completed – Case Closed
Lodi Metal Tech	213 Kelly St S	Completed – Case Closed
S.J. Mosquito Abatement Dist	200 Beckman Rd N	Completed – Case Closed
Pacific Coast Producers	32 Tokay St E	Completed – Case Closed
Muller Supply Company	412 Sacramento St S	Completed – Case Closed
R & J Packing Co	33 Oak St E	Completed – Case Closed
Arco #2076	800 Kettleman Ln E	Completed – Case Closed
Cherokee Service Center	303 Cherokee Ln S	Completed – Case Closed
American Dutch Foundry	42 Cluff Ave N	Completed – Case Closed
M & R Company	405 Main St S	Completed – Case Closed
Lodi Academy	1230 Central Ave S	Completed – Case Closed
Quik Stop Market	205 Lockeford St W	Completed – Case Closed

Table 3.12-1: Leaking Underground Storage Tanks and Other Cleanup Sites, by Status

Site Name	*Address*	*Cleanup Status*
Cain's Electric Works	230 Church St N	Completed – Case Closed
Pacific Bell	124 Elm St W	Completed – Case Closed
Brite-N-Clear	504 Lockeford St W	Completed – Case Closed
Color Spot	5400 Harney Ln E	Completed – Case Closed
Arco #5650	18970 Lower Sacramento Rd (Woodbridge)	Completed – Case Closed
Sanitary Cty Disp.(Thorpe Oil)	1333 Turner Rd E	Completed – Case Closed
William Burkhardt	5154 Hogan Ln	Completed – Case Closed
Delta Pub & Grocery	13430 Lower Sacramento Rd	Completed – Case Closed
Circle K	1225 Lockeford St W	Completed – Case Closed
Lodi Ready Mix	851 Lodi Ave E	Completed – Case Closed
Cal Trans Lodi Maintenance	845 Pine St E	Completed – Case Closed
Claude C. Wood Co.	687 Lockeford St E	Completed – Case Closed
Shell (Case #1)	420 Kettleman Ln W	Completed – Case Closed
Lodi Lumber Co	1025 Industrial Way	Completed – Case Closed
Delta Packing Co	5950 Kettleman Ln E	Completed – Case Closed
Frank Alegre Trucking - #A	802 Cluff Ave N	Completed – Case Closed
Matheson Trucking	102 Walnut St E	Completed – Case Closed
Geweke Ford & Rv	248 Kettleman Ln E	Completed – Case Closed
Ellis Car Wash	820 Cherokee Ln S	Completed – Case Closed
Unocal #6015	601 Kettleman Ln E	Completed – Case Closed
Lusd Transportation Dept.	820 Cluff Ave S	Completed – Case Closed
Beacon #3696 (Former)	2448 Kettleman Ln W	Completed – Case Closed
Mataga Olds, Buick	880 Beckman Rd S	Completed – Case Closed
Togo's (Formerly Texaco)	305 Hutchins St S	Completed – Case Closed
Stocks Automotive	126 Main St S	Completed – Case Closed
U-Haul	450 Cherokee Ln N	Completed – Case Closed
Diamond Lumber (Aka: 224 Main)	120 Lockeford St E	Completed – Case Closed
Margrove Prop	510 Lodi Ave E	Completed – Case Closed
Payless Building	532 Lockeford St	Completed – Case Closed
AT&T Communications	110 Turner Rd W	Completed – Case Closed
Beacon #3513 (Former)	401 Kettleman Ln W	Completed – Case Closed
Roberts Petroleum Services	930 Victor Rd E	Completed – Case Closed
Part Container Corp	1400 Victor Rd	Completed – Case Closed
Astra Construction	681 Lockeford St E	Completed – Case Closed
Mel Bokides Petro	501 Lodi Ave W	Completed – Case Closed
Teresi Trucking	900-1/2 Victor Rd E	Completed – Case Closed
Don Keller Trucking	940 Victor Rd	Completed – Case Closed

Table 3.12-1: Leaking Underground Storage Tanks and Other Cleanup Sites, by Status

Site Name	*Address*	*Cleanup Status*
Wisner Property	550 Sacramento St N	Completed – Case Closed
Chevron #9-4183	236 Ham Ln N	Completed – Case Closed
Hi Hopes Venture	1500 Vine St	Completed – Case Closed
Frank Alegre Trucking - #B	802 Cluff Ave N	Completed – Case Closed
Sunwest Liquors Case #1	2449 Kettleman Ln W	Completed – Case Closed
Reilly's Car Wash	100 Lodi Ave	Completed – Case Closed
Kishim Trucking	1725 Ackerman St	Completed – Case Closed
Taylored Tours	330 Kettleman Ln	Completed – Case Closed
Rightway Incorporated (Hansen)	200 Cherokee Ln	Completed – Case Closed
Shell (Case #2)	420 Kettleman Ln W	Completed – Case Closed
Sunwest Liquors Case #2	2449 Kettleman Ln W	Completed – Case Closed
At&T	90 Turner Rd W	Completed – Case Closed
Arco #434 - Case #2	501 Kettleman Ln W	Completed – Case Closed
City Of Lodi	230 Elm	Completed – Case Closed
Victor Meats	18846 Hwy 99 N	Completed – Case Closed
Other Cleanup Sites		
City Of Lodi Groundwater Plumes- Lodi Pce (Central Plume Area)	221 West Pine	Open – Site Assessment
Lodi News Sentinel/Beckman Capitol Corp	212 West Pine St.	Open – Site Assessment
Pg&E Lodi-1 (Former Manufactured Gas Plant)	712 South Sacramento St.	Open – Site Assessment
Woolsey Oil Company	930 Victor Road	Open – Site Assessment
City Of Lodi Groundwater Plumes- Lustre Cal Name Plate Corp.	110 East Turner Rd	Open – Site Assessment
City Of Lodi Groundwater Plumes- R. M. Holz Rubber Company	1129 South Sacramento St.	Open – Site Assessment
Kishida Property	860 E. Pine Street	Open – Site Assessment
B&G Industries, S.B. Griffen Prop.	100 South Cluff Ave	Open – Inactive
Lucky Store #110-310	610 West Lodi Ave.	Open – Inactive
Overhead/Lodi Door Facility	1220 East Victor Rd.	Open – Inactive
Union Pacific Railroad	Harney Lane	Open – Inactive
Simplot Soil Builders	2929 West Harney Ln.	Open – Inactive
Ag Flight	6015 W. Acampo	Open – Inactive
Precission Flying Service, Inc.	11919 N. Lower Sacramento Rd	Open – Inactive
San Joaquin Air	12145 N. Devries Rd.	Open – Inactive
Color Spot Nursery	5400 E. Harney Ln	Open – Inactive
Randtron Facility (Former)	1300 South Sacramento St.	Open
City Of Lodi Groundwater Plumes- Lodi Pce	South Central/ Western Plume	Open
Busy Bee Laundry & Cleaners	40 North Main St.	Open

Table 3.12-1: Leaking Underground Storage Tanks and Other Cleanup Sites, by Status

Site Name	*Address*	*Cleanup Status*
California Fuels	838 Mokelumne Street (Woodbridge)	Open
City Of Lodi Groundwater Plumes- Guild Cleaners	17 South Church St.	Open
Brea Ag Services	4880 Peltier Road	Open
Sierra Helicopter	23987 North Highway 99 (Lodi Linds Airport)	Open
Victor Fine Foods	18846 N. Hwy. 99 Frontage Rd.	Open
Tower Park Marina	14900 W. Highway 12	Completed – Case Closed
City Of Lodi	1331 Ham Lane S	Completed – Case Closed

Source: State Water Resources Control Board, 2009.

Aboveground Storage Tanks

The Aboveground Storage Tank database provides a list of registered aboveground storage tanks. A review of the AST list, as provided by Environmental Data Resources, Inc. (EDR), and dated November 2, 2006 has revealed that there are 11 AST sites within the searched area. A summary of these locations by address is provided in Table 3.12-2.

Table 3.12-2: Aboveground Storage Tank Listings in the Study Area

Site	*Address*
Woodbridge Golf & Country Club	800 E. Woodbridge Rd.
Mainland Nursery	J50 W Turner Rd.
NCPA Ct No.1 (Lodi Facility)	2131 W. Turner Rd.
Geweke Ford	1045 S. Cherokee Ln.
Roberts Petroleum Services	930 Victor Rd.
Dart Container Corporation	1400 Victor Rd.
Ford Construction Co Inc	639 E Lockeford St.
Gannon Trucking, Inc.	1123 E. Vine St.
Geweke Toyota	1020 S Beckman Rd.
Geweke Rv	248 E. Kettleman Ln.
Kettleman Hills Facility	35251 Old Skyline Rd.

Source: Environmental Data Resources, Inc., 2007.

Landfill and Recycling Locations

The California Integrated Waste Management Board (CIWMB) is responsible for managing California's solid waste stream. The CIWMB works in partnership with local government, industry, and the public to reduce waste disposal and ensure environmentally safe landfills are maintained. The Solid Waste Facilities/Landfill Sites records (SWF/LF) typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System database, which contains information on solid waste facilities, operations, and disposal sites throughout the state. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal facilities. A review of the SWF/LF list, as provided by EDR, and dated September 13, 2006 has revealed that there are four SWF/LF sites within the searched area. Table 3.12-3 provides a list of solid waste facilities or landfills (including closed facilities) identified by the CIWMB as occurring in the Study Area.

Table 3.12-3: Solid Waste Facilities and Landfill Sites in the Study Area

Site	*Address*
Lodi City Landfill	N of Awani Dr and Mokelumne River Dr.
Central Valley Waste Services	1333 E. Turner Rd.
Valley Landscaping	1320 East Harney Ln.

Source: Environmental Data Resources, Inc. 2007

The Solid Waste and Recycling Facilities (SWRCY) list is a listing of recycling facilities in California. A review of the SWRCY list, as provided by EDR, and dated October 10, 2006 has revealed that there are seven SWRCY sites within the searched area. A list of recycling facilities is also provided in Table 3.12-4.

Table 3.12-4: Recycling Facilities in the Study Area

Site	*Address*
Pinos Recycling Co	741 S Cherokee Ln.
Tokay Recycling Center	60 S Cluff Ave.
Tomra Pacific Inc/Apple Market	1320 W Lockeford St.
Diaz Recycling	845 S Central Ave.
Nexcycle/Save Mart #209	610 W Kettleman Ln.
Tomra Pacific Inc/Food 4 Less	2430 W Kettleman Ln.
Nexcycle/Safeway #1648	2449 W Kettleman Ln.

Source: Environmental Data Resources, Inc. 2007

Airport Operations Hazards

Existing public use airports within or adjacent to the study area include:

- Kingdon Airpark;
- Lodi Airport; and
- Lodi Airpark.

Private airstrips within or adjacent to the study area include:

- Wallom Field Airport;
- Ferdun Ranch Airport;
- Faber Vineyards Airport;
- Lodi Memorial Hospital Heliport;
- Lodi Lakeland Airport;
- Lodi Airport;
- M.C.R. Airport;
- Penske Heliport 2;
- Diedrich Seaplane Base; and
- Lodi Community Hospital Heliport.

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport.

The 2009 San Joaquin County Airport Land Use Plan provides information on existing and future operations, potential hazards, and land use compatibility. The Plan's land use compatibility matrix and compatibility zone map is shown in Figure 3.12-2. The southeast portion of Lodi, south of Century Boulevard, lies with in Zone 8: Airport Influence Area, which does not have any land use restrictions. A portion of the Urban Reserve General Plan area, along the north side of Hogan Lane, lies within Zone 7: Traffic Pattern. This classification prohibits outdoor stadiums and non-residential uses with densities greater than 450 persons per acre, and requires at least 10% open space. Given the distance of these airports from the city's boundaries, the airports do not present substantial hazards to people or property in Lodi.

Railroad Hazards

Potential hazards associated with railroads include collisions and train derailment. Either of these can lead to human injury or death as well as various environmental impacts. The Federal Railroad Administration (FRA) regulates railroad safety and provides oversight to the use of railroads.

Lodi is served by two national rail lines, Union Pacific Railroad and the Burlington Northern Santa Fe. It is also served by a local railroad, Central California Traction that runs contiguous to its industrial park areas. Daily passenger service via Amtrak is available from Lodi to San Francisco, Los Angeles, Sacramento and points in between. Railroad lines located within the study area are shown on Figure 3.12-1.

Utility Corridors

Natural Gas Pipelines

One of the primary causes of disruption to underground pipelines is external force damage that occurs during excavation activities. Such damage can create pipeline leaks or ruptures and lead to hazardous health and safety conditions. However, a national program is in place to prevent accidental pipeline damage caused by excavation. For areas adjacent to an underground utility

pipeline, the U.S. Department of Transportation Office of Pipeline Safety requires that individuals contact the state "One-Call" center prior to beginning excavation. Advanced planning, effective use of these one-call systems, accurate locating and marking of underground facilities, and the use of safe-digging practices can all be effective in reducing underground facility damage and subsequently reducing potentially hazardous conditions.

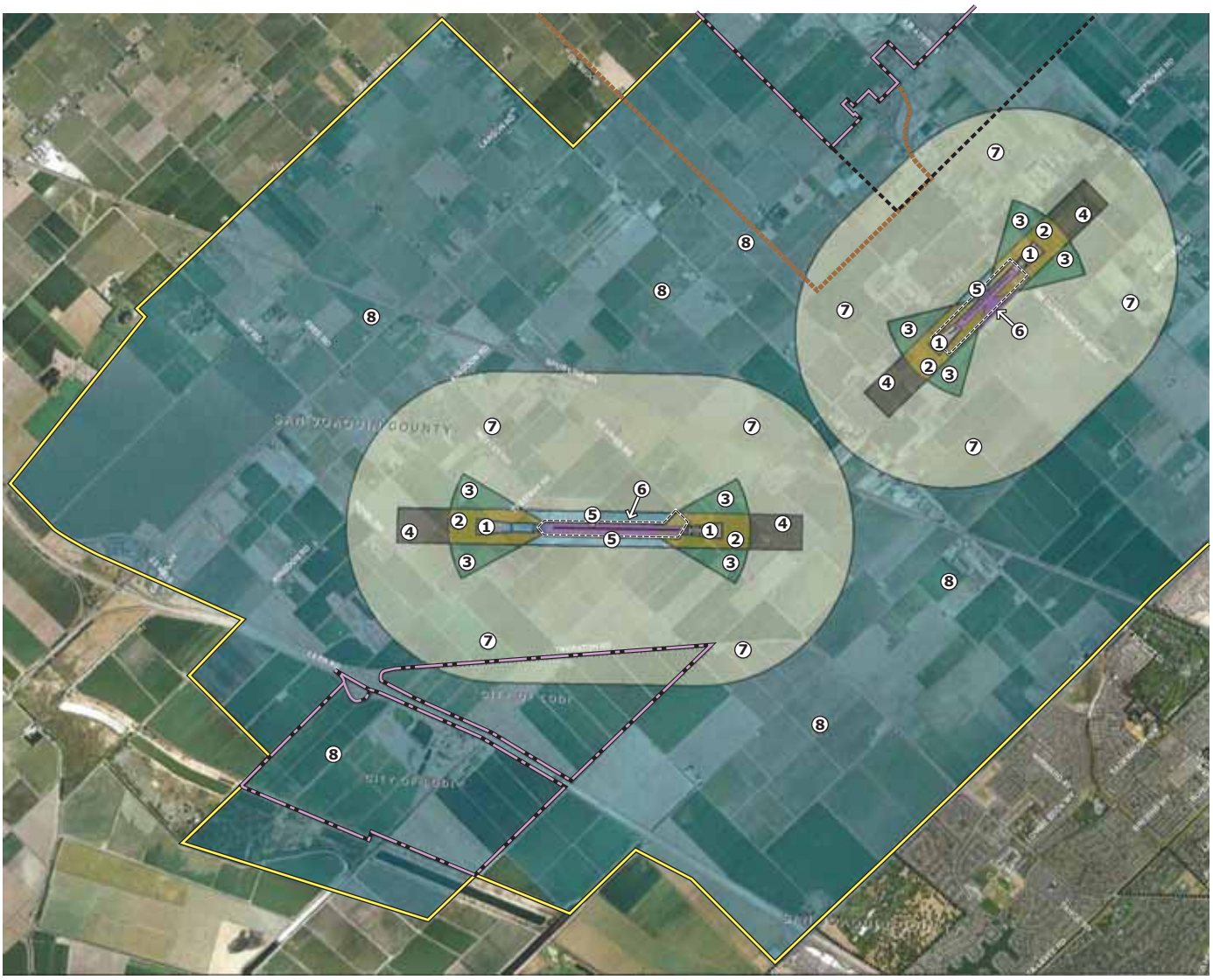
Within the study area Lodi Gas Storage, LLC operates a 24-inch natural gas pipeline. The pipeline is located in the northern edge of the study area, in an east-west corridor. This pipeline transports natural gas to and from gas transmission lines in Sherman Island, north of Antioch, California into and out of an underground natural gas storage reservoir located approximately five miles north of Lodi. There is also a gas pipeline that follows the Union Pacific Railroad line through Lodi.

Electromagnetic Fields

Electromagnetic fields (EMF) are invisible lines of force surrounding any electrical wire or device. They consist of two components—the electric field, which is the result of voltage, and the magnetic field, which is the result of current flow. Ordinary every day use of electricity produces magnetic and electric fields. These 60 Hertz fields (fields that go back and forth 60 times a second) are associated with electrical appliances, power lines, and wiring in buildings. Several high voltage power lines are located within the study area.

The Federal Communications Commission (FCC) is required by the National Environmental Policy Act (NEPA) of 1969 to evaluate the effect of emissions from FCC-regulated transmitters on the quality of the human environment. At the present time there is no federally-mandated radio frequency (RF) exposure standard. However, several non-government organizations, such as the American National Standards Institute, the Institute of Electrical and Electronics Engineers, Inc., and the National Council on Radiation Protection and Measurements have issued recommendations for human exposure to RF electromagnetic fields. The potential hazards associated with RF electromagnetic fields are discussed in OET Bulletin No. 56, "Questions and Answers about the Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields."

Reports by the National Research Council/National Academy of Sciences, American Medical Association, American Cancer Society, National Institute of Environmental Health Sciences, World Health Organization—International Agency for Research on Cancer, and the California EMF Program conclude that insufficient scientific evidence exists to warrant the adoption of specific health-based EMF mitigation measures. The medical and scientific communities generally agree that the available research evidence has not demonstrated that EMF creates a health risk. However, they also agree that the evidence has not dismissed the possibility of such a risk. Federal agencies working on establishing limits and health standards related to EMF include the following: National Institute for Occupational Safety and Health, U.S. Environmental Protection Agency (U.S. EPA), FCC, Occupational Safety and Health Administration (OSHA), National Telecommunications and Information Administration, and the National Institutes of Health.



① Runway Protection Zone

② Inner Approach/Departure Zone

③ Inner Turning Zone

④ Outer Approach/Departure Zone

⑤ Sideline Safety Zone

⑥ Airport Property

⑦ Traffic Pattern Zone

⑧ Airport Influence Area

Urban Reserve

Sphere of Influence (2008)

City Limits (2008)

40 acres

10 acres

0 1/2 1 2

MILES

Source: San Joaquin Council of Governments

Figure 3.12-2

Airport Compatibility Zones

REGULATORY SETTING

The storage, use, and handling of hazardous materials by industries and businesses are subject to various federal, State and local regulations. A brief overview of these regulations follows.

Federal Regulations

The principal federal legislation is the Resource Conservation and Recovery Act (RCRA), which is administered by the U.S. EPA. RCRA imposes reporting, permitting, and operational control requirements on those who generate, treat, store, or dispose of hazardous waste. The federal Hazardous Materials Transport Act, administered by the U.S. Department of Transportation, requires detailed manifesting and reporting of hazardous materials shipped on the U.S. highway system; it also contains packaging requirements for shipped materials. The Clean Water Act, also administered by the U.S. EPA, controls the discharge of hazardous materials or hazardous waste to waters of the U.S. or to local wastewater treatment plants.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as Superfund, was enacted on December 11, 1980. The purpose of CERCLA was to provide authorities the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a trust fund to provide for cleanup when no responsible party could be identified. Additionally, CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List (NPL), a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund to $8.5 billion, expanded the U.S. EPA's response authority, strengthened enforcement activities at Superfund sites, and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. SARA also required the EPA to revise the Hazard Ranking System to ensure that it accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the National Priorities List.

Resource Conservation and Recovery Act of 1976

The RCRA is the nation's hazardous waste control law. It defines hazardous waste, provides for a cradle-to-grave tracking system and imposes stringent requirements on treatment, storage and disposal facilities. RCRA requires environmentally sound closure of hazardous waste management units at treatment, storage, and disposal facilities. The U.S. EPA is the principal agency responsible for the administration of RCRA, SARA, and CERCLA.

Occupational Safety and Health Administration

Through the enactment of the Occupational Safety and Health Act, OSHA was obligated to prepare and enforce occupational health and safety regulations with the goal of providing employees a safe working environment. OSHA regulations apply to the work place and cover activities ranging from confined space entry to toxic chemical exposure. OSHA regulates workplace exposure to hazardous chemicals and activities through the specification of work place procedures and equipment.

U.S. Department of Transportation

The U.S. Department of Transportation (DOT) regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA, discussed previously.

Pipeline and Hazardous Materials Safety Administration

The Pipeline and Hazardous Materials Safety Administration (PHMSA) was created under the Norman Y. Mineta Research and Special Programs Improvement Act (P.L. 108-426) of 2004. The purpose of the Act is to provide a more focused research organization and establish a separate operating administration for pipeline safety and hazardous materials transportation safety operations. PHMSA is the federal agency charged with the safe and secure movement of hazardous materials by all modes of transportation. The agency also oversees the nation's pipeline infrastructure.

Federal Railroad Administration

The DOT FRA's primary function is ensuring the safety of the nation's approximately 700 railroads. FRA monitors the nation's rail transportation system for compliance with federal safety regulations, and utilizes a variety of methods to encourage railroads and shippers to meet federal regulations.

FRA issues a variety of safety regulations and performs various inspections. In addition, FRA administers a safety program that oversees the movement of hazardous materials, such as petroleum, chemical, and nuclear products, throughout the rail transportation system. The current FRA hazardous materials safety regulatory program includes the following items:

- Hazardous Materials Incident Reduction Program;
- Tank Car Facility Conformity Assessment Program;
- Tank Car Owner Maintenance Program Evaluations;
- Spent Nuclear Fuel and High-Level Nuclear Waste Program;
- Railroad Industrial Hygiene Program;
- Rulemaking, Approvals, and Exemptions;
- Partnerships in Domestic and International Standards-Related Organizations; and

- Education, Safety Assurance, Compliance, and Accident Investigation.

State Regulations

At the State level, agencies accept delegation of federal responsibility for the administration of hazardous materials and hazardous waste management. The Porter-Cologne Water Quality Control Act allows the SWRCB and the Regional Water Quality Control Board (RWQCB) to accept implementation responsibility for the Clean Water Act. The Hazardous Waste Control Act of 1977, and recent amendments to its implementation regulations, has given the Department of Health Services (DHS) the lead role in administering the RCRA program. The Hazardous Substances Highway Spill Containment Act gives the California Highway Patrol (CHP) the authority to respond to spills of hazardous materials on the state's highway system.

Hazardous Substance Account Act (1984), California Health and Safety Code Section 25300 ET SEQ.

Hazardous Substance Account Act (1984), California Health and Safety Code Section 25300 ET SEQ (HSAA), known as the California Superfund, has three purposes: 1) to respond to releases of hazardous substances; 2) to compensate for damages caused by such releases; and 3) to pay the state's 10 percent share in CERCLA cleanups. Contaminated sites that fail to score above a certain threshold level in the EPA's ranking system may be placed on the California Superfund list of hazardous wastes requiring cleanup.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal/EPA) was created in 1991 to coordinate state environmental programs, reduce administrative duplication, and address the greatest environmental and health risks. Cal/EPA unifies the state's environmental authority under a single accountable, cabinet-level agency. Cal/EPA has regulatory responsibility under Title 22 of the California Code of Regulations (CCR) for administration of the State and federal Superfund programs for the management and cleanup of hazardous materials. The Secretary for Environmental Protection oversees the following agencies: Air Resources Board, Integrated Waste Management Board, Department of Pesticide Regulation, State Water Resources Control Board, Department of Toxic Substances Control, and the Office of Environmental Health Hazard Assessment.

Department of Toxic Substance Control

The DTSC is responsible for regulating hazardous waste facilities and overseeing the cleanup of hazardous waste sites in California. The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement and Unified Program activities. HWMP maintains the Cal/EPA authorization to implement the RCRA program in California, and develops regulations, policies, guidance and technical assistance/training to assure the safe storage, treatment, transportation and disposal of hazardous wastes. The State Regulatory Programs Division of DTSC oversees the technical implementation of the state's Unified Program, which is a consolidation of six environmental programs at the local level, and conducts triennial reviews of Unified Program agencies to ensure their programs are consistent statewide and conform to standards.

State Water Resources Control Board

Acting through the RWQCB, the SWRCB regulates surface and groundwater quality pursuant to the Porter-Cologne Water Quality Act, the federal Clean Water Act, and the Underground Tank

Law. Under these laws, RWQCB is authorized to supervise the cleanup of hazardous waste sites referred to it by local agencies in those situations where water quality may be affected.

Depending on the nature of contamination, the lead agency responsible for the regulation of hazardous materials at the site can be the DTSC, RWQCB, or both. DTSC evaluates contaminated sites to ascertain risks to human health and the environment. Sites can be ranked by DTSC or referred for evaluation by the RWQCB. In general, contamination affecting soil and groundwater is handled by RWQCB and contamination of soils is handled by DTSC.

California Occupational Safety and Health Administration

Cal/OSHA and the Federal OSHA are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of 1970, Federal OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling. Cal/OSHA assumes primary responsibility for developing and enforcing State workplace safety regulations. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in 29 CFR. Cal/OSHA standards are generally more stringent than federal regulations.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace, as detailed in Title 8 of the CCR, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that Material Safety Data Sheets (MSDSs) be available to employees and that employee information and training programs be documented.

Hazardous Materials Transport

California law requires that Hazardous Waste (as defined in California Health and Safety Code Division 20, Chapter 6.5) be transported by a California registered hazardous waste transporter that meets specific registration requirements. The requirements include possession of a valid Hazardous Waste Transporter Registration, proof of public liability insurance which includes coverage for environmental restoration, and compliance with California Vehicle Code registration regulations required for vehicle and driver licensing. Additional requirements can be found in Title 22 CCR, Chapter 13.

State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and Caltrans. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads. The CHP designates State and federal roadways as hazardous materials truck routes. The CHP classifies hazardous materials into three categories: explosives, poisons that can be inhaled, and radioactive material.

Local Plans and Regulations

San Joaquin County Hazardous Waste Management Plan

Assembly Bill 2948 established procedures for the preparation of a County HWMP. The County HWMP principally governs the coordination and planning of hazardous waste disposal capacity between the County and State.

San Joaquin County prepared a HWMP in November 1988. The HWMP was intended to serve as the primary planning document for hazardous waste management in the County. The HWMP analyzes the hazardous waste situation within the County and makes recommendations. In 1992 the San Joaquin County Household Hazardous Waste Element (HHWE) was finalized. This element updates the Hazardous Waste Management Plan of 1988. In December 1992 the County joined with the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy to prepare, adopt, and implement the HHWE.

San Joaquin County Hazardous Materials Area Plan

San Joaquin County prepared a Hazardous Materials Area Plan in March 2004. This document describing the San Joaquin County Hazardous Materials Emergency Response System is prepared according to statutory requirements. San Joaquin County organizes and structures hazardous material emergency response according to FIRESCOPE and Standardized Emergency Management System (SEMS) guidance. The overall goal of the hazardous materials response system developed by the jurisdictions of San Joaquin County is to protect public health, prevent environmental damage, and ensure proper use and disposal of hazardous materials. This response system has the following:

1. Maintain effective response capabilities to contain and control releases and mitigate their impact on the public and environment.

2. Maintain the capability to oversee long-term cleanup and mitigation of residual release effects on public health and the environment.

3. Ensure that the efforts of all jurisdictions and agencies are effectively integrated.

A primary objective of the plan is the prevention of incidents in the first place. County prevention activities include a combination of inspections and regulatory oversight, training courses, and enforcement actions. A primary tool for accomplishing prevention is enforcement of State and federal statutory requirements.

San Joaquin County Comprehensive Airport Land Use Plan

The San Joaquin County Airport Land Use Plan was adopted in 1993 by the San Joaquin Council of Governments, which serves as the San Joaquin County Airport Land Use Commission. According to the 1993 Airport Land Use Plan, six airports fall under the jurisdiction of the Airport Land Use Commission: Stockton Metropolitan Airport, Tracy Municipal Airport, Lodi (Lind's) Airport, Kingdon Airport, New Jerusalem Airport and Lodi (Precissi) Airpark. In addition to these public access airports, a military airfield is located on the Sharpe Army Depot and numerous private airstrips are used throughout the County by crop dusting aircraft.

The Airport Land Use Plan provides guidelines and land use restrictions to ensure that no new land use that results in a hazard to aircraft or to the health or safety of persons on the ground is

permitted within any part of an airport's area of influence. These guidelines also ensure that lands needed for airport facilities and airport-related land uses are reserved for those uses.

San Joaquin County Multi-Hazard Plan

The San Joaquin County Multi-Hazard Plan was most recently revised in August of 1994. The plan addresses each of the four phases of emergency management: mitigation, preparedness, response and recovery. In addition, the plan makes the common emergency management systems, being developed by the Governor's Office of Emergency Services through the SEMS process, an integral part of the County response system.

This Plan identifies those organizations, agencies, and individuals that are assigned duties and responsibilities for responding to emergencies within the unincorporated areas and in support of incorporated cities. In addition, it provides guidance on how emergencies will be managed by the County as well as specific procedures for persons assigned to the emergency organization. The Plan, using the Multi-Agency Coordination System and Incident Command System as its basis, is designed to allow County government to respond to any size or type of emergency.

San Joaquin County Environmental Health Department

The San Joaquin County Environmental Health Department is a Certified Unified Program Agency (CUPA). A CUPA is a single local agency designated by the Cal/EPA as having regulatory authority for the following environmental programs (California EPA Unified Program Website 2006):

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention (CalARP) Program
- Underground Storage Tank Program
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure (SPCC) Plans
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements

City of Lodi Fire Department

The Fire Department provides a wide range of emergency and non-emergency services, including hazardous materials response, public education, and related safety services. The Emergency Operations Center, located at the Police department building, serves as the center of the city's emergency operations. City operations remain in compliance with the NIMS, a comprehensive national approach to incident management, applicable to federal, state, and local governments and the SEMS, which provides a strategy and framework to address multi-agency and multi-jurisdictional emergencies in California. The Department also conducts Uniform Fire Code inspections of hazardous facilities.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a potentially significant impact if it would:

- 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;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or
- Result in the handling of hazardous materials or wastes within one-quarter mile of an existing or proposed school or other sensitive use.

METHODOLOGY AND ASSUMPTIONS

The assessment of hazardous materials impacts consists of a qualitative review of the existing conditions applicable to the Planning Area and a determination of whether the proposed General Plan includes adequate provisions to address the potential impacts associated with local hazardous conditions.

SUMMARY OF IMPACTS

Implementation of the proposed General Plan could result in potential exposure of people or the environment to hazardous materials or hazardous waste associated with future development and growth of the City's population. However, because hazardous materials use and disposal is heavily regulated and the proposed General Plan contains additional policies regarding hazardous materials, potential impacts are less than significant.

IMPACTS AND MITIGATION MEASURES

Impact

3.12-1 Implementation of the proposed General Plan has the potential to 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, though existing federal, State, and local regulations and proposed General Plan policies would sufficiently reduce the impact. *(Less than Significant)*

As described above under Physical Setting, hazardous materials are regularly used, transported, and disposed of in the City of Lodi. The Physical Setting also describes how the City implements a variety of local, State and federal regulations designed to address the use, transportation, and disposal of these materials. Although such activities are relatively well regulated and monitored, accidental release due to accidents, misuse or natural disasters (e.g., earthquakes) could occur. Additional residential, commercial, and industrial development resulting from buildout of the proposed General Plan would likely increase the amount of hazardous materials transported, used or disposed of in the City. Although a number of businesses in the Planning Area routinely store, handle, and transport hazardous substances, the use of these hazardous materials is controlled

and permitted by the City's Fire Department which conducts Uniform Fire Code inspections of these facilities, and otherwise ensures that risks associated with the use of hazardous materials in the community are minimized. Furthermore, the proposed General Plan includes several policies that have been developed to ensure a safe environment for its residents, visitors, and businesses.

Proposed General Plan Policies that Reduce the Impact

The following proposed policies would minimize potential for a significant adverse effect on the environment due to upset or accident involving hazardous materials:

S-P8 Require that all fuel and chemical storage tanks are appropriately constructed; include spill containment areas to prevent seismic damage, leakage, fire and explosion; and are structurally or spatially separated from sensitive land uses, such as residential neighborhoods, schools, hospitals and places of public assembly.

S-P9 Ensure compatibility between hazardous material users and surrounding land use through the development review process. Separate hazardous waste facilities from incompatible uses including, but not limited to, schools, daycares, hospitals, public gathering areas, and high-density residential housing through development standards and the review process.

S-P10AEDIT Consider the potential for the production, use, storage, and transport of hazardous materials in approving new development. Provide for reasonable controls on such hazardous materials. ~~Ensure that the proponents of applicable new development projects address hazardous materials concerns through the preparation of Phase I or Phase II hazardous materials studies, as necessary, for each identified site as part of the design phase for each project. Require projects to implement federal or State cleanup standards outlined in the studies during construction.~~

S-P10BEDIT ~~Consider the potential for the production, use, storage, and transport of hazardous materials in approving new development. Provide for reasonable controls on such hazardous materials.~~ Ensure that the proponents of applicable new development projects address hazardous materials concerns through the preparation of Phase I or Phase II hazardous materials studies, as necessary, for each identified site as part of the design phase for each project. Require projects to implement federal or State cleanup standards outlined in the studies during construction.

S-P11 Regulate the production, use, storage, and transport of hazardous materials to protect the health of Lodi residents. Cooperate with the County and Lodi Fire Department in the identification of hazardous material users, development of an inspection process, and implementation of the City's Hazardous Waste Management and Hazardous Materials Area plans. Require, as appropriate, a hazardous materials inventory for project sites, including an assessment of materials and operations for any development applications, as a component of the development environmental review process or business license review/building permit review.

S-P12 Work with waste disposal service provider(s) to educate the public as to the types of household hazardous wastes and the proper methods of disposal and shall continue to provide opportunities for residents to conveniently dispose of household hazardous waste.

S-P13 Continue to follow the County Comprehensive Airport Land Use Plan for guidelines on land use compatibility near airports, land use restrictions, and to ensure public safety.

S-P14 Support grade-separated railroad crossings, where feasible, and other appropriate measures adjacent to railroad tracks to ensure the safety of the community.

S-P15 Continue to mark underground utilities and abide by federal safe-digging practices during construction.

S-P18 Require soils reports for new projects and use the information to determine appropriate permitting requirements, if deemed necessary.

S-P22 Coordinate with local, State, and Federal agencies to establish, maintain, and test a coordinated emergency response system that addresses a variety of hazardous and threatening situations. Conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures. Develop and implement public information programs concerning disaster response and emergency preparedness and develop mutual aid agreements and communication links with surrounding communities for assistance during times of emergency.

S-P23 Maintain and periodically update the City's Emergency Preparedness Plan, including review of County and State emergency response procedures that must be coordinated with City procedures.

S-P24 Ensure that major access and evacuation corridors are available and unobstructed in case of major emergency or disaster. Continue to identify appropriate road standards, including minimum road widths and turnouts to provide adequate emergency access and evacuation routes.

S-P25 Continue to use the San Joaquin County Hazard Mitigation Plan to reduce hazard risk and coordinate with the County on its update and implementation, consistent with the Federal Emergency Management Agency and the Disaster Act of 2000.

Implementation of the policies listed above would reduce the potential impact to less than significant.

Mitigation Measures

None required.

Impact

3.12-2 Implementation of the proposed General Plan has the potential to locate land uses on sites which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment. *(Less than Significant)*

Development of vacant or previously developed lots that have been impacted by petroleum hydrocarbons from LUSTs or other chemical constituents could expose individuals to hazardous conditions resulting from ongoing or historical activities at the site or on neighboring properties.

Businesses such as dry cleaners, gas stations, and airports are often contaminated. In addition, removal of historic structures for redevelopment that contain hazardous building materials such as asbestos, lead-based paint, or PCBs could expose individuals to hazardous conditions during demolition.

As discussed in the Physical Setting, Lodi is served by two national rail lines, Union Pacific Railroad and the Burlington Northern Santa Fe. It is also served by a local railroad, Central California Traction that runs contiguous to its industrial park areas. Railroad rights-of-way typically have surface contamination from lubricating oil used on train wheels and herbicides used to control weeds within these areas. While historic activities may have exposed soil surfaces to contaminants, the potential for exposure to these contaminants is minimal. Development under the proposed General Plan of lands adjacent these tracks would be required under policy S-P10B to have soils analyzed for hazardous materials. In addition, compliance with all federal, State and local regulations, combined with proposed General Plan policies would reduce the potential of creating a significant hazard to the public or environment by locating land uses on hazardous or contaminated sites.

Proposed General Plan Policies that Reduce the Impact

Implementation of the policies listed under Impact 3.12-1 would reduce potential Impact 3.12-2 to a level that is less than significant.

Mitigation Measures

None required.

Impact

3.12-3 Implementation of the proposed General Plan has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. *(Less than Significant)*

The transportation, use, and disposal of new hazardous materials is subject to State and federal hazardous materials laws and regulations. Future development under the proposed General Plan would be subject to regulatory programs such as the Hazardous Materials Business Plan, aboveground and underground storage tank programs, and RCRA hazardous waste generator programs.

Hazardous materials policies contained in the proposed General Plan would further ensure appropriate siting of uses through soils testing to identify contaminated sites. Plan policies call for public awareness programs to promote the proper use, storage, and disposal of hazardous materials and ways to reduce or eliminate their use. Compliance with all federal, State and local regulations, combined with proposed General Plan policies would reduce the potential for a significant adverse effect on the environment, due to upset and accident involving hazardous materials , to a less than significant level.

Proposed General Plan Policies that Reduce the Impact

Implementation of the proposed General Plan policies listed under Impact 3.12-1 would further reduce this impact to a level that is less than significant.

Mitigation Measures

None required.

Impact

3.12-4 Implementation of the proposed General Plan has the potential to result in the handling of hazardous materials or wastes within one-quarter mile of an existing or proposed school or other sensitive use. *(Less than Significant)*

Schools are one of several sensitive receptors that must be taken into consideration when the City is reviewing new land uses or transportation routes that may accommodate the production, storage, use, or transportation of hazardous materials and/or wastes. Buildout of the proposed General Plan would result in increased population levels throughout the Planning Area and would increase the number of school-age children. Accordingly, this would necessitate the construction of additional school facilities, as identified in the proposed Plan and in Section 3.14: Public Facilities of this EIR. Proposed General Plan policy S-P9 calls on the City to separate hazardous waste facilities from incompatible uses including schools through development standards and the development review process.

In addition to general CEQA requirements, school acquisition/development projects to be funded under the State School Facilities Program must satisfy several specific requirements established under the California Education Code and California Code of Regulations. These regulations require that potential school hazards relating to soils, seismicity, hazards and hazardous materials, and flooding be addressed during the school site selection process. Compliance with these requirements will address hazardous conditions associated with the siting of new public schools within the Planning Area.

Proposed General Plan Policies that Reduce the Impact

Implementation of the proposed General Plan policies listed under Impact 3.12-1 would further reduce this impact to a level that is less than significant.

Mitigation Measures

None required.

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3.13 Infrastructure

This section presents the environmental setting and impact analysis for infrastructure in Lodi, including water supply, sewer, stormwater, and solid waste.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Water Supply

The City of Lodi Water Utility is the sole water purveyor for the City. The Utility's service area is contiguous with the City boundaries and covers approximately 12 square miles. The service area includes a mix of residential, commercial, and industrial land use, and is characterized by essentially flat terrain.

The potable water produced in 2008 was about 17,140 acre-feet, or an annual average of 15.3 million gallons per day (mgd). The City uses conservative water demand factors for planning purposes. When these demand factors are used to estimate existing water use, based on existing land use information, the resulting calculated annual demand is about 15% more than the actual amount of water produced.

Currently, all of Lodi's potable water is sourced from groundwater supplies. Twenty-seven existing groundwater wells with a total pumping capacity of 35,200 gallons per minute (gpm) (City of Lodi, 2006) provide Lodi with its current water supply, and two new wells are currently under development (Prima, 2007). Therefore, annual groundwater production has equaled the annual water demand. However, the California Department of Water Resources has declared that the groundwater basin underlying Eastern San Joaquin County is overdrafted, and groundwater levels in the County and the City are generally decreasing. The groundwater levels fluctuate over time depending on precipitation, aquifer recharge, and pumping demands.

The continuing decline of groundwater levels in the aquifer underlying the City means that the sustainable annual groundwater supply available to the City is less than what is currently extracted. As a member agency of Northeastern San Joaquin County Groundwater Banking Authority (GBA), the City is participating in the development of policies and programs, including groundwater recharge and conjunctive use programs, intended to help eliminate the basin overdraft condition. Additionally, the City plans to reduce its overall groundwater pumping in the future from 17,140 acre-feet per year in 2008 to a safe yield of approximately 15,000 acre-feet per year. This safe yield estimate reflects an acreage-based relationship. Therefore, as the City's land area increases, the estimated safe yield of the underlying aquifer will likely increase. The safe yield estimate will be revisited in the 2010 Urban Water Management Plan (UWMP) update.

The City has evaluated the feasibility of constructing a surface water treatment plant and performed several water supply studies in recent years to evaluate the feasibility of the surface water supply (City of Lodi, 2008b). The City is now progressing into the design of the treatment plant. The City anticipates that the eight mgd plant will be constructed and operational in 2011. The new water treatment plant will be located near the northwest corner of the city.

Therefore, the City's long term reliable water supplies include:

- **Groundwater**: The groundwater safe yield for the area currently covered by the city is estimated to be about 15,000 acre-feet per year (City of Lodi, 2006).

- **Surface Water**: Under terms of an agreement with the Woodbridge Irrigation District (WID), 6,000 acre-feet per year of surface water is currently available. The agreement also provides that, as WID irrigated lands are annexed for development, the City has the option to purchase an additional three acre-feet per year for each acre of WID land that is annexed, up to 6,000 acre-feet. Purchase of the additional water is contingent on the proposed surface water treatment plant being constructed and operational (Welch, 2009). This future surface water supply is expected to increase over time, and could provide up to an additional 6,000 acre-feet per year assuming the surface water treatment plant is constructed and operational (Welch, 2009).

Upon construction of the new surface water treatment plant, the City would have a long-term, water supply of 27,000 acre-feet per year available from its current safe yield of groundwater and the future surface water supplies. Also, since the safe yield estimate reflects an acreage-based relationship, as the city grows, the available safe yield of the underlying groundwater will increase. Finally, if Lodi develops the ability to use non-potable and recycled water for landscape irrigation, it will further reduce the city's overall potable water demand.

Over the next three years, the City will install water meters on all residential water connections. The City currently meters and bills for actual water used for most of its commercial, institutional, industrial, and landscape customers. Installing water meters and billing for actual water use provides incentive for customers to use less water and equalizes service costs for each customer to their actual use (high water users pay a more equitable share of the system costs). The California Urban Water Conservation Council has estimated that metered accounts may result in a 10 to 20 percent reduction in demand compared to non-metered accounts. In the proposed General Plan the installation of meters is expected to result in a potential 15% reduction in residential demand.

Water Distribution System

The City's water distribution system includes:

- A network of water pipes, which includes about 225 miles of pipe ranging in diameter from two to 14 inches.

- Two storage tanks, including a 100,000 gallon elevated tank and a one million gallon ground level tank with booster pumping station.

In the planning for the new surface water treatment plant, it was concluded that a 36-inch transmission main would be constructed from the new plant to the south, from Mills Avenue to Lockeford Street. This main would be connected to the existing water distribution system and would supply surface water that would flow outward from the new transmission main in the water system.

Recycled Water

The City manages about 7,800 acre-feet per year of influent flows to the White Slough Water Pollution Control Facility (WSWPCF), located approximately six miles southwest of the city along Interstate 5 near North Thornton Road. About 3,500 acre-feet per year is treated to

secondary level and used for agricultural irrigation near the WSWPCF for growing animal feed and fodder crops that are not for human consumption. The City uses this industrial and/or domestic recycled water to irrigate about 790 acres of agricultural land owned by the City. In recent years, the City has also supplied recycled water from the domestic treatment process to produce steam for a 49-megawatt natural gas-powered generator, and to replenish mosquito fish-rearing ponds. Additionally, the City has provided a "will-serve" letter to the Northern California Power Agency for a potential power plant that will utilize an average of 1.43 mgd of treated wastewater. As of 2009, this project is still in planning stages. Although this recycled water is put to beneficial use, there is currently no cost effective way to return recycled water to the City to satisfy non-potable urban water demands. In 2008, the City prepared the City of Lodi Recycled Water Master Plan, which is described in the Regulatory Setting section.

Gray Water

Gray water is untreated household waste water that comes from bathtubs, showers, bathroom wash basins, and clothes washing machines, and which may be reused to flush toilets and for subsurface irrigation of non-edible landscape plants. Harvested rainwater may also be applied directly to non-potable water uses such as toilet flushing, laundry, and irrigation. Use of gray water or rainwater for non-potable uses may require installation of dual plumbing systems. These systems currently do not exist in the City, but would be allowed under the proposed General Plan

Sewer

Municipal Collection System

The municipal sewer system collects wastewater from most of the city. This system consists of sewer pipes ranging in sizes from four to 42-inches in diameter, with six inches being the predominant size (B&V, 1990). There are six trunk sewers serving the existing city that generally flow from the north to the south. Near the southern edge of town the Century Boulevard Trunk Line flows from east to west and into a 42-inch trunk sewer to the WSWPCF. The sewer system includes five pump stations in the northern area of the city and two (Tienda and Harney) in the southern area of the city.

Sewer Outfall from the City to the WSWPCF

The existing sewer collection system flows to a common discharge point on Lower Sacramento Road between Kettleman Lane and Century Boulevard. From this point, a sewer outfall conveys wastewater from the city to the WSWPCF. The outfall was constructed in 1967 using reinforced concrete pipe. It was recently slip-lined to remediate corrosion problems, thereby reducing the pipe diameter from 48-inches to 42-inches. This outfall has three segments with different slopes and different corresponding capacities. Lodi's design criteria require that sewers must convey the Peak Wet Weather Flow (PWWF) at a water depth of no more than 75% of the pipe diameter. The segment capacities are summarized in Table 3.13-1. Currently, PWWF is about 11 mgd.

Table 3.13-1: Evaluation of Outfall Capacity[1]

	Pipe Capacity	
Segment of Slip Lined 42-inch Pipe	*Full Pipe Capacity, mgd*	*3/4 Full Capacity, mgd*
White Slough WPCF to Thornton Road (2,950 feet)	20.4	18.6
Thornton Road to Existing Ditch[2] (17,830 feet)	19.0	17.3
Existing Ditch to Lower Sacramento Road (2,980 feet)	16.6	15.1

1. Capacity analysis is based on the drawing set "Sanitary Sewer Outfall Pipeline No. 2" as-built drawings dated December 28, 1967 using a Manning's n value of 0.013.
2. Existing ditch is 3,000' downstream of Lower Sacramento Road

Source: West Yost Associates, 2009.

Wastewater Treatment Facility

The City has provided wastewater service for the Lodi community since 1923. Originally, wastewater was treated at a facility located within the city limits. In 1966, the City constructed a new treatment facility at the current WSWPCF site, along with a pipeline from the original wastewater treatment plant to the WSWPCF site, and began practicing water reuse for agricultural irrigation shortly thereafter (City of Lodi, 2001). The WSWPCF accepts both municipal and industrial wastewater.

With the recent expansion of the WSWPCF, the treatment plant has an Average Dry Weather Flow (ADWF) capacity of 8.5 mgd. The ADWF flow to the WSWPCF for 2008 was 6.4 mgd, indicating that the existing facility currently has an excess capacity of about 2.1 mgd (ADWF).

Disposal

The City is permitted to discharge municipal effluent that is filtered and disinfected to State of California Title 22 recycled water tertiary standards year-round to Dredger Cut. During the irrigation season, about half of the effluent is reused for agricultural irrigation. In addition, about 0.1 to 0.8 mgd (112 to 896 acre-feet per year) of treated effluent is used for cooling water at a power plant and to supply several small fish rearing ponds operated by the San Joaquin Mosquito and Vector Control District. Both facilities are located adjacent to the WSWPCF.

Stormwater

Discharge System

The City's stormwater system consists of catch basin inlets, storm drain pipes, detention basins, gravity outfalls into the Mokelumne River, and pump stations with outfalls to the Mokelumne River and the WID canal. There are about 110 miles of storm drains, eight detention basins located in City parks, and 14 pump stations. The City's existing system functions well, with no significant flooding problems. Like many other relatively flat Central Valley communities, however, there are areas of minor drainage nuisances (Prima, 2007).

Woodbridge Irrigation District Discharges

The city's stormwater discharges to the WID canal are governed by the Storm Drainage Discharge Agreement between the City and WID, dated October 20, 1993 (WID, 1993). The 40-year agreement covers the area defined as the City's corporate boundaries, with an ultimate boundary including 16,800 acres. The agreement recognizes that the WID canals are for irrigation purposes and for groundwater recharge. Under the terms of the agreement the discharges from the City's pump stations must be regulated to avoid exceeding the available capacity of the canal and interfering with WID operations. The total discharge into the canal from the City is limited to 160 cubic feet per second (cfs), which is 40% of the canal's conveyance capacity of 400 cfs. Additional requirements exist for specific timing and types of discharges.

The agreement also allows the City to purchase water from WID for non-potable water uses, as long as the annual quantity of purchased water does not exceed the average annual storm drain discharge. The water is available for purchase only if WID has satisfied its irrigation demands and has the ability to deliver the water. Therefore, although the purchase of non-potable water is mentioned in the agreement, City staff must verify with WID whether water is likely to be available. Finally, the agreement requires the City to take reasonable precautions to prevent and/ or remove toxic substances, pollutants, and wastes before discharging flow into the WID canal.

Solid Waste

The City of Lodi contracts with Central Valley Waste Services to provide residential and commercial garbage collection, transportation, and disposal, as well as the collection of recyclable materials. Garbage is collected weekly and recycling, yard, and garden waste are collected on alternating weeks. Central Valley Waste Services also has a Transfer Station and Buy-Back Recycling Center open to the public in Lodi (City of Lodi, 2009). Dart Container Corporation opened a polystyrene foam recycling drop-off site at its Lodi plant (Dart, 2009).

In 2008 Lodi landfilled 65,146 tons of solid waste, and burned 10 tons, totaling 65,157 tons of solid waste disposed. Table 3.13-2 shows Lodi's landfilled waste over the past 13 years. The city's waste goes to several landfills, with 98% (approximately 174 tons per day) of landfilled waste going to the North County Recycling Center and Sanitary Landfill (NCRC&SL). According to CIWMB, this facility is expected to have capacity through 2035 (CIWMB, 2009). NCRC&SL is located at 17720 East Harney Lane, approximately eight miles east of the city of Lodi. The NCRC&SL property encompasses approximately 320 acres (landfill property); the facility—comprising the landfill, recycling station, scale house, employee/maintenance building, and a pumphouse—encompasses 185 acres of the property. This landfill is operated by the County Of San Joaquin Public Works Department. Table 3.13-3 lists all landfills that received waste from Lodi in 2008.

Annual waste per capita in Lodi has ranged from 0.95 to 1.44 tons. While per capita waste has increased since 1995 by about 8%, per capita waste has decreased by 20% since 2000, indicating the impact of increased diversion rates (discussed below). Average daily deposits to landfills have ranged from 139 to 240 tons.

Table 3.13-2: Lodi Landfilled Waste

Year	*Tons Landfilled*	*Average Tons/ Day*	*Population*	*Tons Per Capita per Year*
1995	50,638	139	52,912	0.96
1996	50,915	139	53,505	0.95
1997	65,562	180	53,856	1.22
1998	60,604	166	54,394	1.11
1999	63,266	173	55,533	1.14
2000	72,392	198	56,361	1.28
2001	74,563	204	58,350	1.28
2002	76,408	209	59,782	1.28
2003	87,516	240	60,876	1.44
2004	83,852	230	61,764	1.36
2005	81,227	223	62,347	1.30
2006	77,921	213	62,507	1.25
2007	75,175	206	62,826	1.20
2008	65,147	178	63,050	1.03

Source: CIWMB, 2009, California Department of Finance, 2009.

Table 3.13-3: Solid Waste Landfills Used by Lodi in 2008 (Outside the Planning Area)

Landfill	*Disposal Area (acres)*	*Tons Deposited by Lodi in 2008*	*Maximum Permitted Tons per Day (2005)*	*% Capacity Remaining*	*Closure Year*
Altamont Landfill & Resource Recovery	472	6	11,500	73.7%	2029
Bakersfield Metropolitan	229	1	4,500	84.6%	2038
Fink Road Landfill	164	4	2,400	69%	2023
Foothill Sanitary Landfill	750	92	1,500	96%	2054
Forward Landfill Inc	354	453	8,668	46.4%	2020
Hay Road Landfill Inc	256	53	2,400	77.2%	2077
L and D Landfill Co	157	207	2,540	68%	2016
North County Landfill	185	63,622	825	73.2%	2035
Potrero Hills Landfill	190	10	4,330	38.1%	2011
Sacramento County Landfill	N/R	165	N/R	96.2%	2064
Vasco Road Sanitary Landfill	222	90	2,250	30.9%	2015
Yolo County Central Landfill	473	444	1,800	76.1%	2081
TOTAL		65,146			

Source: California Integrated Waste Management Board, 2009.

REGULATORY SETTING

Regulations affecting infrastructure are established at the state and local level.

Regulatory Agencies

The City of Lodi Public Works Department is responsible for water supply and distribution, sanitary sewer, wastewater treatment, recycled water, and stormwater management for the City. The City is a member of the Northeastern San Joaquin County Groundwater Banking Authority (GBA). Through involvement in the GBA, the City works together with a number of water agencies in the surrounding area to develop solutions for groundwater management. The City of Lodi contracts with Central Valley Waste Services to provide waste disposal. Solid Waste is regulated by CIWMB.

State Regulations

California Urban Water Management Planning Act

A UWMP is required by the California Urban Water Management Planning Act. Section 10610.4 of the Act specifies that "urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies." The Act became part of the California Water Code with the passage of Assembly Bill 797 in 1983. Every urban water supplier providing more than 3,000 acre-feet of municipal water annually, or providing water to more than 3,000 customers, is required by the Act to prepare and adopt an UWMP. The Act has been amended by various Assembly and Senate bills which expanded the issues to be addressed in the UWMP. The State's policy, declared in the Act, is to achieve conservation and efficient use of urban water supplies to protect both the people of the State and their water resources. This City's most recent UWMP was completed in 2005 and is discussed under the local regulations section below.

Senate Bill 610, Chapter 643

SB 610 amended the State Water Code to make water availability a critical step in the CEQA process for specific types of projects. SB 610 requires public water suppliers (PWS) to prepare and approve a "water supply assessment" that contains three parts: 1) Explicit identification of existing and anticipated water supply entitlements, water rights and water service contracts, demonstrated by contracts, CIPs and applicable permits; 2) If no water has been received by the source identified to supply the development, other competing purveyors that receive from the new source must be identified; and 3) If groundwater is a proposed supply, factors such as adjudicated rights, groundwater management practices and historical pumping must be presented to establish proper use of the resource. The main planning tool in creating the assessment is the PWS's UWMP. If the demand expected from the development is accounted for in the UWMP, it may be used – in whole or in part – to establish supply availability under normal and drought conditions. If the project contains new demand, the new water supply source must be stated. (The City of Lodi's Urban Water Management Plan is discussed in the Regional and Local Plans' section below.)

California Integrated Waste Management Act of 1989 (AB 939)

The California Integrated Waste Management Act of 1989, AB939, required each city or county plan to divert 50 percent of all solid waste by January 1, 2000 through source reduction, recycling, and composting activities; and authorized local jurisdictions to impose fees based on the types or

amounts of solid waste generated to be used to pay actual costs incurred in preparing, adopting and implementing integrated waste management plans, as well as in setting and collecting the local fees. The Act also prioritized an integrated waste management hierarchy to guide the Board and local agencies, giving source reducing the highest priority, followed by recycling and composting, and environmentally safe transformation and land disposal. Source reduction is defined as the act of reducing the amount of solid waste generated by waste producers. AB 939 specifies that all other waste that is not diverted be properly and safely disposed of in a landfill or through incineration (CIWMB, 2009).

The Legislature amended this statute in 2000, requiring jurisdictions to sustain their waste diversion efforts into the future. Lodi met the diversion goal by diverting 51% of its waste out of landfills in 2000. Lodi has continued to meet the requirement and has increased diversion rates to 62% in 2006 (CIWMB, 2009).

Local Regulations

City of Lodi 2005 Urban Water Management Plan

Every five years the City of Lodi prepares an Urban Water Management Plan (UWMP), as required by the California Urban Water Management Planning Act. The purpose of preparing the UWMP is to ensure the efficient use of available water supplies, describe and evaluate the existing water system and historical and projected water use, evaluate current and projected water supply reliability, describe and evaluate demand management measures, and provide water shortage contingency plans as required by the UWMP Act. It provides an overview of Lodi's water supply sources, usage, constraints and reliability; projected water demand; demand management and conservation; wastewater and recycled water; a comparison of supply and demand; and a water shortage contingency plan. The most recent UWMP was completed in 2005 and considers water resources through 2030.

City of Lodi Recycled Water Master Plan, 2008

In 2008, the City prepared the City of Lodi Recycled Water Master Plan. The plan concluded that the quality of Lodi's recycled water is suitable for most recycled water uses and that quality will improve when the WID surface water supply is added to the potable water supply. The plan noted several potential recycled water uses, totaling about 12,696 acre-feet per year (City of Lodi, 2008c). These uses include:

- Urban uses: irrigation of parks, constructed lakes, cemeteries, schools, and median strips. For these uses the total potential use is about 1,731 acre-feet per year, not including all of the new growth areas identified in this plan.
- Commercial and industrial uses of up to 1,831 acre-feet per year.
- Agricultural uses of up to 9,134 acre-feet per year.

The Recycled Water Master Plan found that it would not be cost effective to deliver recycled water to all of the potential demand locations. However, the plan did identify preferred potential uses of recycled water, including providing about 3,720 acre-feet per year of recycled water for agricultural uses, and establishing a non-potable water system serving urban customers. The latter alterative requires further evaluation.

Wastewater Master Plan, 2001

The City of Lodi's 2001 Wastewater Master Plan developed a long term strategy for reliably meeting future discharge and capacity requirements to meet community needs through the year 2020 and provided a logical expansion path for years after 2020. Analysis completed for the proposed General Plan identifies wastewater discharge and capacity through 2030.

Eastern San Joaquin Groundwater Basin Groundwater Management Plan, 2004

Completed in September 2004 by the Northeastern San Joaquin County GBA, the purpose of this plan was to review, enhance, assess, and coordinate existing groundwater management policies and programs and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County. Key issues of concern are groundwater overdraft, degradation of water quality or groundwater contamination (including inflow of higher salinity water from the west, which could render parts of the aquifer unusable), and management options.

Stormwater Quality Management Program and Standards

The City of Lodi has two documents that address stormwater quality: the City of Lodi Stormwater Management Program (City of Lodi, 2003) and the City of Lodi Stormwater Development Standards Plan (City of Lodi, 2008a). The Stormwater Management Program describes best management practices (BMP), measurable goals, and timetables for implementation in six program areas: public education and outreach, illicit discharge detection and elimination, public participation/involvement, construction site runoff control, post-construction runoff control, and pollution prevention/good housekeeping. The pollutant load reductions resulting from BMP implementation will help ensure that the City meets National Pollutant Discharge Elimination System requirements and that the Mokelumne River water will be suitable for drinking water supply.

The Stormwater Development Standards Plan identifies the water quality Best Management Practices (BMPs) required for all new development and significant redevelopment activities within the City. It identifies specific BMPs for the three drainage zones in the city, which include drainage to the Mokelumne River, drainage to the WID canal, and drainage to a retention basin with no discharge, as well as BMPs appropriate for specific types of industries and businesses. Compliance with the requirements of these documents protects the quality of the city's urban runoff, and ultimately protects the quality of the Mokelumne River and WID canal.

Lodi Water Conservation Ordinance

In 1991 Lodi passed a Water Conservation Ordinance prohibiting the waste of water. The ordinance provides examples of water waste, which include but are not limited to:

- Allowing a controllable leak of water to go unrepaired.
- Watering lawns, flower beds, landscaping, ornamental plants or gardens except on watering days as follows: Odd-numbered addresses on Wednesday, Friday and Sunday; Even-numbered addresses on Tuesday, Thursday, and Saturday.
- Watering lawns, flower beds, landscaping, ornamental plants and gardens between 10 a.m. and 6 p.m. from May 1 through September 30.

- Washing down sidewalks, driveways, parking areas, tennis courts, patios, other paved areas, or buildings.
- Washing any motor vehicle, trailer, boat, or moveable equipment except with a bucket. A hose shall be used for rinsing only and for not more than three minutes.
- Use of a hose without a positive shutoff nozzle.
- Allowing excess water to flow into a gutter or any drainage area for longer than three minutes.
- Overwatering lawns/landscapes, especially from November 1 through February 28, or during and immediately after a rain.

The ordinance is enforced through education, written notices, and escalating fees following the second water waste offense.

Lodi's Water Meter Retrofit Program

Additional water conservation measures include Lodi's Water Meter Retrofit Program, whereby the City of Lodi has begun installing water meters on all unmetered properties in its service area. This is in accordance with California Assembly Bill 2572, which requires the installation and use of water meters throughout the state. Use of water meters has the potential to reduce residential demand by 15%.

Other measures are encouraged but not enforced, including a water conservation rebate program available for purchases of ultra low flow toilets and low flow showerheads (City of Lodi online, 2009). Additional water conservation measures will be important for further reducing impacts on water related infrastructure.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

A significant impact would occur with full implementation of the proposed General Plan if the following adverse impacts occur:

- Water demand exceeds available supply or distribution capacity;
- Construction of new storm water drainage facilities or expansion of existing facilities is required, which could cause significant environmental effects;
- Wastewater flows exceed available collection or treatment capacity;
- Solid waste levels exceed available disposal capacity; or
- Solid waste levels are in non-compliance with federal, state, or local regulations related to solid waste.

METHODOLOGY & ASSUMPTIONS

The planning of the major water, sewer, and storm drainage infrastructure for the development of the proposed General Plan as reported herein was coordinated with City Public Works Staff (including Lyman Chang, Sharon Welch, and Chris Boyer) on March 24, 2009 and subsequent e-mails and telephone discussions.

For the water demand and supply analysis, several assumptions were used from the City's 2005 UWMP, which projects water demand and supply. However, water supply and demand were evaluated based on the current General Plan: a 2030 population of 90,636 (growth was assumed at an annual rate of 1.5%). Population projected by this proposed General Plan exceed these estimates by nearly 10%, since the proposed General Plan accommodates a 2030 population of 99,500 (a annual growth rate of 2%). This analysis updates demand and supply calculations to account for the additional demand, as a result of the higher population projection, and also additional supply, as result of potential annexation and recycled water use.

As described in Chapter 2: Project Description, the impact analysis considered full development potential to mean 90% of the maximum potential of the proposed General Plan, except in urban and industrial reserve areas. The Urban Reserve areas on the west and east edges of the city, are assumed to build out at 75% and 50% of the maximum potential, respectively. The actual number of parcels that undergo land use changes may be lower than these assumptions. For the stormwater drainage facility planning, the entire industrial reserve area (but at 50 percent developed) and urban reserve area (at 75% developed) are assumed to drain into the proposed drainage facilities.

SUMMARY OF IMPACTS

As shown in Table 3.13-5, total estimated potable water supply is projected to meet projected demand in an average year and accommodate 86% of demand in a dry or multiple dry years. However, several policies and factors reduce this potential impact to a less than significant level. If a recycled water supply is developed, as analyzed in the City's Recycled Water Master Plan, overall potable water demand will decrease. Finally, key proposed General Plan policies require water supply planning and availability before development can take place. Proposed Plan analysis and policies also identify required infrastructure needs.

Impacts for both wastewater and stormwater facilities are less than significant. While the proposed General Plan will require new facilities for both systems, the proposed General Plan identifies the infrastructure needed over the life of the Plan, and includes policies that require the provision of infrastructure in a timely manner.

Impacts regarding solid waste levels and disposal capacity are less than significant given diversion policies and sufficient capacity at the NCRC&SL. In addition, Lodi has exceeded the State mandated 50% waste diversion rates since 2000. Ongoing waste reduction measures are included as part of the proposed General Plan, indicating that there is no impact as a result of the proposed General Plan regarding state, or local regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact

3.13-1 New development under the proposed General Plan would increase the demand for water beyond available supply or distribution capacity. (*Less than Significant*)

Water Demand Projections

Projected water demand is based on water demand factors shown in Table 3.13-4, segmented by land use type. Population projections are based on the proposed General Plan, which estimates 99,500 persons at full development. (The UWMP is based on population projections consistent with the current General Plan and therefore is not used as a baseline for the demand side of this analysis.) The water demand factors are somewhat conservative for estimating purposes to account for variations in weather, assumed full occupancy, and the uncertainty of the type of user to occupy the non-residential parcels in the future. To illustrate, the resulting calculated annual demand is estimated to be about 15% more than the actual amount of water produced by the City in 2008; therefore these factors may be overestimating demand.

Still, as a result of these assumptions, total estimated potable water demand for the proposed General Plan is 29.2 mgd (32,710 acre-feet per year). However, the City is in the process of installing water meters on all residential water connections (the industrial and commercial connections are already metered). Installation of meters is expected to result in a potential 15% reduction in residential demand and would reduce the total citywide demand to about 26.2 mgd (29,350 acre-feet per year), as shown in Table 3.13-4.

Table 3.13-4: Proposed General Plan Water Demand (mgd)

Land Use	*Water Demand Factor*	*Existing*	*Approved Development Projects*	*Proposed General Plan*	*Total*
Residential	200 gpd/Pop	12.7	2.1	5.2	19.9
General Commercial	1800 gpd/acre	0.7	0.1	0.7	1.5
Business Park/Office	1800 gpd/acre	0.2	0.0	0.9	1.1
Industrial	1000 gpd/acre	0.8	0.0	0.7	1.5
Mixed Use	1800 gpd/acre	0.0	0.0	0.0	0.0
Public/Quasi-Public	2200 gpd/acre	1.1	0.1	0.1	1.3
Parks/Open Space	2000 gpd/acre	0.6	0.2	0.4	1.2
Unaccounted for Losses (10% of above)		1.6	0.2	0.8	2.7
Total Demand (mgd)		17.7	2.7	8.8	29.2
Total Demand (acre-feet per year)					32,710
Total with 15% Conservation in Residential Demand (mgd)					26.2
Total with 15% Conservation in Residential Demand (acre-feet per year)					29,350

Source: West Yost, 2009.

Water Supply Projections

A water supply analysis completed as part of the proposed General Plan includes many of the same assumptions for groundwater and surface water availability as in the UWMP. In addition, further groundwater and surface water supplies will be made available through the annexation process, since new land area increases the safe yield and WID supplies available to the City, respectively. Table 3.13-5 shows water supply and demand as projected in the proposed General Plan.

The UWMP estimates that groundwater pumping provides 15,000 acre-feet per year. Since the safe yield estimate reflects an acreage-based relationship, as the City grows, the available safe yield of the underlying groundwater will increase. Approximately, 1,700 acres of land served by WID have the potential for annexation under the proposed General Plan, in addition to 370 acres of land that have already been approved for development projects. Therefore, the increase in safe yield, based upon the existing safe yield factor of 2.3 acre-feet per year per acre, will be 4,760 acre-feet per year (City of Lodi, 2006). Therefore additional water availability from groundwater resulting from the spatial expansion of the city brings the total groundwater availability in a normal year to 19,760.

Immediately available purchase of surface water from the WID is estimated at 6,000 acre-feet per year in an average year (3,000 acre-feet per year in a dry year). The City's agreement with WID allows the City to purchase an additional three acre-feet per year for each acre of WID land that is annexed. As mentioned, above, approximately 1,700 acres of land served by WID could be annexed under the proposed General Plan.[1] As a result of this agreement, the City could expect an additional 5,100 acre-feet of supply. This would result in a total of 11,100 acre-feet per year of surface water, available from the WID in a normal year.

Based on the assumptions above, the proposed General Plan projects that Lodi would have a long term, reliable water supply of 30,860 acre-feet per year available from its current and future safe yield of groundwater and surface water supplies, meeting 100% of the estimated demand. For the dry year and multiple dry year scenarios, this analysis follows the approach of the UWMP and considers a 50% reduction in WID surface water supply. During dry years, the reliable water supply is estimated at 25,310 acre-feet. As a result, potential water shortage at full development could be 4,040 acre-feet in a dry year, meeting 86% of demand.

Table 3.13-5: Water Supply and Demand in 2030 Under the Proposed General Plan (acre-feet per year)

	Normal Year	*Dry Year*[1]
Supply Type		
Groundwater (Current Safe-Yield)	15,000	15,000
Groundwater (Future Safe-Yield)	4,760	4,760
Surface Water (Current WID Contract)	6,000	3,000
Surface Water (Resulting from Annexation)	5,100	2,550
Total Projected Supply	30,860	25,310
Total Projected Demand[2]	29,350	29,350

[1] The 370 acres of land approved for the development projects are not included in the WID agreement.

Difference/Potential Shortage (Supply-Demand)	0	-4,040
Percent of Demand Met by Supply	100%	86%

1. The UWMP assumes the same supply availability in a single dry year and multiple dry year scenarios.
2. Proposed General Plan water demand estimates include a 15% reduction in residential use due to water metering.

Source: Dyett & Bhatia, 2009; West Yost Associates, 2009; City of Lodi Urban Water Management Plan, 2006.

Water Distribution

To provide potable water to the General Plan growth areas and urban reserve areas along the west side of the City, the 36-inch Mills Avenue transmission main would be extended farther south, then west in Lodi Avenue across the WID Canal and then south, along Westgate Drive, to Harney Lane. At the north end, this transmission main extension would be 36-inch and would likely get smaller along the alignment. It would provide a maximum day demand of about 9.6 mgd to the new growth areas along the west side of the City. Near the south end of the transmission main, the pipe diameter would be 12-inches, and would provide a maximum day demand of 2.1 mgd. The maximum day demands are 2.24 times the average annual daily demand, consistent with the City's Public Works Department, Public Improvement Design Standards. The transmission main could also provide additional water to the City's existing distribution system. The transmission main will need to be sized through preparation of a potable water master plan.

Additionally, new wells will still be needed in the southern and eastern areas of the City for peaking and fire flow only. Also, water storage tanks may be needed. The specific water system requirements should be further evaluated through preparation of a potable water master plan at an appropriate time in the future. The required infrastructure for potable water distribution under the proposed General Plan is included in Table 3.13-6 and required in the policies below.

Table 3.13-6: Required Potable Water Infrastructure Under the Proposed General Plan

Required Infrastructure/Location	*Phase*
New transmission main is required from the new surface water treatment plant to Mills Avenue. This main would be connected to the existing water distribution system to supply surface water to the City's water system.	1
Specific water system requirements should be further evaluated through preparation of a potable water master plan at an appropriate time in the future.	1
New wells will be required in the southern and eastern areas of the city. Additional water storage tanks may be needed.	1-2
To provide potable water to the General Plan growth areas and Urban Reserve areas along the west side of the city, the transmission main installed in Phase 1 would need to be extended southerly in Mills Avenue from Elm Street, then westerly in Lodi Avenue across the WID canal to Westgate Drive.	2

Source: West Yost Associates, 2008.

While water distribution needs are met under the proposed General Plan, the supply analyses in both the UWMP and the proposed General Plan indicate that 100% proposed General Plan water demand may not be met. While projections may overestimate the actual demand in 2030, as described above, the current projected demand reflects potential water shortages of 0 acre-feet in a normal year to 4,040 acre-feet in dry years when using the proposed General Plan water supply analysis.

In addition to the concurrency requirement described in the supply section above, policies in the proposed Plan include conservation measures, ongoing cooperation with the Northeastern San Joaquin County GBA and the WID to ensure water availability, and water recycling efforts.

Policies and Mitigations

In addition to the conservative nature of the demand analysis provided above, there are several policies and mitigations in place and proposed by the General Plan that would bridge this gap estimated between demand and supply in a dry year or multiple dry years, thereby ensuring adequate water supplies and reducing this potential impact to a less than significant level.

First, if the City develops the ability to use recycled water, overall potable water demand will decrease. The City's Recycled Water Master Plan identified urban, municipal, commercial, industrial, and agricultural demand totaling 12,696 acre-feet per year. A scalping plant near the City could be constructed to provide recycled water for use (as much as 2,400 acre-feet per year) in/near the city that would reduce the size or extent of the required new facilities at the WSWPCF. However, there would need to be a nearby use for the recycled water for a scalping facility to be feasible. At this time, there are several regulatory and financial barriers to the provision of recycled water in Lodi.

Second, the proposed General Plan also notes that gray water and rainwater may also be used on-site for specific purposes, consistent with regulations regarding permitted gray water use. These systems currently do not exist in the City, and would only account for a small portion of water supply, but would be allowed under the proposed General Plan, pursuant to adopted changes to the Plumbing Code set to go into effect January 1, 2011 (or sooner, pending emergency regulations filed with the Secretary of State on August 5, 2009).

Finally, key policies in the proposed General Plan require water supply planning and availability before development can take place. Proposed policy GM-P8 has the following stipulations: "Coordinate extension of sewer service, water service, and stormwater facilities into new growth areas concurrent with development phasing. Decline requests for extension of water and sewer lines beyond the city limit prior to the relevant development phase and *approve development plans and water system extension only when a dependable and adequate water supply for the development is assured*" (emphasis added). Moreover, proposed policy GM-P10 calls for the preparation of master plan documents, including: updates to the recycled water master plan, as necessary, and the UWMP on a five year basis in compliance with State of California mandated requirements (the next being 2010).

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

GM-G2 Provide infrastructure—including water, sewer, stormwater, and solid waste/recycling systems—that is designed and timed to be consistent with projected capacity requirements and development phasing.

GM-G3 Promote conservation of resources in order to reduce the load on existing and planned infrastructure capacity, and to preserve existing environmental resources.

GM-P7 Ensure that public facilities and infrastructure—including water supply, sewer, and stormwater facilities—are designed to meet projected capacity requirements to avoid the need for future replacement and upsizing, pursuant to the General Plan and relevant master planning.

GM-P8 Coordinate extension of sewer service, water service, and stormwater facilities into new growth areas concurrent with development phasing. Decline requests for extension of water and sewer lines beyond the city limit prior to the relevant development phase and approve development plans and water system extension only when a dependable and adequate water supply for the development is assured.

GM-P9 Develop new facilities and rehabilitate existing facilities as needed to serve existing development and expected development, in accordance with the General Plan and relevant infrastructure master plans.

GM-P10 Prepare master plan documents as necessary during the planning period to address the infrastructure needs of existing and projected growth, and to determine appropriate infrastructure provision for each phase. Existing master plan documents should be used until new master plans are developed, and updates should occur as follows:

- A sanitary sewer system master plan should be undertaken soon after General Plan adoption. In particular, this master plan should address how to best provide sewer service for the growth on the east side of the city and for infill development, and to determine if additional wastewater flows will need to be diverted into the proposed South Wastewater Trunk Line.

- A citywide stormwater master plan should be prepared soon after General Plan adoption to confirm or revise existing planning studies.

- A White Slough Water Pollution Control Facility master plan should be completed during the early stages of Phase 1, most likely in 2013 or 2014.

- A recycled water master plan was prepared in May 2008 and is current as of 2009. It may be appropriate to update this document when the next WSWPCF master plan is prepared, in 2013 or 2014, to evaluate the feasibility of constructing a scalping plant to provide recycled water for use within the city.

- A potable water supply and distribution master plan is not urgently needed, as of 2009. Future planning should be completed as necessary.

- The Urban Water Management Plan should be updated on a five year basis in compliance with State of California mandated requirements. Future plans should be developed in 2010, 2015, 2020, 2025, and 2030.

GM-P11EDIT Require water conservation in both City operations and private development to minimize the need for the development of new water sources and facilities. To the extent practicable, promote water conservation and reduced water demand by:

- Requiring the installation of non-potable water (recycled or gray water) infrastructure for irrigation of landscaped areas over one acre of new landscape acreage, where feasible. Conditions of approval shall require connection and use of non-potable water supplies when available at the site.

- Encouraging water-conserving landscaping, including the use of drought-tolerant and native plants, xeriscaping, use of evapotranspiration water systems, and other conservation measures.

- Encouraging retrofitting of existing development with water-efficient plumbing fixtures, such as ultra low-flow toilets, waterless urinals, low-flow sinks and showerheads, and water-efficient dishwashers and washing machines.

GM-P12 Support on-site gray water and rainwater harvesting systems for households and businesses. The City should develop a strategy for the legal, effective, and safe implementation of gray water and rainwater harvesting systems, including amendment of the Building Code as appropriate to permit gray water and provision of technical assistance and educational programming to help residents implement gray water and rainwater harvesting strategies.

GM-P13 Continue to implement the Water Meter Retrofit Program (consistent with State requirements as indicated in AB 2572), whereby all existing non-metered connections would be retrofitted with a water meter. This program is expected to be completed in 2013.

GM-P14 Require water meters in all new and rehabilitated development.

GM-P15EDIT Monitor water usage and conservation rates ~~due to installed meters, to ensure~~ resulting from the meter progress to verify if water demand assumptions are correct. If actual usage and conservation rates vary from planning assumptions, reassess requirements for future water resources.

GM-P16 Cooperate with Northeastern San Joaquin County Groundwater Banking Authority, other member water agencies, and the Woodbridge Irrigation District to retain surface water rights and groundwater supply.

Mitigation Measures

No additional mitigation measures are available to reduce the impact to less than significant.

Impact

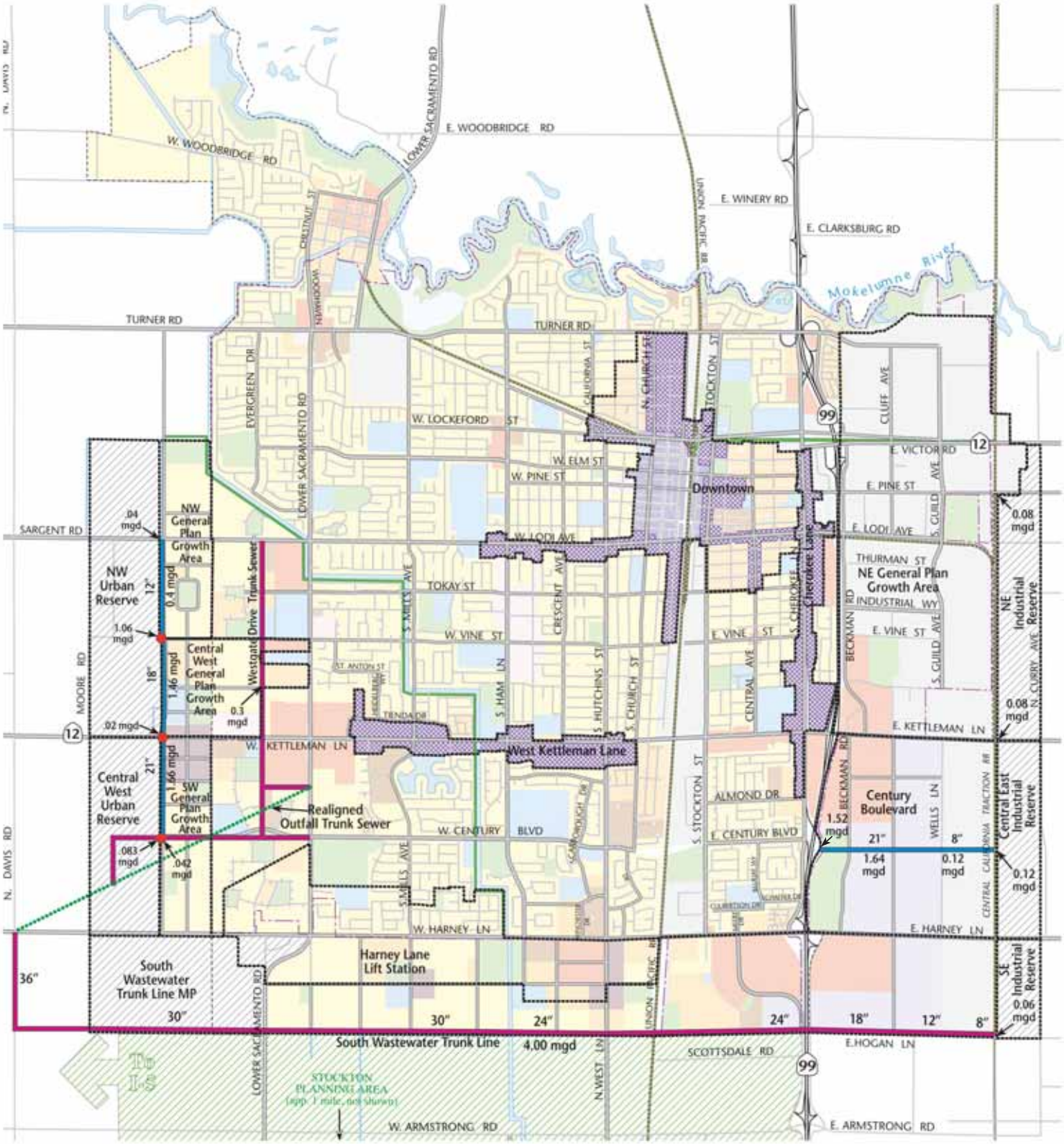
3.13-2 New development under the proposed General Plan may exceed wastewater treatment capacity of existing infrastructure. *(Less than Significant)*

Wastewater Flow Projections

The estimated wastewater average dry weather flow (ADWF) and peak wet weather flow (PWWF) at buildout of the proposed General Plan are projected to be 11.8 mgd and 22.6 mgd, respectively. This projection is based on current wastewater flow generation factors used by the City of Lodi for planning purposes. When these demand factors are used to estimate existing wastewater flows based on existing land use information, the resulting calculated ADWF is about 10% higher than the actual flows measured at the WSWPCF in 2008. The wastewater flow generation factors are conservative to account for actual future variations. The proposed General Plan notes that these flow generation factors should be reviewed in the future to verify that they are adequate for planning purposes. The proposed plan for sewer service at buildout of the General Plan uses existing trunk sewers, previously planned new sewers, and sewers planned specifically for this update of the General Plan. The sewer sheds and proposed sewer facilities are shown on Figure 3.13-1, and are detailed in terms of phasing and required infrastructure in Table 3.13-7.

Outfall

The proposed General Plan would require the outfall pipeline to convey the PWWF from the City of 22.6 mgd. The City's sewer design criteria require sewers to convey the PWWF at a water depth of 75% of the pipe diameter. However, even when flowing at full capacity, the existing outfall does not have adequate capacity for the PWWF at buildout of the proposed General Plan. Therefore, the proposed General Plan includes details regarding timing for renovations to the outfall or establishment of a scalping plant, which would reduce flow to the outfall, as described in Table 3.13-8.



Sewer Shed

30" / 1.66 mgd — Recently Planned Trunk Sewer

WW Outfall Trunk (approximate location)

Proposed Trunk Sewer with size and peak wet weather flow (mgd)

Sphere of Influence (2008)

City Limits (2008)

40 acres

10 acres

0 1/2 1 2

MILES

Figure 3.13-1

Proposed Sewer Facilities

Wastewater Capacity

Finally, the proposed General Plan projects that the ADWF to the WSWPCF at reasonable development of the General Plan would be 11.8 mgd, or an increase of 5.4 mgd from the 2008 flows. Capacity expansion of the WSWPCF would therefore be required within the early stages of Phase 1. The City of Lodi Wastewater Master Plan preliminarily identified the facilities needed to achieve a capacity of 12 mgd (City of Lodi, 2001). The required facilities to meet proposed General Plan demand in 2030, as identified in the master plan, are also described in Table 3.13-7.

Table 3.13-7: Required Sewer Infrastructure Under the Proposed General Plan

Location	*Required Infrastructure*	*Phase*
Northeast Industrial General Plan Growth Area	No additional facilities are proposed.	n/a
Northeast Industrial Reserve Sewer Shed	Sewer service for this area will need to be determined through preparation of a sewer master plan.	n/a
Century Boulevard and Central East Industrial Reserve Sewer Sheds	Sewer service for this area will need to be determined through preparation of a sewer master plan.	n/a
Southeast Industrial Reserve Sewer Shed	Sufficient capacity already planned.	Phase 3. Part of the South Wastewater Trunk Line.
South Wastewater Trunk Line Master Plan Sewer Shed	There is excess capacity available in this planned sewer. As of 2008, the only segment of this sewer that has been constructed is the segment through the Reynolds Ranch development, which has excess capacity.	Phase 1/ in progress. Part of the South Wastewater Trunk Line.
Harney Lane Lift Station Sewer Shed	Sufficient pump station capacity already planned.	Phase 1. As part of the South Wastewater Trunk Line.
Northwest Urban Reserve & General Plan Growth Area, Central West Urban Reserve & General Plan Growth, and Southwest General Plan Growth Area Area	Western growth area sewer sheds and the Urban Reserve sewer sheds will flow to a new sewer located along the boundary between Phase 2 and Phase 3 development areas.	Phase 2 and 3
Redevelopment Sewer Sheds	Some of the sewers serving the downtown area are currently flowing at or above their design capacity. Additional sewer improvements needed to serve infill will be determined by preparation of a sewer master plan for these areas.	Phase 1
WSWPCF	Capacity expansion of the WSWPCF will be required within the early stages of Phase 1. The following facilities would be required to meet demand at reasonable development: • Two Additional Primary Clarifiers • Three Additional Aeration Basins • One Additional Secondary Clarifier • Filter Influent Pump Station	Phase 1, Part of the City of Lodi Wastewater Master Plan.

Table 3.13-7: Required Sewer Infrastructure Under the Proposed General Plan

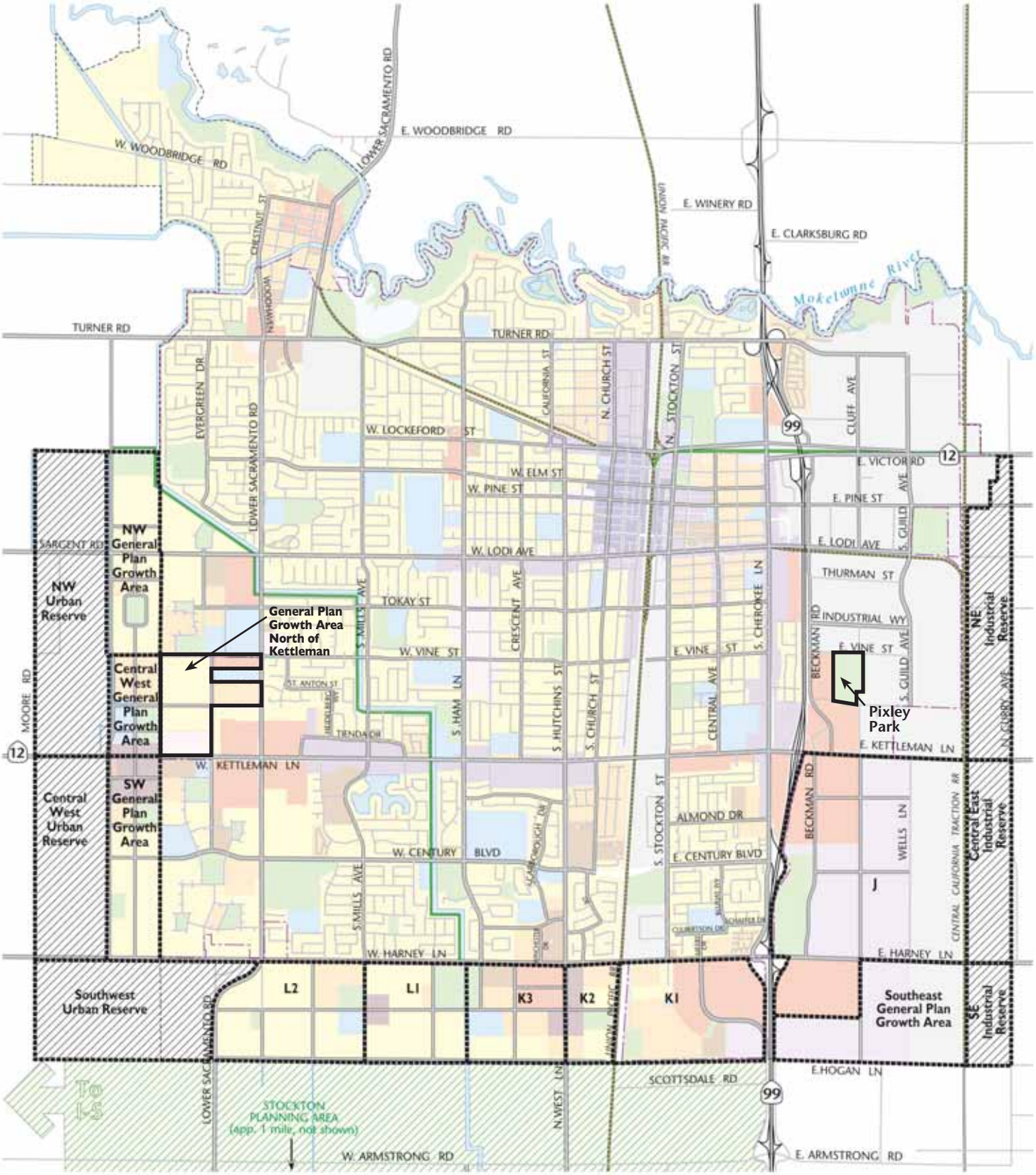
Location	*Required Infrastructure*	*Phase*
	• Tertiary Filtration Facility • UV Disinfection Facility • One Additional Anaerobic Digester • General Expansion of the Hydraulic Capacity Throughout the Treatment Plant • General Expansion of the Staff Facilities/Building • Other miscellaneous improvements Alternatively, a scalping plant near the City could be constructed to provide recycled water for use in/near the city that would reduce the size or extent of the required new facilities at the WSWPCF. However, there would need to be a nearby use for the recycled water for a scalping facility to be feasible.	
Sewer Outfall from the City to the WSWPCF	The outfall does not have adequate capacity for the PWWF at reasonable development of the General Plan. The outfall is expected to have adequate capacity until around the end of Phase 1 or beginning of Phase 2 if it is allowed to flow full. Alternatively, a scalping plant , near the City could be constructed to treat some of the wastewater flow and to provide recycled water for use in/near the city. This scalping plant would reduce the flow that must be conveyed in the existing outfall pipeline.	End of Phase 1 or beginning of Phase 2

Source: West Yost Associates, 2008.

While the proposed General Plan will require new facilities to accommodate projected wastewater flows and required treatment capacity, the proposed General Plan identifies the infrastructure needed over the life of the Plan, and includes policies that require the provision of infrastructure in a timely manner. In addition, many of the required infrastructure improvements are already underway or are already part of existing master plans. New infrastructure falls primarily in the urban area or areas that are proposed for urbanization, indicating that environmental impacts of construction would be largely part of impacts as a result of urban growth, as evaluated in other relevant sections throughout this EIR. In addition, project level environmental analysis will be required for any infrastructure development that could result in additional environmental impacts, when design specifications are available. Given these factors, the impact of new development under the proposed General Plan on wastewater collection and treatment is expected to be less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies regarding infrastructure provision include GM-G2, GM-G3, and GM-P7 through GM-P10, as listed for Impact 3.13-1. These policies would reduce adverse impacts regarding required wastewater infrastructure.



Storm Shed

Other Storm Drain Improvements

Urban Reserve

Sphere of Influence (2008)

City Limits (2008)

40 acres

10 acres

0 1/2 1 2

MILES

Figure 3.13-2

Proposed Storm Drain Facilities

Mitigation Measures

None required.

3.13-3 New development under the proposed General Plan may exceed the capacity of the existing stormwater system. *(Less than Significant)*

The stormwater infrastructure called for in the proposed General Plan includes the division of the City's growth areas into 16 drainage watersheds. The watershed boundaries are shown on Figure 3.13-2 and required infrastructure is listed in Table 3.13-8. For each of these watershed areas, the tributary trunk drain, detention basin, discharge rate (gravity flow or pump station), and outfall pipeline have been preliminarily sized, though facility planning and sizing will need to be refined and verified though preparation of a detailed stormwater master plan, also called for in the proposed General Plan. Additional storm drain collection systems would also be required and should be considered in the citywide storm drain master plan.

Table 3.13-8: Required Stormwater Infrastructure Under the Proposed General Plan

Location	*Required Infrastructure*	*Phase*
Northeast Industrial Reserve	Detention basin, pressure pipeline, and storm drains will be needed for this watershed. Additional studies will determine if existing detention basin could gravity drain to existing pump station, eliminating need for a new pump station.	Phase 3
Pixley Park	An upgraded (size and pumps) public station is required at C-Basin.	Phase 1
Central East Industrial Reserve	Detention basin and outfall pipeline will be needed for this watershed.	Phase 3
Southeast Industrial Reserve Watershed	Trunk storm drain, detention basin, and outfall pipeline will be needed for this watershed.	Phase 3
Southeast General Plan Growth Area Watershed	Trunk storm drain, detention basin, and outfall pipeline will be needed for this watershed.	Phase 2
Watershed J General Plan Growth Area	Trunk storm drain, detention basin, and outfall pipeline will be needed for this watershed.	Phase 1
Watersheds K1, K2, K3, L1, and L2	Detention basins and trunk storm drains will be needed for all watersheds. In addition, L2 will require its own pump station with two pumps. There will need to be an outfall pipe line located in a 75 foot wide greenbelt buffer along the south boundary of the city that flows to a new 60 cfs pump station on the east side of the WID canal (WID pump station). Part of the South Lodi Storm Drain Master Plan and South Hutchins Study Area Storm Drainage Master Plan.	Phase 1
Southwest Urban Reserve Watershed	Trunk storm drain, detention basin, pump station, and outfall pipeline will be needed for this watershed.	Phase 3
Southwest General Plan Growth Area	Trunk storm drain, detention basin, pump station, and outfall pipeline will be needed for this watershed.	Phase 2
Central West General Plan Growth Area	Trunk storm drain, detention basin, and outfall pipeline will be needed for this watershed.	Phase 1
General Plan Growth Area North of Kettleman Lane and west of Lower Sacramento Road	Storm drainage service for the area of growth North of Kettleman Lane and west of Lower Sacramento Road has already been planned. No additional new facilities are necessary.	Phase 1

Table 3.13-8: Required Stormwater Infrastructure Under the Proposed General Plan

Location	*Required Infrastructure*	*Phase*
Central West Urban Reserve Watershed	Trunk storm drain, detention basin, and outfall pipeline will be needed for this watershed.	Phase 3
Northwest General Plan Growth Area Watershed	Trunk storm drain, detention basin, and outfall pipeline will be needed for this watershed.	Phase 2
Northwest Urban Reserve Watershed	Trunk storm drain, detention basin, and outfall pipeline will be needed for this watershed.	Phase 3

Source: West Yost Associates, 2008.

The proposed General Plan identifies the infrastructure needed over the life of the Plan and includes policies that require the provision of infrastructure in a timely manner. In addition, new infrastructure falls primarily in the urban area or areas that are proposed for urbanization, indicating that environmental impacts of construction would be largely part of impacts as a result of urban growth, as evaluated in other relevant sections throughout this EIR. Project level environmental analysis will be required for any infrastructure development that could result in additional environmental impacts, when design specifications are available. Given these factors, the impact of new development under the proposed General Plan on stormwater infrastructure is expected to be less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies regarding infrastructure provision include GM-G2, GM-G3, GM-P7 through GM-P10, and GM-P12 as listed for Impact 3.13-1. These policies would reduce adverse impacts regarding required stormwater infrastructure.

Mitigation Measures

None required.

3.13-4 New development under the proposed General Plan would cause an increase in waste generation. *(Less than Significant)*

The current permit for the NCRC&SL, the landfill that accepts 98% of Lodi's waste, has a limit of 825 tons/day. Lodi landfills approximately 174 tons per day into this facility, approximately 21% of the facility's daily capacity. Average disposal rate per capita in Lodi between 1995 and 2008 was 1.2 tons annually. Given the buildout population of 99,500, a conservative estimate of landfilled waste in 2030 would be 119,400 annual tons or 325 tons/day. This is considered conservative due to ongoing waste reduction and waste diversion efforts by the City of Lodi. This quantity of waste would be accommodated under the current permit, depending on increases from other jurisdictions.

An EIR completed in 2006 by the NCRC&SL evaluated expansion of the landfill. The next permit review is scheduled for 2012. The expansion would increase the landfill height from 190 feet above mean sea level (msl) to 420 feet above msl, thereby increasing the available disposal capacity of the landfill by approximately 70%. This expansion would allow the maximum daily disposal limit to increase from 825 to 1,200 tons of refuse per day (Jones & Stokes, 2006). The additional capacity would also extend the operational life of the landfill to approximately 2048. Approval of the landfill expansion is pending due to concerns regarding slope stability and permit

approval from the CIWMB (Snider, 2009). Environmental impacts from the expansion would be minimized by expanding vertically rather than horizontally. A detailed assessment of potential impacts is addressed in the Draft EIR for the North County Recycling Center and Sanitary Landfill Permit Revision.

With or without the pending increased capacity of the landfill, it is expected that sufficient capacity will exist for the waste projected by the proposed General Plan. In addition, the proposed General Plan includes policies that seek to continue reductions in waste and promote waste prevention and recycling at the municipal level. Given these factors, the impact of the proposed General Plan on waste facilities would be less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

GM-P19 Continue to improve waste diversion rates through recycling and resource conservation measures. Support waste reduction and recycling programs through public education.

C-PNEW Ensure environmentally responsible municipal operations by implementing the following measures:

- Procure environmentally preferable products and services where criteria have been established by governmental or other widely recognized authorities (e.g. Energy Star, EPA Eco Purchasing Guidelines).
- Integrate environmental factors into the City's buying decisions where external authorities have not established criteria, such as by replacing disposables with reusables or recyclables, taking into account life cycle costs and benefits, and evaluating, as appropriate, the environmental performance of vendors in providing products and services;
- Raise staff awareness on the environmental issues affecting procurement by providing relevant information and training;
- Encourage suppliers and contractors to offer environmentally preferable products and services at competitive prices;
- Require all departments and divisions to practice waste prevention and recycling.
- When City fleet vehicles are retired, replace vehicles through the purchase or lease of alternative fuel or hybrid substitutes.
- As contracts for City-contracted fleet services (such as transit buses, trash haulers, and street sweeper trucks) are renewed, encourage contractors to

replace their vehicles with alternative fuel or hybrid substitutes through the contract bid process.

Mitigation Measures

None required.

3.14 Public Facilities

This section presents the environmental setting and impact analysis for public facilities in Lodi, including schools, police and fire services. Areas vulnerable to the threat of fire are also evaluated. Park facilities are addressed in Section 3.15: Parks and Recreation.

ENVIRONMENTAL SETTING

The following subsections describe the existing facilities for schools, and police and fire protection within the City of Lodi. These facilities are shown graphically in Figure 3.14-1.

SCHOOLS

Public Schools

Lodi's educational and academic needs are served primarily by the Lodi Unified School District (LUSD). LUSD covers an area of 350 square miles, serving all of Lodi as well as North Stockton, Acampo, Clements, Lockeford, Victor, and Woodbridge. In the 2007-2008 school year, LUSD served 31,259 students in kindergarten through grade 12 (CDE, 2009).

Within Lodi, LUSD has a total of 21 schools—16 elementary, two middle, two comprehensive high schools, and one continuation high school. In addition, the district offers alternative, adult, and pre-schools. Table 3.14-1 describes the enrollment and capacity of LUSD schools located in the City of Lodi. As shown in the table, almost all of the schools are operating at levels that are at capacity or slightly over capacity.

As of 2007, LUSD's school facilities within Lodi were at 97% overall capacity. However, several elementary, middle, and alternative education schools are exceeding their capacities and overall elementary and middle schools are both slightly over capacity.

Private Schools

The City of Lodi has ten private schools, with a total estimated enrollment of 1,875 students ranging from preschool to grade 12. Unlike LUSD schools, many private schools offer preschool education.

Higher Education

Currently there is one adult school and one Regional Occupation Program in LUSD, both of which are located in Lodi's Eastside neighborhood. As of 2007, there are an estimated 2,500 students enrolled in the Adult Education Program and 1,290 enrolled in the Lincoln Tech ROP.

Table 3.14-1: Lodi Unified School District Schools Located in the City of Lodi

Name	*Grades*	*Enrollment Capacity*	*2007-2008 Enrollment*	*% of Capacity*
Elementary Schools		6155	6197	101%
Beckman Elementary	K-6	632	639	101%
Borchardt Elementary	K-6	739	790	107%
Heritage Primary Elementary	K-3	472	468	99%
Lakewood Elementary	K-6	384	382	99%
Larson Elementary	K-6	676	683	101%
Lawrence Elementary	K-6	519	549	106%
Needham Elementary	4-6	337	310	92%
Nichols (Leroy) Elementary	K-6	393	415	106%
Reese Elementary	K-6	638	643	101%
Serna Charter	K-8	282	289	102%
Vinewood Elementary	K-6	558	550	99%
Washington Elementary	K-6	525	479	91%
Middle Schools		1638	1685	103%
Lodi Middle	7-8	872	913	105%
Millswood Middle	7-8	766	772	101%
High Schools		4,513	4,292	95%
Lodi High	9-12	2,230	2,146	96%
Tokay High	9-12	2,143	1,995	93%
Liberty High	9-12	140	151	108%
Other				
Lodi Adult School	Adult			
Independence School	K-12	612	403	66%
Lincoln Tech Academy	11-12			
School Readiness/ Preschool and Services Children's Center	PK			
Total		**12,918**	**12,577**	**97%**

1. Capacity as of December, 2006.

Source: LUSD Facilities Master Plan; California Department of Education, 2007-2008 school year.

FIRE AND POLICE FACILITIES AND HAZARDS

Fire Services

The Fire Department provides a wide range of emergency and non-emergency services, including fire suppression, emergency medical services, hazardous materials response, technical rescue, fire prevention, public education, and related safety services. The Emergency Operations Center, located at the Police department building, serves as the center of the city's emergency operations. City operations remain in compliance with the National Incident Management System, a comprehensive national approach to incident management, applicable to federal, state, and local

governments and the Standardized Emergency Management System, which provides a strategy and framework to address multi-agency and multi-jurisdictional emergencies in California.

As of 2008, the Fire Department had 59 personnel, including 51 firefighters, company officers, or battalion chiefs. The city of Lodi has an Insurance Services Office (ISO) rating of Class 3. A Class 3 ISO rating indicates that the Fire Department is strategically placed throughout the city, and has adequate personnel, equipment, and expertise to serve the current population. In 2006, the most recent year of data availability, the department met the self-imposed National Fire Protection Association's response time criteria of six minutes for 90% of all calls.

The Lodi Fire Department covers the city from four fire stations: Fire Station 1 is located in the downtown area, Fire Station 2 is located on the eastside of Lodi, Fire Station 3 is located in the southwest section of town, and Station 4 is in the northwest section of town. Station 4 also houses the Mobile Operations Center and is used by both the Fire and Police departments (City of Lodi, 2009a). A fifth Fire Station location has been reserved as part of the approved Reynolds Ranch project located south of Harney Lane and west of SR-99.

The City of Lodi Fire Department participates in the CalEMA state-wide mutual aid system, which utilizes resources from municipal fire departments in order to provide fire protection throughout the State. The City also has mutual aid agreements with the Woodbridge Fire Protection District (PMC, 2004).

Fire Hazards

Both urban and wildland fire hazards exist in the Lodi Planning Area, creating the potential for injury, loss of life, and property damage.

Urban fires primarily involve the uncontrolled burning of residential, commercial, or industrial structures due to human activities. Factors that exacerbate urban structural fires include substandard building construction, highly flammable materials, delay in response time, and inadequate fire protection services.

Wildland fires affect grass, forest, and brushlands, as well as any structures on these lands. Such fires can result from either human-made or natural causes. The type and amount of fuel, topography, and climate are the primary factors influencing the degree of fire risk. Human activities such as smoking, debris burning, and equipment operation are the major causes of wildland fires.

The Planning Area is not characterized by substantial areas of wildlands. The topography of the area is relatively homogenous and steep slopes that could contribute to wildland fires are not common. Data provided by the California Department of Conservation Fire and Resource Assessment Program (FRAP) in 2007 indicates that less than one percent of the Planning Area has "Moderate" fire hazard potential. The remaining areas are classified as urban or non-wildland. No portions of the Planning Area are classified as having a "High" or "Very High" risk.

Fire Hazard Severity

Climate and landscape characteristics are among the most important factors influencing hazard levels. Weather characteristics such as wind, temperature, humidity and fuel moisture content affect the potential for fire. Of these four, wind is the dominant factor in spreading fire since burning embers can easily be carried with the wind to adjacent exposed areas, starting additional

fires. Landscape characteristics such as steep slopes also contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. The Planning Area is not characterized by substantial areas of steep slopes. Vegetation type influences wildfire hazard levels as well. For example, landscapes dominated by chaparral are more flammable than other vegetation types.

According to FRAP Fire Threat data, Fire Threat is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create the following threat classes:

- Little or No Threat
- Moderate
- High
- Very High
- Extreme

Of the entire Planning Area, less than 0.5% (137.6-acres) is classified as High fire threat. The remaining area is classified as Little or No Threat, or Moderate threat.

Police Services

The Police Department's basic responsibility is to protect and serve the public and property within Lodi, through crime prevention, investigation, and other services. As of 2008, the Police Department had 118 full-time employees and 120 volunteers, with 78 sworn officers. The Lodi Police Department serves the city in three districts—the Central District, Heritage District and Sunset District—that encompass five patrol beats (City of Lodi, 2009b).

The California Highway Patrol provides law enforcement and traffic safety services on SR-12 (West Kettleman Lane) and is available to assist the Lodi Policy Department during emergencies when requested. The San Joaquin County Sheriff's Department provides law enforcement to the

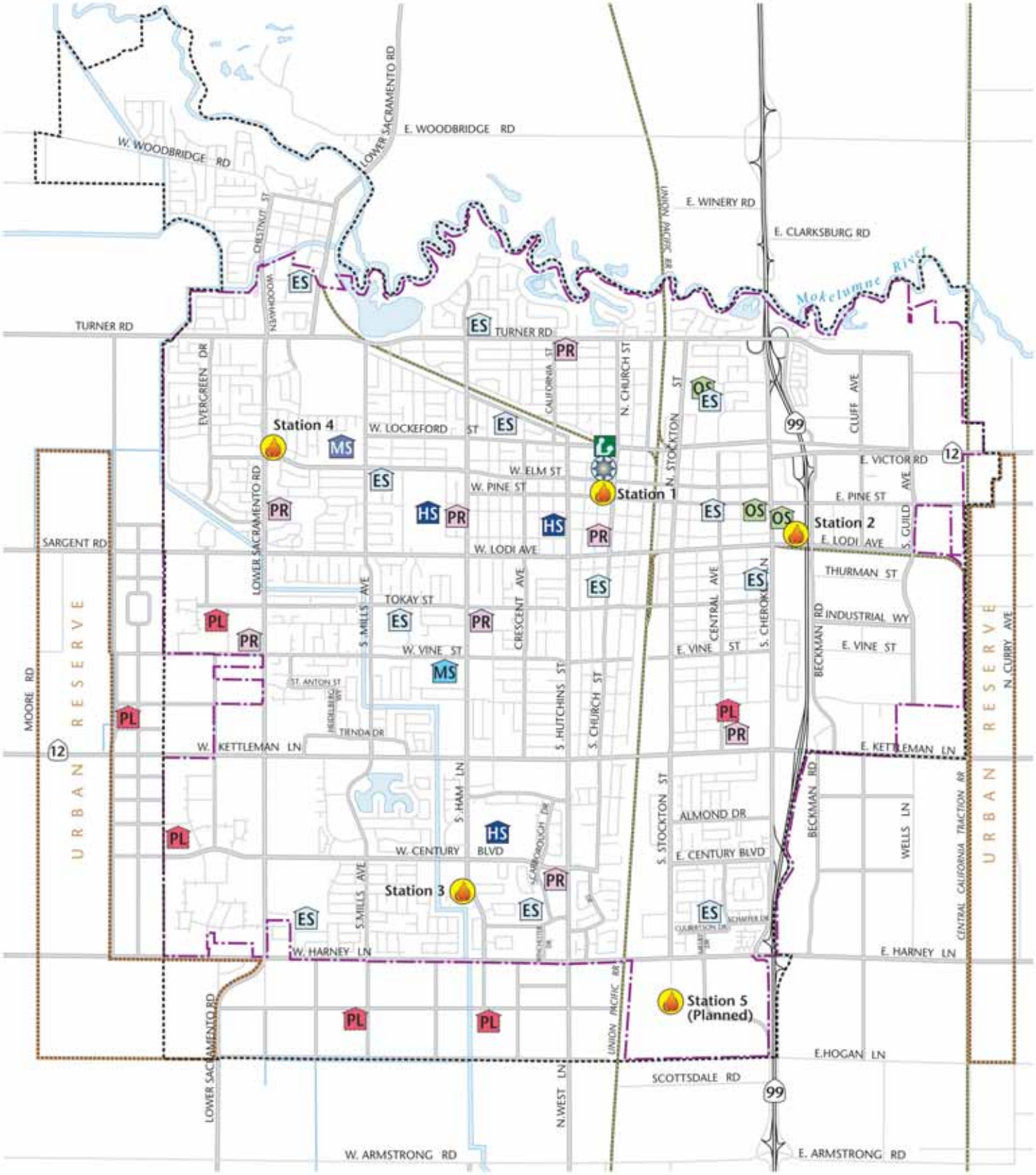
rural and unincorporated areas of the County, and is available to assist the Lodi Police Department during emergencies when requested (PMC, 2004).

Public Safety and Emergency Preparedness

The Lodi Police and Fire departments manage public safety in Lodi, with the Fire Department leading emergency preparedness and planning. The City has adopted the San Joaquin County Hazard Mitigation Plan. This plan identifies measures to reduce the impacts of natural and manmade hazards and to facilitate the recovery and repair of structures if damage should occur from hazardous events.

Adoption of the plan ensures that Lodi is eligible for certain federal and State funds for disaster recovery in case of such an event.

The City provides street standards for all street types, thus ensuring appropriate standards for emergency access and evacuation. For example, the standards specify roadway widths of 30 feet (curb-to-curb) for minor residential streets and 52 feet for major collector streets.



HS High School

MS Middle School

ES Elementary School

OS Other School

PL Planned School

PR Private School

Fire Station

Police Station

Library

Sphere of Influence (2008)

City Limits (2008)

40 acres

10 acres

0 1/2 1 2

MILES

Figure 3.14-1

Public Facilities

REGULATORY SETTTING

Fire Safety Regulations

California Occupational Safety and Health Administration (Cal/OSHA)

California Occupational Safety and Health Administration (Cal/OSHA) and the Federal OSHA are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of 1970, Federal OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling. Cal/OSHA assumes primary responsibility for developing and enforcing State workplace safety regulations. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in 29 CFR. Cal/OSHA standards are generally more stringent than federal regulations.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace, as detailed in Title 8 of the CCR, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

San Joaquin County Environmental Health Department

The San Joaquin County Environmental Health Department is a Certified Unified Program Agency (CUPA). A CUPA is a single local agency designated by the California Environmental Protection Agency as having regulatory authority for the California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements (Cal/EPA, 2006).

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

A significant impact would occur if implementation of the proposed General Plan would:

- Generate student levels that exceed available or planned school capacity, and/or result in a need for additional school facilities; or
- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:
    - Fire protection
    - Police protection
- Increase risk of exposure to fire hazards.

METHODOLOGY & ASSUMPTIONS

This analysis considers current and proposed General Plan policies and goals, existing and proposed public and safety services within the city, and applicable regulations and guidelines.

Schools

This analysis determines the increase in students that would result from development of the General Plan and assesses potential impacts on local schools. The projected student population was calculated according to total new population that could be accommodated by implementation of the proposed General Plan. The school facilities calculations are based on existing space requirements and conditions as well as student generation rates based on the 2006 LUSD School Facilities Master Plan. The student generation rates are:

- 0.25 elementary students per home;
- 0.07 middle school students per home; and
- 0.14 high school students per home.

This new student population is compared with existing school facilities to determine the number and type of new facilities needed.

Fire

This analysis identifies the demand for fire protection services, such as personnel, facilities, and equipment. Existing fire services are considered in terms of development, by 2030, of the proposed General Plan.

The fire hazard analysis considered project plans, current conditions in the Planning Area, and applicable regulations and guidelines. California Department of Forestry and Fire Protection fire hazard maps were examined to determine the level of threat to persons and property within the Planning Area.

Police

This analysis identifies the demand for police protection services, such as personnel, facilities, and equipment. To ensure that new development does not adversely affect the City's current ability to provide police services, the number of total police officers per 1,000 residents is considered as a benchmark.

SUMMARY OF IMPACTS

As Lodi grows, additional school facilities will be required to meet new student demand. The proposed General Plan identifies additional school sites. Two new schools are planned as part of recently approved projects along ht western edge of the city. One school is proposed as infill development near the intersection of Central Avenue and Poplar Street. Lastly, locations for new schools in the planned growth areas in the proposed General Plan include two schools south of Harney Lane, one school along the western edge of the city, and additional facilities, as needed in the Urban Reserve. Proposed General Plan policies seek to ensure that school facilities are constructed as needed and in tandem with new residential development.

Implementation of the proposed General Plan would generate approximately 26,400 new residents and 23,400 new jobs by 2030, increasing the long-term demand for police assistance and emergency fire response. Given the General Plan's commitment to ensuring adequate police and fire service to provide timely response to all emergencies and intention to develop a Fire and Polices Services Master Plan, the impact on police and fire services is expected to be less than significant.

No portions of the Planning Area are classified as having a "High" or "Very High" fire threat. Therefore the threat of fire hazard (in particular wildland fire) is considered less than significant and is not discussed further.

IMPACTS AND MITIGATION MEASURES

Impact

3.14-1 New development under the proposed Lodi General Plan will increase the demand for school facilities. *(Less than Significant)*

Projected Demand for Schools

As Lodi grows, additional school facilities will be required to meet new student demand. Demographic projections for San Joaquin County suggest slight increases in the proportion of young and elderly people between 2000 and 2030, and a slight decline in the proportion of the middle-age population (DOF, 2007). Overall, demographic changes are expected to be fairly moderate in the County, though changes in actual numbers are large, indicating substantial population growth. Age projections are shown in Table 3.14-2.

Table 3.14-2: Age Projections for San Joaquin County

	2000		*2030*		*2000-2030*
Age	*Total*	*%*	*Total*	*%*	*% Change*
0-4	45,455	8	114,288	9	151
5-19	149,861	26	330,870	27	121
20-39	158,481	28	345,894	29	118
40-64	155,452	27	259,991	22	67
65+	59,834	11	154,155	13	158
Total	**569,083**	**100**	**1,205,198**	**100**	**112**

Source: California Department of Finance, 2007

Given that projections indicate a relatively constant proportion of school-age residents through 2030, student generation rates used to determine future school demand are based on the 2006 LUSD School Facilities Master Plan, as described in the methodology and assumptions section.

Student projections by planning phase and the required land for schools to meet the projected demand are shown in Table 3.14-3. These projections are conservative, due to the large school footprints assumed.

Table 3.14-3: Projected New Students between 2008 and 2030

New Housing Units[1]	13,800
New Students[2]	6300
Elementary (K-6)	3,450
Middle (7-8)	966
High (9-12)	1,932
School Land Needed (acres)[3]	113
K-8[4]	77
High (9-12)	35
Proposed Public / Quasi Public Land [5,6]	91
Difference between total proposed and total needed	-22

1. New housing units include units already approved or under construction.
2. Student generation rates are: 0.25 for K-6; 0.07 for 7-8; and .14 for 9-12, according to the LUSD 2006 School Facilities Master Plan ("Master Plan").
3. The Master Plan indicates school capacity at 840 students per school for K-8 and 2,200 students per school for grades 9-12. A K-8 school is expected to require approximately 15 acres and a 9-12 school is expected to require approximately 40 acres.
4. The Master Plan recommends that schools include K-8 rather than K-6 and 7-8 separately.
5. Proposed public and quasi-public land includes 24 acres of pipeline public and quasi-public land, which are expected to be primarily used for schools, though other community needs may also be accommodated.
6. An additional K-6 school site is shown near Central Avenue and East Poplar Street, but is not reflected in the table as the exact site and acreage are not yet determined.

Source: Dyett & Bhatia, 2009; LUSD 2006 School Facilities Master Plan.

Several new schools are identified in the proposed General Plan. Within the existing city, two schools will be included as part of the approved development projects on the western edge of the city. In addition, a placeholder has been identified for a new elementary school on the eastside of Lodi near the intersection of Central Avenue and Poplar Street. The ultimate location and size will be determined by the district (due to limited information, this school is not included in the acreage estimates in Table 3.14-3). This school would relieve some of the existing elementary school capacity issues, and reduce the difference in proposed and needed school acres.

Locations for new schools in the planned growth areas in the proposed General Plan include two schools south of Harney Lane, which are expected to serve students in grades K-8. An additional school will be located in the northwest to accommodate growth in the western edge of the city. Locations for schools in the Urban Reserve have not been identified. All planned schools are expected to meet the needs of future development and to relieve any existing capacity issues. Ongoing reassessment of school needs will be required as growth and demographic patterns change over time.

Although the demand for school facilities will increase under the proposed General Plan, compared to existing conditions, the Plan identifies sites for new facilities to meet current and most of the future demand, particularly when taking into account the school planned for the Central Avenue and Poplar Street. Proposed General Plan policies described below seek to ensure that school facilities are provided as needed, by committing the City to cooperate with Lodi Unified School District on the planning, financing, and construction of schools.

Because the assumptions used to determine land area for new schools are generous, it is unlikely that additional land area will be needed beyond what is identified in the proposed General Plan. However, additional locations for schools may be found, if required, in Mixed Use Centers. Based on the above analysis and the following policy, the impact is deemed less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR.

GM-NEW Coordinate with Lodi Unified School District in monitoring housing, population, and enrollment trends and evaluating their effects on future school facility needs.

GM-NEW Phase school development as part of new residential growth to provide adequate school facilities, without exceeding capacity of existing schools. Schools should be provided consistent with the Lodi Unified School District's School Facilities Master Plan, which defines student generation rates.

GM-NEW Support all necessary and reasonable efforts by Lodi Unified School District to obtain funding for capital improvements required to meet school facility needs, including adoption and implementation of local financing mechanisms, such as community facility districts, and the assessment of school impact fees.

GM-P20 Locate additional schools to fill any existing gaps in capacity and meet the needs of existing and new residents. Provide needed facilities concurrent with phased development.

Mitigation Measures

None required.

Impact

3.14-2 New development in the proposed General Plan requires police and fire protection services that exceed current staffing and facilities. *(Less than Significant)*

Current police and fire protection is designed to meet the needs of the existing population and employment base. Implementation of the Lodi General Plan would generate approximately 26,400 new residents and 23,400 new jobs by 2030, increasing the long-term demand for police assistance and emergency fire response.

Police

The existing ratio of sworn officers to 1,000 residents is 1.2. With full implementation of the General Plan, the population in 2030 would be 99,500, resulting in a ratio of 0.8 if no additional officers are added. To maintain the ratio of 1.2 in 2030, the Lodi Police Department would have to have to increase its number of sworn officers from 78 to 122.

However, use of a simple ratio may not accurately portray the actual demand for police services. The proposed General Plan calls for maintenance of police personnel and facilities to ensure

maintenance of acceptable levels of service. This approach allows the determination of need for additional sworn officers, facilities and staff to be based several considerations, including: the typical nature and type of calls for service; crime prevention and safety; appropriate measures for determining adequate levels of service; and requirements for additional facilities and staffing.

Fire

With a larger population, call volume and complexity would likely increase. Increased call volumes could lead to simultaneous alarms and periods of either non-coverage or a requirement to employ mutual aid. Because the adequacy of fire protection emergency service (for both medical and fire suppression) hinges on call volume, call complexity and response times, potential increases in staff would depend upon these factors. As noted in the Impact Summary, the proposed General Plan calls for a Fire and Police Services Master Plan, which would determine the need for additional facilities and staffing based on several considerations, including: the typical nature and type of calls for service; fire prevention and mitigation strategies, such as sprinklers, fire retardant materials, and alarms; appropriate measures for determining adequate levels of service; and locations and requirements for additional facilities and staffing.

Emergency Preparedness

As described above, both the Lodi Police and Fire departments, in cooperation with regional planning groups, manage public safety in Lodi. The proposed General Plan includes several policies that seek to maintain and improve on emergency response and preparedness.

Proposed General Plan Policies that Reduce the Impact

Growth Management and Infrastructure Element Policies

GM-G4 Provide public facilities–including police and fire services, schools, and libraries commensurate with the needs of the existing and future population.

GM-P22 Develop a Fire and Police Services Master Plan that would establish thresholds and requirements for fire and police facilities, staffing, and building features. The Fire and Police Services Master Plan should consider the following:

- Typical nature and type of calls for service;
- Fire prevention and mitigation measures, such as sprinklers, fire retardant materials, and alarms;
- Appropriate measures for determining adequate levels of service; and
- Locations and requirements for additional facilities and staffing.

GM-P23 Maintain sufficient fire and police facilities to ensure maintenance of acceptable levels of service. Provide needed facilities concurrent with phased development.

Safety Element Policies

S-P22 Coordinate with local, State, and Federal agencies to establish, maintain, and test a coordinated emergency response system that addresses a variety of hazardous and threatening situations. Conduct periodic emergency response exercises to test

the effectiveness of City emergency response procedures. Develop and implement public information programs concerning disaster response and emergency preparedness and develop mutual aid agreements and communication links with surrounding communities for assistance during times of emergency.

S-P23 Maintain and periodically update the City's Emergency Preparedness Plan, including review of County and State emergency response procedures that must be coordinated with City procedures.

S-P24 Ensure that major access and evacuation corridors are available and unobstructed in case of major emergency or disaster. Continue to identify appropriate road standards, including minimum road widths and turnouts to provide adequate emergency access and evacuation routes.

S-P25 Continue to use the San Joaquin County Hazard Mitigation Plan to reduce hazard risk and coordinate with the County on its update and implementation, consistent with the Federal Emergency Management Agency and the Disaster Act of 2000.

Given the General Plan's commitment to ensuring adequate police and fire service to provide timely response to all emergencies, the impact on police and fire services is expected to be less than significant.

Mitigation Measures

None required.

3.15 Parks and Recreation

This section presents the environmental setting and impact analysis for parks, recreational facilities and open space areas in Lodi.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

As of 2009, Lodi has 23 developed and four undeveloped parks and open spaces. Table 3.15-1 details the type and breakdown of park and drainage basin acres for each of the existing parks and open spaces. As the table shows, drainage basins play a large role in the provision of parks and open spaces, accounting for 34% of all parkland.

Park Types

Mini/Urban Parks

Mini/Urban parks include tot lots, children's playground, and other small single purpose play lots designed primarily for very young children. Due to their small size, facilities are usually limited to a small open grass area, a children's playground, and occasional picnic site.

Neighborhood Parks

Neighborhood Parks include playgrounds and parkland primarily designed for non-supervised and non-organized recreation, and as passive open space. In addition to grassy area, recreation facilities may include ball fields, basketball courts, dog areas, playgrounds, soccer fields, swimming pools, and meeting rooms. Ideally, neighborhood parks serve a ½-mile radius area.

Community Parks

Community parks serve a larger segment of the population, and are primarily designed for active and structured recreation for both children and adults. While individual and family activities are encouraged, community parks are a main channel for organized activities and sports. In addition, all or large portions of land in these parks also function as detention basins during rainy seasons. These parks have a service area of one to two-mile radius and range from 10 to 26 acres in size.

Regional Parks

The Lodi Lake Park is the only regional park within Lodi's City limits. A regional park serves the entire region, attracting visitors far beyond the boundaries of the city. Typically exceeding 100 acres in size, regional parks feature a wide range of activities and facilities. The 43-acre Lodi Lake Park is characterized by the Mokelumne River, swimming, beaches, and large picnic areas. It is also attached to the Lodi Lake Wilderness Area. A proposed expansion of the park, planned on the Lodi Lake West Bank Area, will add approximately eight acres to the regional park.

Table 3.15-1: Existing Parks, Open Spaces, and Activity Facilities

		Acres		
Name	*Park Type*	*Park*	*Park/Basin*	*Total*
Armory Park/Chapman Field	Special Use	3.2		3.2
Beckman Park	Neighborhood	0.8	15.8	16.6
Borchardt Park	Mini/Urban	0.8		0.8
Candy Cane Park	Mini/Urban	0.2		0.2
Century Meadows Park	Neighborhood	2.7		2.7
Emerson Park	Neighborhood	3.0		3.0
English Oaks Park	Neighborhood	3.7		3.7
Grape Bowl	Special Use	15.0		15.0
Hale Park	Neighborhood	3.1		3.1
Henry Glaves Park	Neighborhood	2.8	11.3	14.0
Hutchins Street Square	Special Use	4.5		4.5
John Blakely Park	Neighborhood	10.0		10.0
Katzakian Park	Neighborhood	5.0		5.0
Kofu Park	Community	2.0	8.0	10.0
Lawrence Park	Neighborhood	2.8		2.8
Legion Park	Neighborhood	6.0		6.0
Lodi Lake Park	Regional	43.0		43.0
Lodi Lake Wilderness Area	Natural Open Space	58.0		58.0
Peterson Park	Neighborhood	2.2	19.8	22.0
Samuel D. Salas Park	Community	2.5	23.5	26.0
Softball Complex	Special Use	7.6		7.6
Van Buskirk Park	Neighborhood	1.0		1.0
Vinewood Park	Neighborhood	0.8	15.2	16.0
Zupo Field	Special Use	3.3		3.3
Total		**183.9**	**93.6**	**277.5**

Source: City of Lodi Department of Park and Recreation, 2009.

Natural Open Space

The Lodi Lake Wilderness Area is the only natural open space within City limits. Natural open space is undeveloped land primarily left in its natural environment with recreation uses as a secondary objective. The Lodi Lake Wilderness Area spans 58 acres, including 25 acres of lake area. Located adjacent to Lodi Lake Park, this site was intended to preserve the riparian and natural open space along the Mokelumne River. This open space also provides 2.3 miles of paved and unpaved trails.

Special Use Areas

Special Use Areas are public recreation areas or land occupied by specialized facilities, including special landscaped areas, community gardens, single purpose sport uses, or sites occupied by recreation buildings such as a senior or community center. These facilities are assets for Lodi residents, but also provide opportunities for regional attraction, such as for athletic tournaments.

Other Parks, Recreation Facilities, and Open Spaces

While the City of Lodi is the main provider of parkland recreational facilities for the community, San Joaquin County also provides amenities in the Planning Area. Table 3.15-2 lists these resources, which provide 275 acres of parkland and open space within the planning area.

Table 3.15-2: Other Parks and Open Spaces within the Planning Area

Name	*Type*	*Provider*	*Acres*
Woodbridge Wilderness Area	Natural Open Space	San Joaquin County	17
Micke Grove Regional Park	Natural Open Space	San Joaquin County	258
Total			**275**

Source: City of Lodi, 2007; San Joaquin County, 2007.

Parks and Recreation Facilities and Programs

Lodi offers a wide range of recreational programs and facilities within its parks and open spaces, as shown in Table 3.15-3. The Department offers youth and adult sports, a kids' summer camp, swim lessons, and other recreation programs.

Table 3.15-3: Existing Parks and Open Space, by Recreation Facilities and Services Offered

Name	*Restrooms*	*Play Area*	*Picnic Area*	*Ball Fields*	*Basketball*	*Soccer Field*	*Football Field*	*Tennis Court*	*Cricket*	*Swimming*	*Horseshoes*	*Skate Park*	*In-Line Hockey*	*Concession*	*Meeting Room*	*Dog Area*	*Trails*
Armory Park / Chapman Field	●			●										●			
Beckman Park	●	●	●	●												●	
Borchardt Park																	
Candy Cane Park		●	●														
Century Meadows Park		●	●		●												
Century Park		●				●											
Emerson Park	●	●	●	●		●					●						
English Oaks Common		●	●														
Grape Bowl	●			●		●	●							●	●		
Hale Park	●	●	●		●										●		
Henry Glaves Park	●	●	●	●		●											
Hutchins Street Square	●	●	●		●					●							
John Blakely Park	●	●	●	●	●				●	●	●						
Katzakian Park	●	●	●	●	●												
Kofu Park	●	●		●		●		●				●			●		
Lawrence Park	●	●	●													●	
Legion Park	●		●		●			●							●		
Lodi Lake Park		●	●							●	●					●	
Lodi Lake Wilderness Area																	●
Peterson Park (Westgate)	●		●	●	●	●		●					●				
Samuel D. Salas Park	●	●	●	●		●								●			
Softball Complex	●		●	●										●	●		
Van Buskirk Park		●	●		●						●						
Vinewood Park	●			●		●			●							●	
Zupo Hardball Field	●			●										●			

Source: City of Lodi Department of Park and Recreation, 2009.

PLANNED IMPROVEMENTS

The City of Lodi already has four undeveloped park and basin sites within City limits, totaling 88 acres. In addition, approved developments could add over 72 acres of open space.

Table 3.15-4 details the City's undeveloped parks and open spaces, representing either city-owned properties with approved or proposed plans or parks approved as part of development projects.

Table 3.15-4: Planned Parks and Drainage Basins

		Acreage		
Parks	*Type*	*Park*	*Park/Basin*	*Total*
DeBenedetti Park	Community	24.3	24.7	49.0
Lodi Lake West Bank Area	Natural Open Space	8.0		8.0
Pixley Park	Neighborhood	5.0	22.0	27.0
Roget Park	Community	4.3		4.3
Total		**41.6**	**46.7**	**88.3**

Source: City of Lodi Department of Parks and Recreation, 2009.

The approved Southwest Gateway, Westside, and Reynolds Ranch developments will incorporate park, trail, and drainage basin requirements once the projects are complete, as outlined in Table 3.15-5.

Table 3.15-5: Required Parks and Drainage Basin for Approved Development

		Acreage		
Project Name	*Type (#)*	*Park/Open Space*	*Park/Basin*	*Total*
Reynolds Ranch Project	Neighborhood	4.0		4.0
	Ped/Bike Trail/Buffer	8.0		8.0
	Basin		9.0	9.0
Southwest Gateway Project	Neighborhood (3)	3.9	17.4	21.0
	Mini (2)	4.2		4.2
	Ped/Bike Trail	5.1		5.1
Westside Project	Neighborhood (2)	4.4	10.3	14.7
	Mini (2)	3.7		3.7
	Ped/Bike Trail	2.3		2.3
Total		**35.6**	**36.7**	**72.3**

Source: City of Lodi Department of Park and Recreation, 2009.

REGULATORY SETTING

Local

City of Lodi Park and Recreation Plan, 1994

A comprehensive Park, Recreation, and Open Space Plan was adopted in 1994, providing a detailed study, plan, and implementation strategy for parks and open space in Lodi. The plan finds that while the parks system has been successful in serving all residents in the area and receiving high participation rates, there is large demand for major sports facilities and other recreation programs, but less so for passive recreation amenities.

The plan recommends a range of parks and recreation services improvements and/or expansions, site acquisitions, and management and maintenance changes, as well as a financing and implementation scheme that relies on impact fees, grants, city expenditures, and other outside resources. The Plan also includes detailed standards by the type of park, as shown in Table 3.15-6. In 2008, the City provided 366 acres of parkland to its 63,362 residents (including planned open spaces)—a ratio of 5.8 acres per thousand residents. Excluding basins reduces these numbers to 226 acres and a ratio of 3.6 per thousand residents.

Table 3.15-6: 1994 Parks and Recreation Plan Standards

Type	*Service Area*	*Size (acres)*	*Acres per Thousand Residents*
Mini-Parks/Tot Lots	1/4 mile radius	<3	none
Neighborhood	1/2 mile radius	5 - 15	2.5
Community	1-2 mile radius	20 - 30	1.8
Regional	Community or Region	50+	0.8
Natural Open Space	Community or Region	Varies	2.1
Special Use Areas	Community or Region	Varies	0.8
Total			**8.0**

Source: City of Lodi Park and Recreation Plan, 1994.

In addition, the Parks Master Plan specifically recommends:

- More balance between organized sports—which comprises a majority of Lodi's sports facilities—and other recreation needs, including passive and leisure activities;
- Indoor recreation activities;
- Non-basin parks;
- A greenway along Mokelumne River and the eastern City limits.
- A financing and budgeting plan that reflects the City's needs for construction and management of recreation services;
- Meeting sports field demand and support financing from non-resident users of Lodi's park system; and
- Strategic distribution of parks to serve all neighborhoods.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

The proposed General Plan would have a significant impact on parks and recreation if buildout resulted in:

- A shortage of park facilities for residents, by not meeting the proposed standard of eight acres of parks and drainage basins per thousand residents, at least four acres of which should be designated for parks only;
- Increased use of existing parks such that substantial physical deterioration of the facility would occur or be accelerated;
- Reduced accessibility of parks and recreation facilities from residential neighborhoods; or

METHODOLOGY & ASSUMPTIONS

This analysis considered existing and proposed General Plan policies, goals, and applicable regulations, as well as existing and proposed parks, open space, and recreation facilities within the city. Shortages or accelerated deterioration of park facilities were determined by dividing the projected resident population by the total existing and proposed acres of parkland as proposed in the General Plan. It is assumed that a lower ratio of parkland per resident would increase park deterioration. The existing and proposed park network is shown on Figure 3.15-1.

SUMMARY OF IMPACTS

While the City's standard requiring four acres of parks per thousand persons would be met, the standard requiring eight acres of parks and drainage basins per thousand persons would not be met. Overall, considering the improvement over existing conditions, the success at meeting the four acre standard, and that both standards would be met when considering only new residents, the impact is expected to be less than significant.

Because the ratio of parkland per capita will improve when compared to existing conditions, the rate of park deterioration would be reduced. However, because development during Phase 1 (see Chapter 2: Project Description for definition) includes substantial infill development, phasing of parkland and residential growth may have interim impacts on existing parkland. Considering the overall increase in parkland throughout Lodi, this impact is expected to be less than significant.

Overall, new parks and open spaces in the proposed General Plan have been distributed throughout the new growth areas and underserved areas to ensure convenient access for new and existing residents. Given the focus on increased accessibility to parks in the proposed General Plan, implementation of the proposed General Plan is expected to have a beneficial impact on park accessibility from residential neighborhoods.

IMPACTS AND MITIGATION MEASURES

Impact

3.15-1 Future development as a result of the proposed General Plan may result in failure to meet all of the City's park standard goals and increase the use of existing parks and recreation facilities, which would accelerate physical deterioration. (*Less than Significant)*

The proposed General Plan defines an overall park standard of eight acres of parks and drainage basins per thousand residents. At least four acres of this open space should be designated for parks only (that is, excluding drainage basins). This standard ensures a high level of park facilities and services for new residents and enhances the park supply and ratio for existing users. In 2008, existing parks and open spaces resulted in a ratio of 5.8 acres per thousand residents or 3.6 acres per thousand excluding drainage basins).

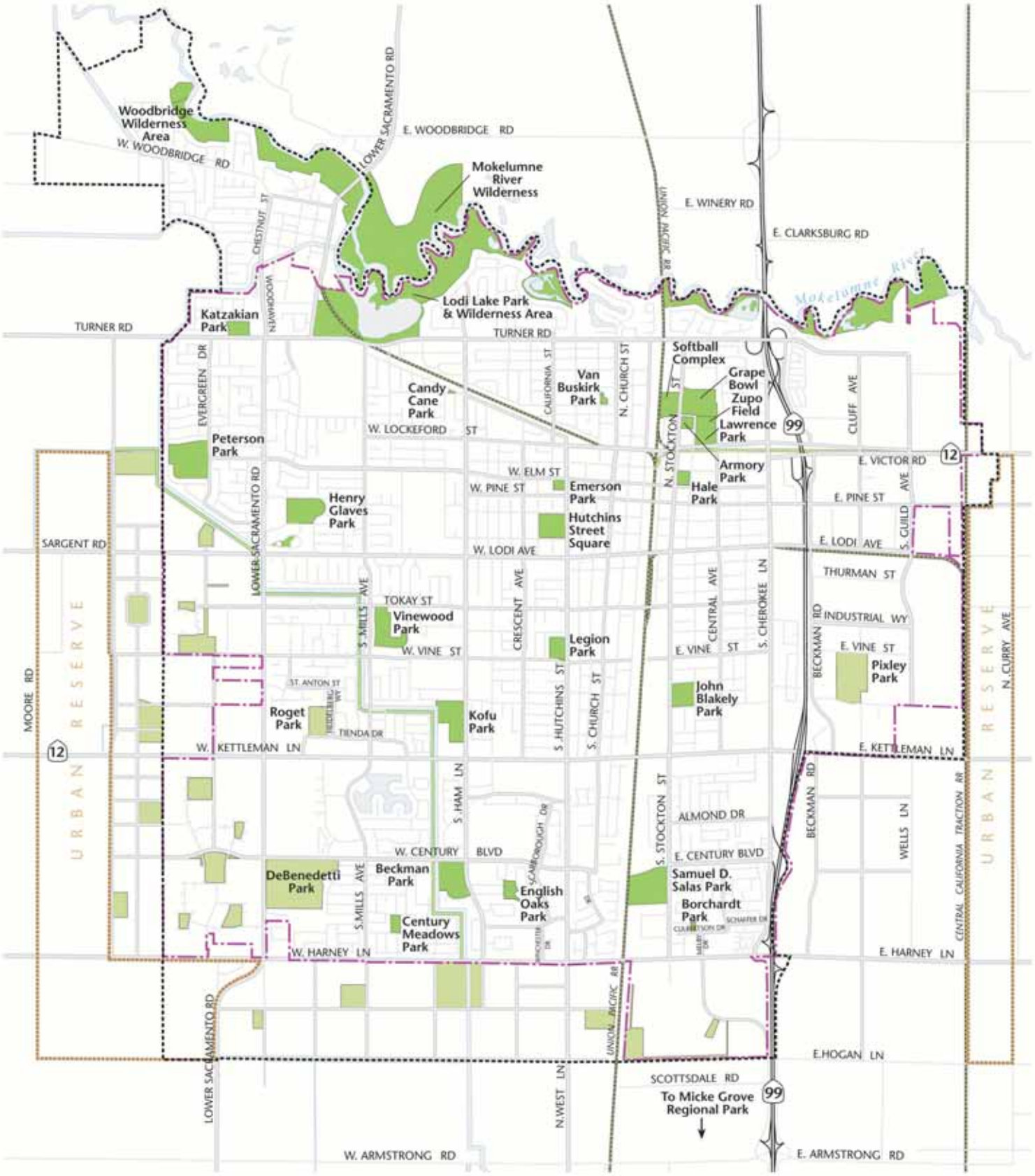
Parks and open spaces that result from approved development projects and the General Plan improve these ratios substantially. Parks included as part of the proposed General plan include a trail along the Woodbridge Irrigation District canal right-of way to provide a path for walking, jogging, and biking (not included in the acreage totals); mid-sized neighborhood parks (8-15 acres each) distributed throughout the new growth areas in the western and southern portion of the city; and two large parks located at each end of the proposed trail, providing a key connection for these amenities. Of the 210 acres of parks and open space proposed in the General Plan, approximately 38% of the new open spaces are proposed to serve as drainage basins only. The proposed General Plan assumes that 12% of the Urban Reserve area will be developed as parkland. To achieve this target, Plan policies that define park provision standards and require master planned residential communities to dedicate parkland consistent with these standards.

Table 3.15-7: Summary of General Plan Park Acreage and Ratios

		Acres		*Acres per Thousand Residents*	
	Population	*Parks Only*	*Parks and Drainage Basins*	*Parks Only*	*Parks and Drainage Basins*
Existing + Planned	63,362	226	366	3.6	5.8
Approved Developments	9,700	36	72	3.7	7.5
Proposed General Plan	26,400	136	210	5.2	8.0
Total	**99,500**	**397**	**648**	**4.0**	**6.5**

Note: Total population does not sum exactly due to rounding.

Source: Dyett & Bhatia, 2009; Department of Finance, 2008.



Existing Parks/Open Space/Recreation

Proposed/Planned Parks/Open Space/Recreation

Proposed Bike/Pedestrian Trail

Urban Reserve

Sphere of Influence (2008)

City Limits (2008)

Figure 3.15-1

Parks, Recreation Facilities, and Open Space

As shown in Table 3.15-7, the proposed General Plan provides an additional 210 acres of parkland for the additional population of 26,400 residents, representing a ratio of 5.2 acres of parks and 8.0 acres of parks and drainage basins per thousand residents. Accounting for existing, planned, and proposed General Plan designated open spaces, Lodi's projected 99,500 residents would be served by a total of 648 acres of open space under the General Plan. This would provide 6.5 acres per thousand residents (or a ratio of 4.0, excluding drainage basins), slightly higher than the ratio currently provided. While the standard requiring four acres of parks per thousand persons would be met, the standard requiring eight acres of parks and drainage basins per thousand persons would not be met.

Because the ratio of parkland per thousand persons will improve when compared to existing conditions, it is expected that the average rate of deterioration of parks would be reduced. However, because development during Phase 1 includes significant infill, phasing of parkland development and residential growth may have interim impacts on existing parkland. Overall, considering the overall increase in parkland throughout Lodi, the success at meeting the four acre standard, and that the ratio for new residents would meet the standard, the impact is expected to be less than significant.

Proposed General Plan Policies that Reduce the Impact

P-G1 Provide and maintain park and recreation facilities for the entire community.

P-G3 Improve connectivity between parks and recreation facilities.

P-G4 Expand non-vehicular paths and trails and bikeways.

P-P1 Acquire and develop additional neighborhood and community parks to serve existing and future needs.

P-P2 Provide open space to meet recreation and storm drainage needs, at a ratio of eight acres of open space per 1,000 new residents. At least four acres must be constructed for park and recreation uses only. Drainage basins should be constructed as distinct facilities, as opposed to dual-functioning park and drainage basin facilities.

P-P5 Update the City's Open Space and Recreation Master Plan, as necessary to:

- Arrange a distribution of open spaces across all neighborhoods in the city;
- Ensure that parks are visible and accessible from the street, to the surrounding neighborhood and citywide users; and
- Provide a variety of open spaces and facilities to serve the needs of the community, ensuring a balance between indoor and outdoor organized sports and other recreation needs, including passive and leisure activities.

P-P7 Work with developers of proposed development projects to provide parks and trails, as well as linkages to existing parks and trails.

P-P8 Coordinate with the Woodbridge Irrigation District to develop a recreation trail for walking, jogging, and biking along the canal right-of-way, as shown in Figure 6-1 [of the proposed General Plan].

P-P16 Ensure safety of users and security of facilities through lighting, signage, fencing, and landscaping, as appropriate and feasible.

P-P19 Require master planned residential communities to dedicate parkland consistent with General Plan standards. In-lieu fees will only be acceptable where an exemption from providing a neighborhood park facility would not adversely affect local residents because an existing park is nearby.

P-P20 Address park dedication and new development impact fees as part of the Zoning Ordinance and Subdivision Regulations Update, to ensure compliance with the General Plan park and open space standard.

Mitigation Measures

None required.

Impact

3.15-2 Implementation of the proposed General Plan would result in increased accessibility of parks and recreation facilities from residential neighborhoods. *(Beneficial)*

Lodi has a thorough network of parks, which are fairly well distributed around the city. However, a substantial area of southwest Lodi currently lacks open space. The proposed General Plan includes two new parks in this area, as shown in Figure 3.15-1.

Overall, new parks and open spaces in the proposed General Plan have been distributed throughout the new growth areas to ensure convenient access for new and existing residents, as shown in Figure 3.15-1. Each mixed-use center designated on the Land Use Diagram of the proposed General Plan has a park located adjacent to it. In addition, each new school proposed in the new growth areas contains an adjacent park. As a result, students, residents, workers, and visitors have convenient access to City parks from schools, residences, work, and shopping areas. Moreover, this co-location encourages use at different times of day.

Given the focus on increased accessibility to parks in the proposed General Plan, implementation of the proposed General Plan is expected to have a beneficial impact on park accessibility from residential neighborhoods.

Proposed General Plan Policies that Contribute to the Beneficial Impact

P-G3 Improve connectivity between parks and recreation facilities.

P-P1 Acquire and develop additional neighborhood and community parks to serve existing and future needs.

P-P3 Pursue the development of park and recreation facilities within a quarter-mile walking distance of all residences.

P-P5 Update the City's Open Space and Recreation Master Plan, as necessary to:

- Arrange a distribution of open spaces across all neighborhoods in the city;

- Ensure that parks are visible and accessible from the street, to the surrounding neighborhood and citywide users; and

- Provide a variety of open spaces and facilities to serve the needs of the community, ensuring a balance between indoor and outdoor organized sports and other recreation needs, including passive and leisure activities.

P-P7 Work with developers of proposed development projects to provide parks and trails, as well as linkages to existing parks and trails.

P-P19 Require master planned residential communities to dedicate parkland consistent with General Plan standards. In-lieu fees will only be acceptable where an exemption from providing a neighborhood park facility would not adversely affect local residents because an existing park is nearby.

P-P20 Address park dedication and new development impact fees as part of the Zoning Ordinance and Subdivision Regulations Update, to ensure compliance with the General Plan park and open space standard.

Mitigation Measures

None required.

3.16 Visual Resources

This section presents the environmental setting and impact analysis for visual resources in Lodi, including existing views and streetscape aesthetics.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Lodi is a distinctive Central Valley community located along the Mokelumne River, adjacent to the Sacramento Delta. Lodi has a compact form, with visible history and a human scale. The urban form is further defined by the contrast to the surrounding agricultural land, which complements the urban form and provides a special identity as well as a visual and functional definition to the city's outer edge. Rural and agricultural lands surrounding Lodi are an important scenic resource.

The agricultural edge adds definition to Lodi's urban form.

City Structure

The typology of the neighborhoods emanating from downtown reflect their development era, with a close knit grid of streets at the core giving way to large-spaced arterials and introverted, newer neighborhoods at the edge. Over time, block lengths have increased, street trees became increasingly rare, and cul-de-sacs and t-intersections began to limit connectivity at the edges of the city. Most recently some residential developments have returned to providing street trees and greater street connectivity.

In general, neighborhoods are fairly homogeneous in their nature, rarely exhibiting a mix of land uses, parcel sizes, or street types. The only non-residential parts of Lodi that are notable in size and profile are the downtown commercial district and the industrial Eastside, which are singular areas unlike the rest of the city.

Downtown

Downtown Lodi is located near the center of the city, roughly contained by Lockeford Street, Pleasant Avenue, the railroad, and Lodi Avenue. Downtown offers small scale retail in a vibrant pedestrian-oriented setting. The streetscape, well-articulated buildings, and active use of the street

through outdoor dining and open air markets all contribute to the creation of a distinct and vibrant atmosphere. Overall, existing development patterns and street design are effective and aesthetically pleasing.

Downtown Lodi is pedestrian friendly, active, and reflects local history.

Neighborhoods

Lodi's neighborhoods are largely internally consistent in their architecture and site design. Residential land in Lodi is generally single-family detached housing, developed at a density of less than eight units per acre. The main exception to this pattern is found in the older, gridded sections of Lodi—particularly the Eastside—where smaller parcels result in a slightly higher density and a greater mix of uses.

Corridors

Lodi's corridors establish connections within the city, define its neighborhoods, and host most of the city's large-scale commercial uses. Corridors are generally four-lane automobile-oriented arterials, often divided by a median, which is in some cases landscaped. Frequent curb cuts, inconsistent setback distances, large building bulk, and large parking lots located between the street and buildings create a jarring visual break from the small scale and vegetated nature of Lodi's residential neighborhoods. Key corridors include Kettleman Lane, Cherokee Lane, Lodi Avenue, Century Boulevard, Lower Sacramento Road, Harney Lane, and Central Avenue.

Streetscape

Street design, landscaping, and traffic calming contribute to neighborhood identity, ensure safety, promote social interaction, and enable pedestrian and bicyclist activity. Trees provide multiple benefits such as shade, providing a sense of privacy, allowing contact with nature, adding character and reducing noise. As noted above, neighborhoods located nearest the city center have the most street trees. Landscaping, provision of pedestrian amenities such as appropriately scaled lighting and benches, and buildings that line the street with active uses all contribute to the comfort of a street.

Old Lodi streets are generally very walkable and tree-lined (left). However, some areas of Lodi lack street trees, making a less desirable pedestrian environment, particularly on wide streets such as Lodi Avenue (right).

Views

The relatively flat topography of Lodi means that, in general, views consist mainly of adjacent development or adjacent farmland, orchards, vineyards, or fields, depending on where the viewer is located. Cul-de-sacs and t-intersections limit view corridors at the urban edge and restrict views to the Mokelumne River. At the city edges, some distant views are available, though they are limited. To the southwest, Mount Diablo and surrounding hills are visible in the distance. To the east the Sierra Nevada foothills are visible, though indistinct. Other views to the north and south are generally of flat agricultural lands.

A view to Mout Diablo is visible to the southwest (left) and an indistinct view to the Sierra Nevada foothills is visible to the east (right).

Views to the south from Kettleman Lane east of SR-99 (left) and north from Lodi Avenue west of Lower Sacramento Road (right) reflect the flat topography and the rural and agricultural surroundings.

The view from downtown toward the Eastside (left) illustrates the limited views from within the city and reflects the flat topography. Views to the agricultural edge from within residential neighborhoods at the edge of the city are often limited by curvilinear streets, t-intersections, and cul-de-sacs (right).

REGULATORY SETTING

Street level aesthetics and character are regulated by the City of Lodi. In addition to the General Plan and the Zoning Ordinance, urban design in Lodi is guided by the Downtown Development Standards and Guidelines, developed in 1997 and the Eastside Mobility and Access Plan, developed in 2006. The Downtown Development Standards and Guidelines were established to ensure high quality building and street design in downtown Lodi. The Eastside Mobility and Access Plan emphasizes improving safety, access, and comfort for pedestrians, cyclists, transit uses and motorists between downtown and the Eastside neighborhood, focusing on Sacramento Street, Lodi Avenue and Central Avenue corridors. The Guidelines and Access Plan are consistent with the proposed General Plan.

There are no designated or eligible scenic highways in Lodi. Interstate 580 is the only designated State Scenic Highway within San Joaquin County, which is not visible from the Planning Area.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed General Plan would have a significant adverse effect on visual resources if it would cause one of more of the following:

- A substantial adverse effect on a scenic vista, which could be caused by blocking panoramic views or views of significant landscape features or landforms as seen from public viewing areas;
- A substantial adverse change to urban visual character or quality of the study area and its surroundings; or
- A new source of substantial light or glare which would adversely affect day or nighttime views in the area.

METHODOLOGY & ASSUMPTIONS

To evaluate potential impacts on visual resources, this analysis considered existing views and streetscape aesthetics, and the relative impacts on each of these resources from proposed development in the General Plan. The aesthetic and visual characteristics of the city are qualitatively evaluated.

SUMMARY OF IMPACTS

Impacts on scenic vistas are expected to be less than significant given that views to the agricultural edge will improve in some cases through the expansion of the street grid, and that while some views may be obstructed by new buildings, new views are expected to compensate for any lost views.

Buildout of the General Plan would slightly increase the overall density of Lodi, promote infill development, strategically extend the urban edge, introduce a greater mix of uses, revitalize commercial corridors, and create walkable neighborhoods, all of which would have physical impacts on the scale and character of the City. The General Plan would create a more unified, pedestrian-friendly, and aesthetically pleasing streetscape. Growth in rural and agricultural areas would cause a change in visual character, though the agricultural edge would be maintained. It is expected that the proposed General Plan will have a beneficial impact on the visual character in many parts of Lodi, and that any adverse impacts on visual character would be less than significant.

New development under the proposed General Plan is not expected to create new sources of light or glare that could substantially affect day or nighttime views in the area. This impact is expected to be less than significant.

IMPACTS AND MITIGATION MEASURES

Impact

3.16-1 Future proposed development in Lodi has the potential to affect scenic vistas within the Planning Area. *(Less than Significant)*

As noted in the settings section, the relatively flat topography results in few scenic vistas; views consist mainly of adjacent development or adjacent farmland, orchards, vineyards, or fields. In general, views to surrounding agricultural areas exist primarily at the urban edge. Cul-de-sacs and t-intersections restrict views to the Mokelumne River and agricultural areas. Distant views to Mount Diablo exist to the southwest, and even more distant and indistinct views to the Sierra Nevada foothills exist to the east.

Overall, public views would not be significantly altered or blocked. Although views may be obstructed in localized areas due to proposed new development, views would not be impacted on an area-wide basis. Proposed new development may limit some existing views, though it is expected that overall, new views will compensate for any lost views.

Street connectivity required in the proposed General Plan, as well as limitations on cul-de-sacs and soundwalls, will result in longer views along roadways and fewer disruptions to views, ensuring that views to agricultural lands are maintained. In places where the street grid is extended, visual connections will be enhanced.

Proposed General Plan Policies that Reduce the Impact

CD-P20 Require all subdivisions in new growth areas to prepare a street plan demonstrating maximum connection to existing streets, specifically incorporating streets shown in Figure 4-5 [of the proposed General Plan] and intermediate street connections. Ensure that new development on the west side enables expansion of the street grid for future growth, beyond this General Plan horizon.

CD-P21 Prohibit gated development, and avoid cul-de-sacs. Where cul-de-sacs are provided, require pedestrian and bicycle connection at the terminus of the cul-de-sac to adjacent street.

CD-P23 Encourage alternatives to soundwalls and permit new soundwalls only where alternatives are not feasible, such as along Highway 99 and the railroad tracks.

Mitigation Measures

None required.

Impact

3.16-2 New development and redevelopment activities have the potential to change Lodi's visual character, particularly where incompatibilities with existing development in scale and/or character may exist. *(Less than Significant)*

Buildout of the General Plan would slightly increase the overall density of Lodi, promote infill development, strategically extend the urban edge, introduce a greater mix of uses, revitalize

commercial corridors, and create walkable neighborhoods, all of which would have physical impacts on the scale and character of the City.

Development under the proposed General Plan has the potential to make beneficial changes to the visual character of Lodi's existing urban areas, particularly in maintaining and enhancing the downtown, revitalizing corridors, and requiring high quality new development and streetscaping. Streetscape improvements would activate key corridors and new mixed-use centers, foster pedestrian comfort, and emphasize neighborhood character. The addition of pedestrian and bicycle connections, public spaces, and mid-block pedestrian routes would contribute to the visual character of the public realm. The proposed General Plan also requires that infill development is compatible with the scale, character and identity of adjacent development and seeks to preserve historic resources, ensuring that the existing character of key sites and areas will not be significantly altered.

Rural and agricultural lands surrounding Lodi are an important scenic resource that visually define and enhance the city. While rural and agricultural uses to the south and west of the city would be replaced with urban uses including residential, commercial, and mixed-use development, Lodi's urban area will continue to be defined by an agricultural edge. The maintenance of agricultural lands surrounding Lodi would be ensured though measures such as the establishment of the Armstrong Road Agricultural/Cluster Study Area as a community separator or greenbelt, promoting infill development, and requiring new growth to be contiguous with existing development. While the character of new growth areas would change significantly, the proposed General Plan would ensure that development in new growth areas is high quality and consistent with Lodi's existing character. High quality visual character would be ensured by requiring that new development includes a well connected street network, street trees, other streetscape improvements, and architectural variation.

The proposed General Plan contains several policies that would specifically improve the visual character throughout the city and that are designed to minimize any negative impacts on visual character. While the proposed General Plan would have a beneficial impact in some areas, it is expected that any adverse impacts on visual character would be less than significant.

Proposed General Plan Policies that Reduce the Impact

Policies marked "NEW" emerged during the environmental analysis as additional mitigations that will serve to reduce potential impacts. These policies will be added to the proposed General Plan as policies following review and certification of the EIR. Likewise, policies marked "EDIT" have been proposed for modification to further mitigate potential impacts and will also be integrated into the adopted General Plan.

Community Design and Livability Element Policies

CD-G1 Enhance Lodi's identity and livability by maintaining a compact urban form, with clear edges and delineation between urban and rural uses.

CD-G3 Respect and maintain Lodi's small-town character, its existing neighborhoods, the historic downtown, and historic buildings.

CD-G6 Foster redevelopment of key corridors as vital spines, with nodes of mixed-use, higher intensity, pedestrian- and bicycle-friendly development.

CD-G7 Promote a mix of uses, densities, and building typologies in new development.

CD-P2 Ensure that Zoning and Subdivision ordinances include measures that guide infill development to be compatible with the scale, character and identity of adjacent development.

CD-P3 Ensure that the Zoning Ordinance includes measures to promote fine-grain development along retail and mixed-use streets, using horizontal and vertical building articulation that engages pedestrians and breaks up building mass.

CD-P4 Ensure that the Zoning Ordinance includes measures to promote durable and high quality building materials and high standards of construction for longevity and reduced maintenance costs over time, especially for buildings in high-pedestrian activity areas, such as downtown, along Mixed Use Corridors, and in Mixed Use Centers.

CD-P5 Configure parking areas to balance a vital pedestrian environment with automobile convenience. Parking areas should be:

- Located in locations less visible from the sidewalk—behind buildings and away from the street edge, especially along Mixed Use Corridors and Centers, and principal downtown streets. Where a lot faces two streets, parking lots should be accessible by side road.
- Sized and located to take advantage of shared parking opportunities.
- Accommodating to pedestrians and bicycle traffic with pedestrian-only pathways through parking areas.
- Landscaped to achieve fifty percent (50%) shade coverage at tree maturity. Architectural elements such as trellises and awnings may also contribute to shade coverage.
- Buffered from adjacent uses and pedestrians through the use of low walls and hedges.

CD-P6 Update downtown regulations in the Zoning Ordinance:

- Establish a Downtown District to encompass the area shown as Downtown Mixed Use in the Land Use Diagram (Chapter 2, Figure 2-1 [of the proposed General Plan].
- Require active uses—such as retail, eating and drinking establishments—at the ground level for the area shown in Figure 4-5[of the proposed General Plan].
- Update allowable uses to permit residential uses on upper levels on all streets in downtown.

CD-P7 Extend downtown streetscape treatment to embrace the entire area where ground-level retail is required, especially streetscape treatment for streets east of

the railroad in the Downtown Mixed Use district. The elements should be consistent with the existing downtown streetscape, but should identify the eastern section as a unique area within downtown.

CD-P8 Require active uses or pedestrian oriented design in alleyways located in the downtown area to establish retail and pedestrian connections, particularly where alleyways connect retail streets (such as between School Street and Sacramento Street) or retail to parking (such as between School Street and Church Street).

Other pedestrian oriented design may include pedestrian only walkways, high quality paving, landscaping, lighting, seating, or other similar features.

CD-P10 Incentivize rehabilitation and adaptive reuse of buildings, especially east of the railroad, particularly on Main and Stockton streets in the Downtown Mixed Use district, through development review, permitting and fee processes.

CD-P11 Establish development standards in the Zoning Ordinance for Mixed Use Corridors that create a pedestrian-scaled environment:

- Require a minimum percentage of the frontage of sites along Lodi and Central avenues to be devoted to active uses. Ensure that depth and height of the provided space is adequate to accommodate a variety of tenants and provide flexibility for the future.
- Maintain a consistent building base/streetwall along majority of site frontage along all Mixed Use Corridors except Kettleman and Cherokee lanes, with minimum height ranging from 15 to 25 feet, depending on the scale and character of the corridor, with taller streetwall along wider corridors.
- Along Sacramento Street, and Lodi and Central avenues, require new development to be built to the street edge, with parking located in the rear.
- Require buildings to be finely articulated and visually engaging.
- For properties located at key intersections—in particular the intersections of Lodi Avenue and Central Avenue, Lodi Avenue and School Street, and Lodi Avenue and Sacramento Street—require appropriate design features, including: buildings that punctuate the corner with design elements and/or projects that provide additional public or pedestrian amenities (such as the inclusion of plazas).

CD-P12 Provide incentives, through the development review, permitting and fee processes, to redevelop underutilized commercial properties located within the Mixed Use Corridors.

CD-P15 Improve or maintain streetscapes, along Mixed Use Corridors. Streetscape improvements could be implemented through a city streetscape program. Amenities may include:

- Street trees

- Wide sidewalks
- Special paving
- Street lighting
- Seating
- Info kiosks, particularly in the downtown area
- Open bus stop shelters
- Bicycle racks

CD-P16 Provide continuous street trees along the curb, between the vehicle roadway and the sidewalk, unless this is physically impossible due to constraints such as underground utility lines. Minimize curb cuts to emphasize continuous unbroken curb lengths.

CD-P17 Develop a wayfinding and signage scheme along the city's major corridors and streets that utilizes public art and street elements, such as banners and light fixtures. The scheme should reinforce the City's identity and linkages to downtown. Include Kettleman Lane, Lodi Avenue, Cherokee Lane, Sacramento Street, Central Avenue, and Stockton Street in the wayfinding scheme.

CD-P18 Require active uses at the ground floor on Lodi and Central avenues within their Mixed Use Corridor designations, as noted shown in Figures 4-8 and 4-9 [of the proposed General Plan], respectively.

CD-P19 Develop requirements for street trees in all new growth areas that maximize shade to minimize urban heat island impacts.

CD-P24 Create smooth transitions between neighborhoods and across the railroad with pedestrian paths and/or uniform streetscape design.

CD-P26 Increase public art throughout Lodi. Encourage the placement of art in locations that are interactive and accessible to the public. Develop a funding strategy to ensure adequate support of arts and cultural programs.

CD-P28 Require new development to connect with nearby uses and neighborhoods; include paths to connect to the rest of the city; exhibit architectural variety and visual interest; conform to scale requirements; and relate housing to public streets.

CD-P29 Minimize the visual impact of automobiles in residential areas. Methods include reducing garage frontage, minimizing curb cuts, setting garages and parking areas back from houses, locating garages at rear or along alleyways, and providing narrow roads.

CD-P30 Require all development at sites designated Mixed Use Center to provide a mix of commercial uses, while allowing residential uses, to create a "node," typically centered around a plaza, or "a main street," with a minimum of 50,000 square feet

of retail, and eating and drinking establishments, in a form to create pedestrian vitality in the core area. Allow a range of other supportive commercial uses, such as medical, dental, and real-estate offices, as well as community facilities.

CD-P31 Require each core to have at least one plaza or other satisfactory gathering space along the main street that enables gathering and promotes a sense of neighborhood identity.

CD-P32 Integrate new Mixed Use Centers into the city's existing fabric and proposed new development. Provide a network of streets and connections that expands circulation opportunities for pedestrians and bicyclists and ensures connections by multiple modes between the new centers, and existing neighborhoods.

CD-P34 Require that any office uses in Mixed Use Centers front along the street edge with minimal setbacks; locate parking in the rear or underground; provide plazas and other open space amenities for employees; provide street landscaping; and provide pedestrian connections where appropriate.

Growth Management and Infrastructure Element Policies

GM-G1 Ensure contiguous, paced, and orderly growth by identifying phases for development. Allow development in subsequent phases only once thresholds of reasonable development in prior phases have been achieved.

GM-P1 Define Lodi's southern boundary and establish limits on development to the south through the establishment the Armstrong Road Agricultural/Cluster Study Area as a greenbelt and/or community separator. Cooperate with San Joaquin County and the San Joaquin County Local Agency Formation Commission and property owners to ensure maintenance of this area as a separator from the City of Stockton.

GM-P2EDIT Target new growth into identified areas, extending south, west, and southeast. Ensure contiguous development by requiring development to conform to phasing described in Figure 3-1 [of the General Plan].

Enforce phasing through permitting and infrastructure provision. Enforce phasing through permitting and infrastructure provision. Development may not extend to Phase 2 until Phase 1 has reached 75% of development potential, and development may not extend to Phase 3 until Phase 2 has reached 75% of development potential. <u>In order to respond to market changes in the demand for various land use types, exemptions may be made to allow for development in future phases before these thresholds in the previous phase have been reached.</u>

Conservation Element Policies

C-P20 Encourage the preservation, maintenance, and adaptive reuse of existing historic buildings by developing incentives for owners of historically-significant buildings to improve their properties.

C-P23 Conduct a comprehensive survey of historic resources in Lodi, including consideration of potentially eligible historic resources. Update Figure 7-3 [of the proposed General Plan] upon completion of the survey.

Designate a structure as historic if it:

- Exemplifies or reflects special elements of the city's cultural, architectural, aesthetic, social, economic, political, artistic, and/or engineering heritage;
- Is identified with persons, businesses, or events significant to local, State, or National history;
- Embodies distinctive characteristics of style, type, period, or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;
- Represents the notable work of a builder, designer, engineer, or architect; and/or
- Is unique in location or has a singular physical characteristic that represents a familiar visual feature of a neighborhood, community, or the city.

Designate a district as historic if it:

- Is a geographically definable area possessing a concentration or continuity of sites, buildings, structures, or objects as unified by past events or aesthetically by plan or physical development; or
- Identifies relevant key neighborhoods either as historic districts or merit districts. Designate accordingly if 50% of property owners in the proposed district agree to the designation.
- An "Historic District" means any area containing a concentration of improvements that has a special character, architectural importance, historical interest, or aesthetic value, which possesses integrity of location, design, setting, materials, workmanship, feeling, and association or which represents one or more architectural periods or styles typical to the history of Lodi.
- A "Merit District" recognizes a district's history but does not provide for a regulatory structure at this time. The structures of these districts may not be architecturally significant, but the role that these neighborhoods have played in the city's development, the cultural and economic conditions that resulted in the construction of these neighborhoods and the stories surrounding them make them an important part of the city's history for which they should be acknowledged and celebrated.

C-P24 Follow preservation standards outlined in the current Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, for structures

listed on the National Register of Historic Places or California Register of Historical Resources.

Mitigation Measures

None required.

Impact

3.16-3 Development under the proposed General Plan has the potential to adversely affect visual resources in the short-term during periods of construction by blocking or disrupting views. *(Less than Significant)*

Short-term visual impacts resulting from development may include blockage or disruption of views by construction equipment and scaffolding, removal of vegetation, temporary route changes for transportation improvements, exposed excavation, and construction staging areas. Short-term visual impacts are less than significant because they are temporary in nature. In addition, policies that would reduce the impact for Impacts 3.16-1 and 3.16-2 would also ensure long-term significant adverse impacts from new development would not occur.

Mitigation Measures

None required.

Impact

3.16-4 Development under the proposed General Plan has the potential to create new sources of light or glare which would adversely affect day or nighttime views in the area. *(Less than Significant)*

As in most typical residential areas, homes emit some light and glare during the day and evening hours. Development under the proposed General Plan would include indoor lighting and outdoor lighting for safety purposes, which could be visible from a distance at night. Implementation of proposed General Plan policy CD-P33 will ensure that light and glare created by new development is minimized to a less-than-significant level.

Proposed General Plan Policies that Reduce the Impact

CD-P33 In order to use less energy and reduce light pollution, ensure that lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent artificial lighting from illuminating adjacent residential neighborhoods and/or natural areas at a level greater than one foot candle above ambient conditions.

Mitigation Measures

None required.

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4 Analysis of Alternatives

CEQA mandates consideration and analysis of a reasonable range of alternatives to the proposed General Plan. According to CEQA Guidelines, the range of alternatives "shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant impacts" (Section 15126.6(c)). The alternatives may result in new impacts that do not result from the proposed General Plan.

Case law suggests that the discussion of alternatives need not be exhaustive and that alternatives be subject to a construction of reasonableness. The impacts of the alternatives may be discussed "in less detail than the significant effects of the project proposed" (CEQA Guidelines Section 15126.6(d)). Also, the Guidelines permit analysis of alternatives at a less detailed level for general plans and other program EIRs, compared to project EIRs. The Guidelines do not specify what would be an adequate level of detail. Quantified information on the alternatives is presented where available; however, in some cases only partial quantification can be provided because of data or analytical limitations.

4.1 SUMMARY OF ALTERANTIVES REVIEWED

The alternatives considered in this analysis originated in the Sketch Plan Workbook, the second key step in the General Plan update process for Lodi following documentation of existing conditions, opportunities and challenges. They presented alternative approaches to accommodating continued population and employment growth in Lodi, while protecting the quality of life and character of its existing neighborhoods, shopping areas, and Downtown, and meeting conservation goals. They formed the early foundation for what became, with community input, the Preferred Plan concept and the proposed General Plan. The Sketch Plans were published and distributed through the project website; presented for feedback at an open house on May 10, 2008 and to over 20 community and business groups during the summer of 2008; and finally, reviewed by the Planning Commission and the City Council.

ALTERNATIVES INITIALLY CONSIDERED

The sketch plans were created to illustrate ideas for the city's future in the form of three schematic land use alternatives. Basic distinctions between the three plans included: the overall amount of growth and balance between various uses, the geographic strategy for this growth, and the variation in density and intensity of growth. The sketch plans shared several common characteristics including an adherence to a compact urban form, preservation of existing neighborhoods, the Agricultural/Cluster Study Area along the southern boundary of the city, and enhanced street connectivity for vehicles, pedestrians, and bicyclists.

ALTERNATIVES NOT CARRIED FORWARD IN THIS ANALYSIS

One land use alternative studied was ultimately not carried forward in this EIR alternatives analysis due to its close similarity to the proposed General Plan, in overall concept, land use distribution, and development potential.

4.2 ALTERNATIVES ANALYZED IN THIS EIR

The following alternatives to the proposed General Plan are evaluated in this EIR:

- No Project;
- Alternative A; and
- Alternative B.

Alternatives A and B are derived from Sketch Plans Workbook. The No Project Alternative represents expected development patterns if no General Plan update occurred and instead the existing 1991 General Plan were to remain in effect. Table 4.2-1 summarizes development potential under the proposed General Plan and each of the alternatives in terms of total housing units, population and jobs. Existing data are also shown for reference.

Table 4.2-1: Comparison of Key Characteristics, Existing, Alternatives and Proposed General Plan[1]

	Existing	*Alternative A*	*Alternative B*	*No Project*	*Proposed General Plan*
Housing Units	23,353	34,000	39,100	30,900	37,200
Households	22,185	32,300	37,145	29,355	35,340
Population	63,362	91,000	104,400	82,600	99,500
Employed Residents	32,000	46,000	52,700	41,700	50,300
Jobs	24,700	41,000	47,000	32,700	51,000
Jobs / Employed Residents Ratio[1]	0.8	0.9	0.9	0.8	1.0

1. Alternatives and General Plan values represent total development potential: existing + approved projects (not shown) + net new.

Source: Dyett & Bhatia, 2009.

NO PROJECT ALTERNATIVE

The No Project Alternative represents the continuation of land use development under the 1991 General Plan. In this scenario, new development results largely from the development of Planned Residential and Planned Residential Reserve areas, in the west and south, respectively. These areas are assumed to develop primarily for residential uses, at seven units per acre, and with a portion of land reserved for public uses, parks, and drainage basins. The No Project Alternative is illustrated in Figure 4.2-1.

The No Project Alternative could result in a total of 82,600 residents and 32,700 jobs, leading to a jobs/employed residents ratio of 0.8. This alternative produces the fewest number of housing units, new residents, and jobs compared with the other alternatives.

ALTERNATIVE A

Alternative A fills in growth up to the existing Sphere of Influence (SOI) boundary and extends the urban area south to Armstrong Road. The bulk of new growth would be contained in the mile-wide band between Harney Land and Armstrong Road, including the Planned Residential Reserve designation between Hogan Lane and Armstrong Road. In the southeast (south of

Kettleman Lane and east of SR-99), the alternative includes Business Park/Office uses, with commercial nodes around the Kettleman and Harney lane interchanges. Limited development is proposed through infill on vacant and underutilized sites in Downtown and along Cherokee Lane. Figure 4.2-2 shows the land use pattern for this alternative.

This alternative includes similar assumptions compared with the proposed General Plan in terms of the density, intensity, and land use categories. As a result, Alternative A could result in a total of 91,000 residents and 41,000 jobs, leading to a jobs/employed residents ratio of 0.9. These numbers represent lower development potential compared with the proposed General Plan and Alternative B, but higher than the No Project Alternative.

ALTERNATIVE B

In Alternative B, new development is concentrated on the west side of the city, beyond the existing SOI. New neighborhoods on the west side of the city would contain a diverse range of amenities and uses, including neighborhood services, parks and schools. These neighborhoods would be focused around walkable centers containing retail, office, and higher density residential uses. A network of streets connects residential areas to these centers and to the existing street grid where feasible. Commercial and business uses would be located in the southeast, but in a smaller area than in Alternative A. A smaller portion of land is designated for urban and Rural Residential use between Harney and Hogan lanes. Finally, a small commercial node on Highway 12, adjacent to a site for a Lodi campus of San Joaquin Delta College, is also shown. Figure 4.2-3 shows the land use pattern for this scenario.

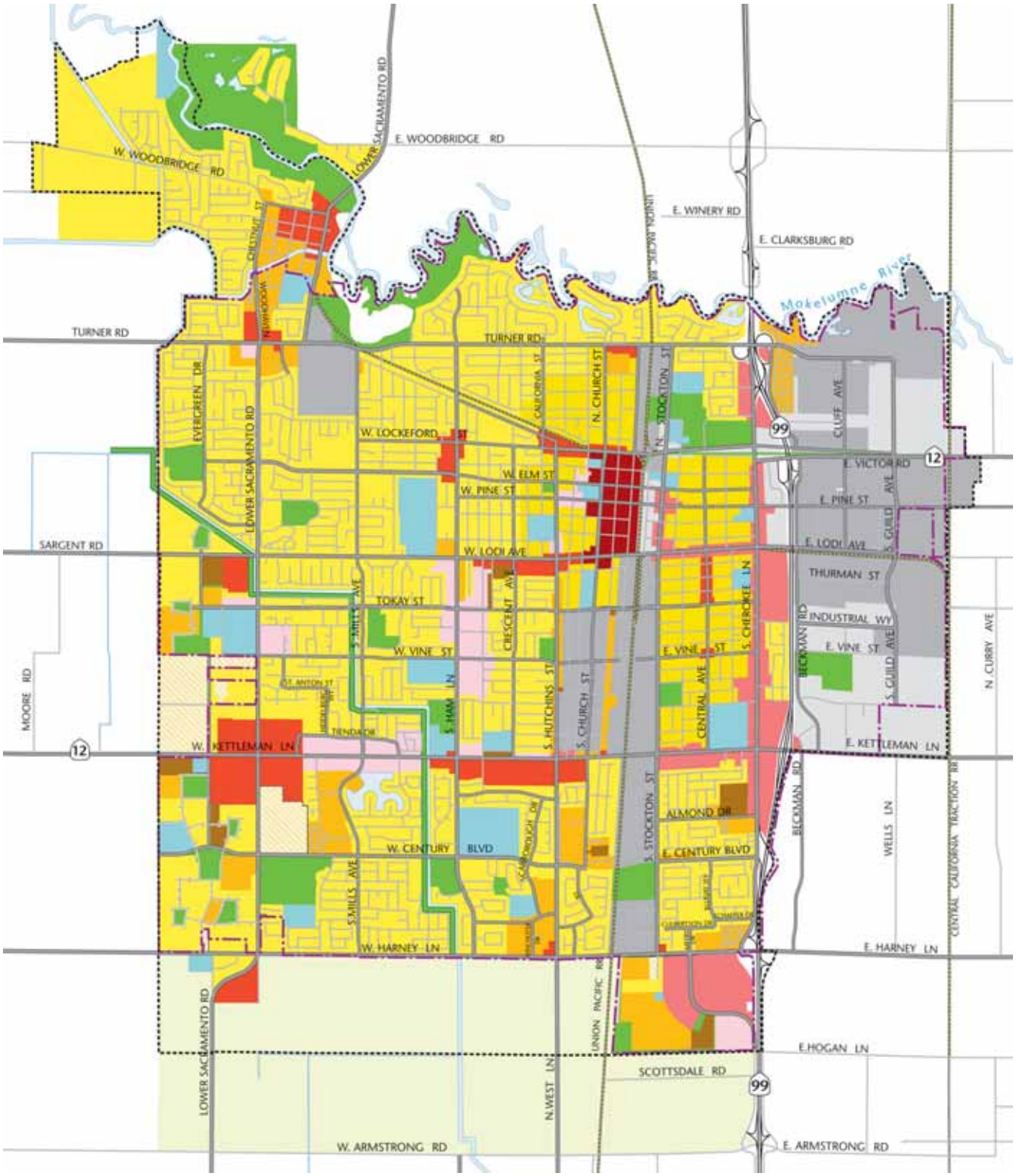
This alternative includes similar assumptions compared with the proposed General Plan in terms of the density, intensity, and land use categories. As a result, Alternative B could result in 104,400 residents and 47,000 jobs, leading to a jobs/employed residents ratio of 0.9. This alternative produces the largest increase population, but allows fewer jobs compared with the proposed General Plan.

4.3 COMPARATIVE IMPACT ANALYSIS

This comparative analysis of alternatives evaluates impacts in the same environmental issue areas analyzed in Chapter 3 for the proposed General Plan. Alternatives are compared to each other and the proposed project, with impacts assessed compared to baseline conditions using the same significance criteria used in Chapter 3. It is assumed that Alternatives A and B would generally include the same policies as those defined for the proposed General Plan, excluding site specific policies that would not apply because of differences in planned land use.

LAND USE AND HOUSING

Table 4.3-1 compares the development potential of residential and non-residential uses under each alternative and the proposed General Plan, over and above totals from existing and approved projects. The No Project Alternative results in the lowest growth alternative in terms of residential and non-residential development; Alternative B represents the highest growth alternative. None of the alternatives would divide an existing community or displace substantial numbers of existing housing or people. Each alternative affects agricultural or greenfield areas at different levels, because of varying development patterns. Loss of agricultural land is discussed in the Agricultural and Soil Resources section below.



- Low Density Residential
- Eastside Residential
- Medium Density Residential
- High Density Residential
- Planned Residential
- Planned Residential Reserve
- General Commercial
- Downtown Commercial
- Neighborhood Commercial
- Office
- Public/Quasi-Public
- Light Industrial
- Heavy Industrial
- Drainage Basin/Park Existing Development
- Sphere of Influence (2008)
- City Limits (2008)

40 acres
10 acres

0 1/2 1 2
MILES

Figure 4.2-1
No Project

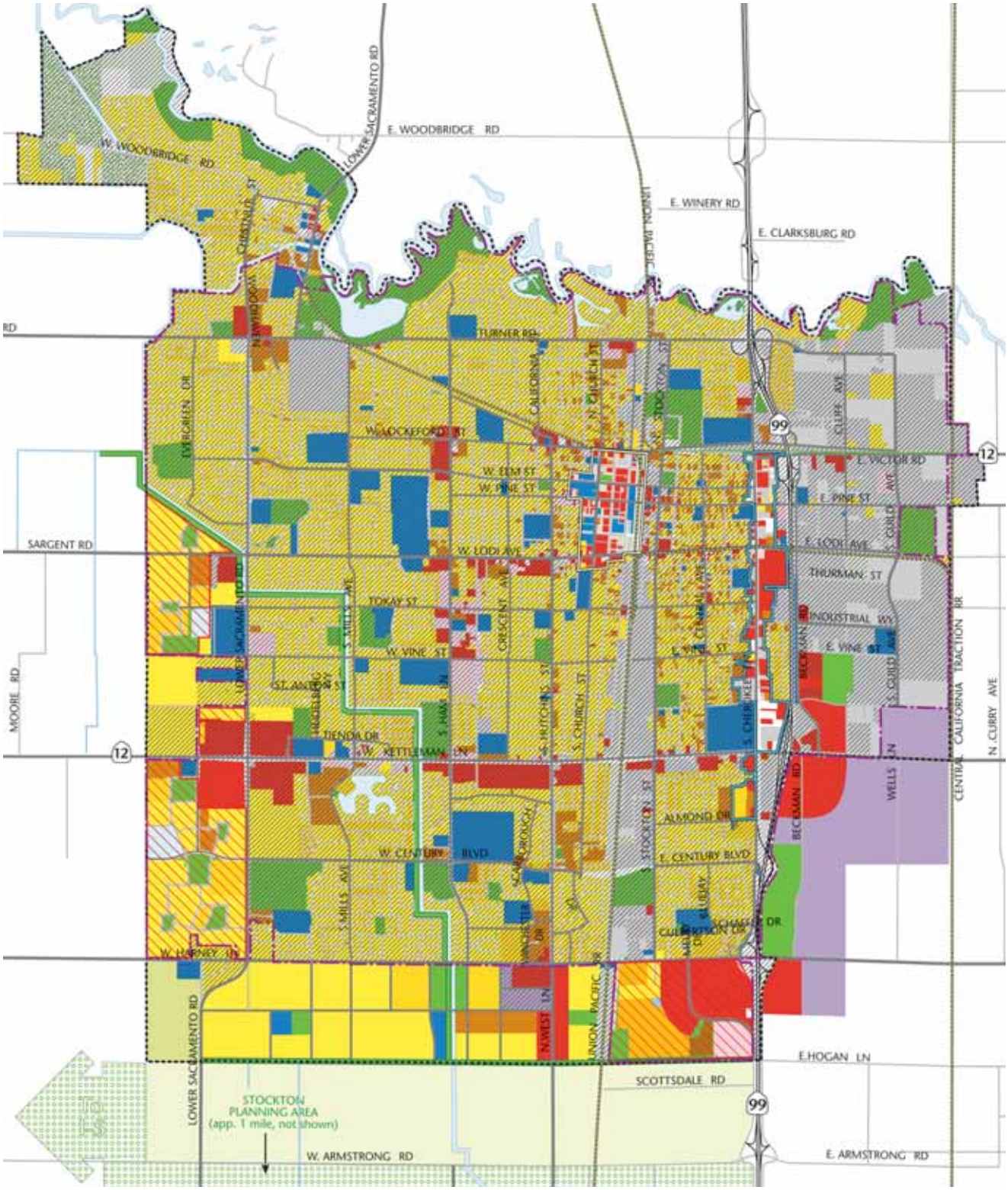
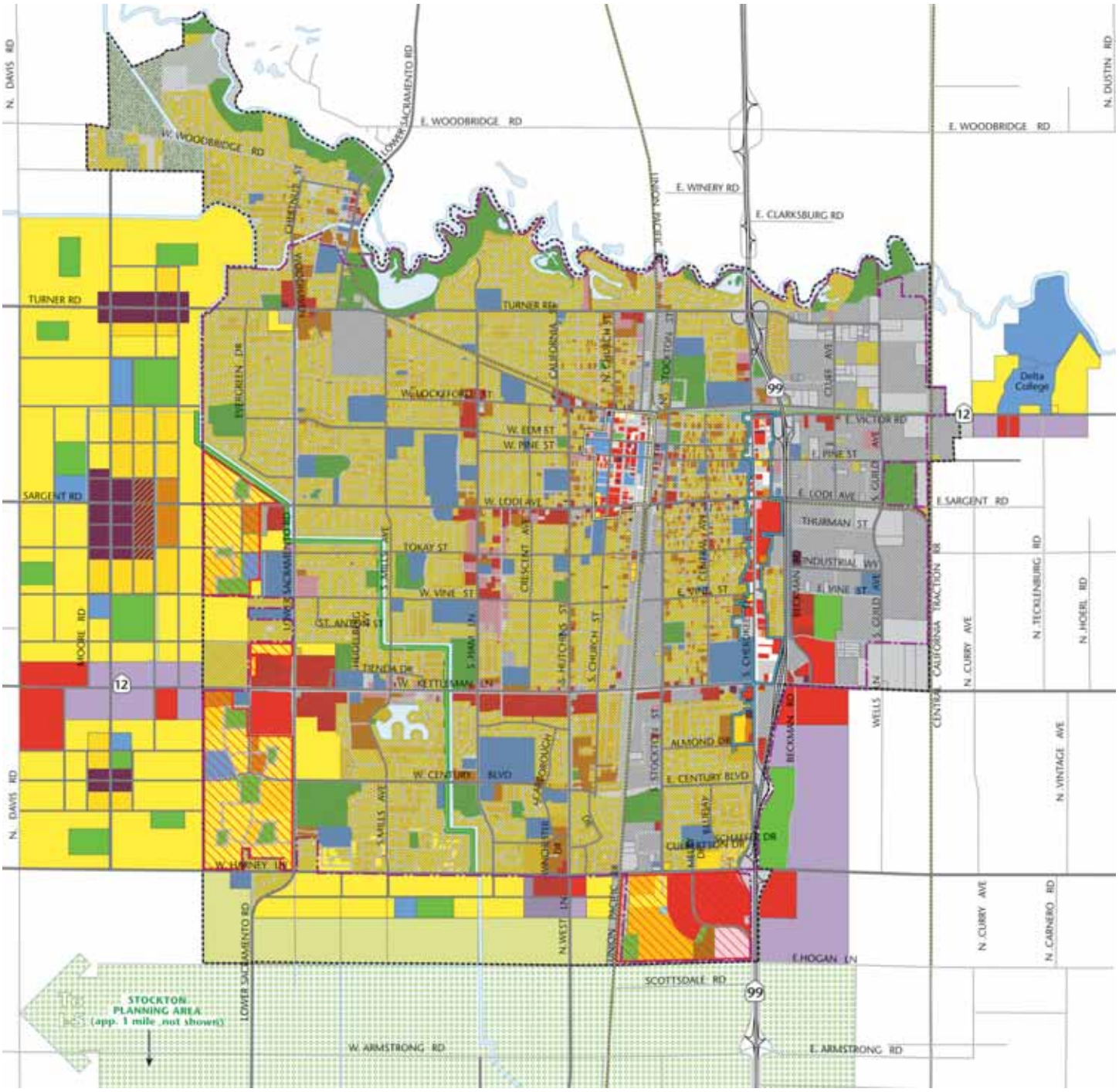


Figure 4.2-2
Alternative A



- Rural Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Downtown Mixed Use
- Mixed Use
- Business Park/Office
- Public/Quasi-Public
- Industrial
- Park/Drainage Basin
- Parking
- Utilities
- Agriculture
- Approved Projects
- Armstrong Road Agricultural/ ClusterStudy Area
- Existing Development
- Sphere of Influence (2008)
- City Limits (2008)

40 acres
10 acres

0 1/2 1 2
MILES

Figure 4.2-3
Alternative B

Similar to under the proposed General Plan, each alternative, if adopted, would be the guiding document in Lodi, indicating that local plans and zoning would be amended to conform to the alternative. However, the Growth Management Ordinance would not be met under Alternative A nor the No Project alternative, resulting in potentially significant impacts in terms of consistency with local ordinances.

- *Alternative A:* Alternative A represents the middle-ground development scenario. This alternative produces fewer housing units and less non-residential space compared with Alternative B and the proposed General Plan. Alternative A does not allow sufficient growth to accommodate the Growth Management Ordinance's allocation of 2% annual growth. This results in a potential conflict with a local ordinance, but also results in a cumulative regional impact as population and employment growth in the region may be required to locate in other parts of the region.
- *Alternative B:* This Alternative would result in the most housing units compared with the other alternatives and the proposed General Plan. It would also produce more non-residential space than Alternative A and the No Project alternative, but still less than the proposed General Plan. Alternative B has the most amount of land area devoted to parks and public facilities.
- *No Project:* The No Project alternative results in the fewest number of new housing units and smallest increase in non-residential development. Therefore, this scenario does not meet many of the objectives described in Chapter 2: Project Description, including the promotion of mixed-use neighborhoods and an employment area with designated business park sites. The No Project Alternative also has the fewest acres designated for parks and public facilities (described further in the relevant sections below). Finally, the No Project does not allow sufficient growth to accommodate the Growth Management Ordinance's allocation of 2% annual growth. This results in a conflict with a local ordinance, but also results in a cumulative regional impact as population and employment growth in the region may be required to locate in other parts of the region.

Table 4.3-1: Comparison of Net New Development Potential for Alternatives and the Proposed General Plan

	Alternative A	*Alternative B*	*No Project*	*Proposed General Plan*
Residential (Units)	6,900	12,000	3,800	10,100
General Commercial (SF)	778,000	1,608,000	298,000	3,932,000
Neighborhood Commercial (SF)	73,000	310,000	773,000	245,000
Business Park/Office (SF)	3,659,000	5,563,000	99,000	5,597,000
Industrial (SF)	1,511,000	1,936,000	4,251,000	7,322,000
Park/Detention Basin (Acres)	100	231	47	210
Public/Schools (Acres)	51	98	62	67

Source: Dyett & Bhatia, 2009.

TRAFFIC AND CIRCULATION

The differences in projected land use development for each alternative translate into varying levels of demand for transportation services throughout the city. It is assumed that the same policies and roadways improvements are in place for the proposed General Plan and Alternatives A and B, so there would be similar levels of emphasis on creating walkable streets, pedestrian-supportive neighborhoods, and opportunities for bicycling and using public transit. Table 4.3-2

compares the effects of the alternatives and the proposed General Plan on the citywide transportation system (existing conditions are also shown for reference). For each of alternatives and the proposed General Plan, the traffic impacts are considered to be significant and unavoidable.

Table 4.3-2: Comparison of Cumulative Citywide Transportation Measures for Alternatives and the Proposed General Plan

Measures of Daily Travel	*Existing*	*Alternative A*	*Alternative B*	*No Project*	*Proposed General Plan*
Total Vehicle Trips	301,000	474,000	500,000	434,000	560,000
Avg. Travel Speed (mph)	41	40	40	41	39
Vehicle Miles of Travel	796,000	1,261,000	1,371,000	1,166,000	1,483,000
Vehicle Hours of Travel	19,500	31,200	34,600	28,300	38,000
Vehicle Hours of Delay	450	1,740	2,350	1,140	3,200

Source: Fehr and Peers, 2009.

The proposed General Plan results in the highest levels of vehicle activity, as measured by the number of vehicle trips and vehicle miles of travel. This is largely because the proposed General Plan includes more employment than any of the other alternatives. The impacts of Alternatives A and B may be of slightly lower magnitude than the proposed General Plan, although the impacts may occur in somewhat different locations depending on the geographic pattern of development presented in each alternative. Moreover, assuming the same roadway improvements for Alternatives A and B means that the roadway may be somewhat overdesigned considering the lower traffic volumes for these alternatives. This may account for some of the lower levels of delay.

- *Alternative A:* Alternative A includes substantial levels of both residential and non-residential development as compared to the existing conditions. Therefore the alternative would be expected to create similar impacts as the proposed General Plan, as described in Section 3.2: Transportation and Circulation. However, Alternative A projects slightly fewer vehicle trips, miles of travel, hours of travel, and hours of delay compared with the proposed General Plan and Alternative B.
- *Alternative B:* This Alternative also includes substantial levels of both residential and non-residential development as compared to the existing conditions. Therefore the alternative would be expected to create similar impacts as the proposed General Plan, as described in Section 3.2: Transportation and Circulation. However, Alternative B projects slightly fewer vehicle trips, miles of travel, hours of travel, and hours of delay compared with the proposed General Plan, but more than Alternative A.
- *No Project:* The No Project alternative results in the lowest levels of vehicle activity, because it includes the fewest number of new housing units and the smallest increase in non-residential development. But, with a substantial increase in traffic over the existing condition, the traffic impacts are still considered significant and unavoidable. Moreover, the street improvements identified as part of the proposed General Plan are not included in the No Project development scenario, so these additional mitigation and policy efforts are not reflected in this scenario.

AGRICULTURAL RESOURCES

Development of each of the alternatives would result in a significant and unavoidable impact on agricultural resources, since there would be some conversion of important farmland to urbanized uses under all of the alternatives. Table 4.3-3 compares the relative differences in potential loss of farmland and crops under each alternative and the proposed General Plan. A comparison of lands subject to Williamson Act contracts are also shown; however, for all alternatives, it is assumed that proper procedures (including minimizing early termination of active contracts), contained within the Williamson Act itself, will be followed as development occurs.

Table 4.3-3: Comparison of Development Area Coinciding with Farmland, Crops, and Williamson Act Contracts for Alternatives and the Proposed General Plan

Resource	*Alternative A*	*Alternative B*	*No Project*	*Proposed General Plan*
Farmland				
Prime	1,807	3,071	1,762	2,893
Local Importance	74	21	75	49
Statewide Importance	41	36	39	43
Unique	92	192	43	129
Crops (Top 3 most prevalent)				
Vineyard	997	2,181	961	1,676
Field Crops	380	236	401	322
Deciduous Fruits and Nuts	280	465	267	516
Williamson Act Contracts				
Active Status	410	1,258	303	927
Non-Renewal Status	0	4	0	16
Farmland Security Zones	0	58	0	37

Source: Dyett & Bhatia, 2009.

- *Alternative A:* Development proposed under Alternative A would result in a slightly reduced impact to agricultural resources compared to the proposed General Plan. This is because a fewer number of acres of land designated as Prime (1,807), Unique or Farmland of Statewide Importance would be converted to urban uses under this alternative compared to the amount of important farmland that would be converted to urban uses under the proposed General Plan or Alternative B. Likewise, Alternative A coincides with fewer acres of croplands and active Williamson Act contracts compared with the proposed General Plan and Alternative B.
- *Alternative B:* Development proposed under Alternative B would result in slightly more agricultural resources impacts compared to the proposed General Plan. Although different areas of undeveloped land would be converted to developed uses, the overall amount of converted farmland is expected to be slightly more than the proposed Plan. Likewise, this alternative coincides with the highest acreage of cropland and Williamson Act contracts. Consequently, development of this alternative would result in slightly greater agricultural impacts as those associated with the proposed General Plan.
- *No Project:* Implementation of the No Project alternative would result in less of an impact to agricultural resources compared to the proposed General Plan and Alternatives A and B. This is because a smaller amount of land designated as Prime, Unique or Farmland of

Statewide Importance would be converted to urban uses under the No Project Alternative compared to the amount of farmland that would be converted to urban uses under the proposed General Plan. Likewise, the No Project Alternative coincides with the fewest acres of cropland and Williamson Act contracts.

BIOLOGICAL RESOURCES

Each of the alternatives and the No Project scenario would result in similar levels of impacts on biological resources and habitats, although the No Project and Alternative A would have the least level of impact. As with the General Plan, compliance with federal and State law, combined with implementation of General Plan policies, would reduce potential impacts on sensitive status species, habitat, and wildlife corridors to a less than significant level for all alternatives.

- *Alternative A:* Development proposed under Alternative A would result in similar impacts to biological resources (compared to the proposed General Plan) through the conversion of open space lands to developed uses. However, under this alternative, fewer acres of habitat land would be converted to urban uses compared to the same types of land uses that would be converted under the proposed General Plan.
- *Alternative B:* Development proposed under Alternative B would result in similar impacts to biological resources (compared to the proposed General Plan) through the conversion of open space lands to developed uses, as a similar amount of land would be converted.
- *No Project:* Implementation of the No Project alternative would result in less of an impact to biological resources as compared to the proposed General Plan. This is because a smaller amount of habitat would be converted to urban uses under the No Project Alternative compared to the amount of land that would be converted to urban uses under the proposed General Plan.

CULTURAL RESOURCES

Development proposed under each of the three alternatives would result in similar impacts to cultural resources as compared to the proposed General Plan. Similar to the proposed General Plan, urbanization associated with future growth could damage or destroy a variety of cultural resources during various construction-related activities. The intensification of land uses within the existing City limits may result in greater impacts on historic resources due to infill development, while construction and excavation activities on currently undeveloped land may result in impacts to archaeological resources. Overall, potential cultural resources impacts would be similar to those for the proposed General Plan under each of the alternatives, and would be less than significant.

CLIMATE CHANGE AND GREENHOUSE GASES

Greenhouse Gas (GHG) emissions forecasts are based upon anticipated population and job growth, and the resultant increase in VMT, electricity use, and waste generation, as described in Section 3.6: Climate Change and Greenhouse Gases. The analysis of GHG emissions takes into consideration emissions reductions that would result from effective implementation of State legislation, including Assembly Bill 1493: Pavley; Senate Bill 1078 Sher and Executive Order S-14-08: Renewables Portfolio Standard; and Executive Order S-01-07: Low Carbon Fuel Standard.

The proposed General Plan represents a decrease in emissions per service population when compared to existing conditions, but it also represents the highest total emissions and per service population emissions of any of the alternatives. This can in part be explained by the significant job growth expected under the proposed General Plan. Alternatives A and B also result in greater

emissions than existing conditions and the No Project scenario. Alternatives A and B also both result in lower emissions per service population than the existing condition, but more than the No Project. Of all of the 2030 scenarios, the No Project results in the fewest overall GHG emissions and the lowest emissions per service population.

As noted in Section 3.6, several policies in the proposed General Plan, which would also be included in Alternatives A and B, would result in further reductions in GHG emissions. However, given the current uncertainty in quantifying the impacts of the measures, it is not possible to determine in this analysis if the proposed policies would reduce emissions sufficiently. Therefore, despite the included policies, and given the increases over both existing conditions and the No Project for the proposed General Plan, Alternative A, and Alternative B, these three scenarios would all result in a considerable contribution to the significant cumulative impact. The No Project would be the environmentally preferred alternative in regards to GHG emissions, despite the lack of policies that would address further approaches to GHG emissions reductions. Because annual emissions and emissions per service population are reduced compared to existing conditions, the impact related to the No Project is considered less than significant.

While energy use may increase along with population and job growth, under the proposed General Plan, Alternative A, and Alternative B policies that address green building, growth management, and other energy efficient development practices, would ensure that energy use in Lodi was not wasteful, inefficient, or unnecessary. The No Project, while resulting in the least growth, but lacking the new policies addressing energy efficiency, could potentially result in higher per capita energy use.

Table 4.3-4: Projected Greenhouse Gas Emissions by Alternative ($MTCO_2e$)

	Existing	*Alternative A*	*Alternative B*	*No Project*	*Proposed General Plan*
Service Population	88,017	132,000	151,400	115,300	150,500
Population	63,362	91,000	104,400	82,600	99,500
Jobs	24,655	41,000	47,000	32,700	51,000
Emissions					
Electricity Use[1]	197,370	241,026	276,366	200,395	288,661
Transportation[2]	103,479	89,505	97,264	82,725	105,196
Waste[3]	16,152	23,197	26,613	21,056	25,364
Total	**317,001**	**353,728**	**400,243**	**304,175**	**419,221**
CO_2e Per Service Population	3.6	2.7	2.6	2.6	2.8

1. Residential and commercial emissions reflect a 23% reduction based on application of Senate Bill 1078 Sher and Executive Order S-14-08: Renewables Portfolio Standard, reflecting the additional percentage of renewable required in California.
2. Transportation emissions reflect Pavley 1 and 2 from Assembly Bill 1493, as described in Table 3.6 -1, and a 6.6% reduction to reflect Executive Order S-01-07: Low-Carbon Fuel Standard.
3. Calculated based on CARB Landfill Emissions Tool, Version 1.1.

Source: Dyett & Bhatia, 2009; Fehr & Peers, 2009; City of Lodi, 2009; CCAR GRP v.3.1, 2009; Local Government Operations Protocol, Version 1.0, September 2008; CARB, 2008.

- *Alternative A.* Alternative A would result in 3,200 fewer housing units, 8,500 fewer residents, and 10,000 fewer jobs than the proposed General Plan. Due to the smaller amount of growth in this alternative, VMT within the city would be 78 million less under Alternative A than

under the proposed General Plan, a difference of 18%. Energy demand would also be lower. Second to the No Project, Alternative A results in the fewest total emissions, though emissions per service population are slightly more than under Alternative B. Alterative A would include policies that address GHG emissions, thereby further reducing emissions. However, given the uncertainty in quantifying the effects of these policies, Alternative A would constitute a considerable contribution to the significant cumulative impact. Alternative A would be preferred over both the proposed General Plan and Alternative B since it results in fewer total emissions than both, fewer emissions per service population than the proposed General Plan, and similar per service population emissions when compared to Alternative B.

- *Alternative B.* Alternative B would result in an estimated 39 million fewer VMT than under the proposed General Plan, a difference of 8%. Alternative B results in the second to highest total emissions, behind only the proposed General Plan, but results in the second lowest emissions per service population, indicating that it is more efficient than Alternative A at accommodating growth. Alterative B would include policies that address GHG emissions, thereby further reducing emissions. However, given the uncertainty in quantifying the effects of these policies, Alternative B would constitute a considerable contribution to the significant cumulative impact. The demand for energy would be similar to what it would be under the proposed General Plan. However, Alternative B would be preferred over the proposed General Plan since it results in fewer total emissions and emissions per service population than the proposed General Plan.
- *No Project.* Since the No Project results in the smallest amount of growth, VMT within the city would be 111 million less than under the proposed General Plan, a difference of 27%. The No Project Alternative results in the lowest total emissions and the lowest emissions per service population of any of the Alternatives. It also would result in less overall demand for energy compared with the proposed General Plan and Alternatives A and B. However, the No Project Alternative does not include any policies that address further GHG emissions reductions, as in the proposed General Plan and Alternatives A and B. The No Project does not, for instance direct the City to develop a climate action plan. The No Project would not include additional policies that would promote energy efficiency and ensure that energy use in Lodi was not wasteful, inefficient, or unnecessary.

HYDROLOGY AND WATER QUALITY

Each of the alternatives and the No Project scenario would result in similar impacts on hydrology and water quality, resulting in less than significant impacts.

- *Alternatives A and B:* Under Alternatives A and B, development would convert similar amounts of open space land to urban uses (within the proposed Planning Area) as the proposed General Plan. As with the proposed General Plan, the creation of impervious surfaces associated with urbanization would increase the amount of runoff, which could affect water quality. Hydrologic and water quality impacts under Alternatives A and B are considered to be similar to those of the proposed General Plan.
- *No Project:* Under the No Project alternative, development would convert less open space land to urban uses than the proposed General Plan. As with the proposed General Plan, the creation of impervious surfaces associated with urbanization would increase the amount of runoff, which could affect water quality. Although land conversion would be less than the proposed General Plan, hydrologic and water quality impacts under the No-Project Alternative are considered to be similar to those of the proposed General Plan.

AIR QUALITY

Air pollutant emissions are a function of human activity and are directly related to population and consequently to vehicle miles traveled (VMT) by the population. VMT is one of the main factors in determining impacts to air quality. Development under all alternatives would result in increases in population and employment and consequently increases in traffic and air pollutant emissions. (Projected population, jobs, vehicle trips, and VMT are shown for each alternative and the proposed General Plan, in tables 4.2-1 and 4.3-2).

For each alternative and the No Project scenario, the substantial increase in VMT over existing conditions would result in a significant impact, as would also occur with the proposed General Plan. Proposed General Plan policies would also apply to Alternatives A and B and further reduce impacts, but the impact would remain significant and unavoidable in all cases.

- *Alternative A:* VMT for this alternative would be approximately 15% less than the proposed General Plan. Alternative A would thus result in less air pollutant emissions than the proposed General Plan. However, VMT would increase by 58% over existing conditions, indicating that the impact would remain significant and unavoidable.
- *Alternative B:* VMT for this alternative would be approximately 8% less than the proposed General Plan. Alternative B would thus result in less air pollutant emissions than the proposed General Plan. However, VMT would increase by 72% over existing conditions, indicating that the impact would remain significant and unavoidable.
- *No Project:* VMT for this alternative would be approximately 21% less than the proposed General Plan. However, this No Project Alternative would not benefit from proposed General Plan policies that seek to reduce VMT and, in turn, greenhouse gas emissions, and air quality impacts. Still, VMT would increase by 46% over existing conditions, indicating that the impact would still be significant and unavoidable.

FLOOD HAZARDS

Flooding impacts are similar across all alternatives, as compared to the proposed General Plan, resulting in less than significant impacts.

- *Alternative A and B:* Under Alternatives A and B, development would convert similar amounts of open space land to urban uses (within the proposed Planning Area) as the proposed General Plan. As with the proposed General Plan, the creation of impervious surfaces associated with urbanization would increase the amount of runoff, which could result in flooding impacts. Therefore, flooding related impacts under Alternatives A and B are considered to be similar to those of the proposed General Plan.
- *No Project:* Under the No Project alternative, development would convert less open space land to urban uses that the proposed General Plan. As with the proposed General Plan, the creation of impervious surfaces associated with urbanization would increase the amount of runoff, which could result in flooding impacts. Although land conversion would be less than the proposed General Plan, flooding impacts under the No Project Alternative are considered to be similar to those of the proposed General Plan.

SEISMIC AND GEOLOGIC HAZARDS

Seismic and geologic hazard impacts are similar across all alternatives, as compared to the proposed General Plan, resulting in less than significant impacts.

- *Alternative A and B:* Alternatives A and B propose development that is similar in nature to that anticipated under the proposed General Plan. Current State and federal regulations require specific engineering and design criteria to minimize impacts related to geologic, soils, and seismic hazards, which would apply to local geologic/soil conditions under each of these alternatives and the proposed General Plan. Policies and implementation measures included as part of the proposed General Plan incorporate all applicable regulations to minimize these impacts. For this reason, geologic impacts under Alternatives A and B are considered similar to those of the proposed General Plan.
- *No Project:* The No Project alternative would also result in development that is similar in nature to that anticipated under the proposed General Plan, but with less development. Current State and federal regulations require specific engineering and design criteria to avoid impacts related to geologic, soils, and seismic hazards, which would apply to both the No Project alternative and the proposed General Plan. For this reason, geologic impacts under the No Project alternative are considered to be similar to those of the proposed General Plan.

NOISE

The comparison of noise impacts under the alternatives and the proposed General Plan is based on traffic volume generated on the roadway network. In terms of construction related noise and vibration, it may be assumed that all alternatives have similar potential for construction, and thus for noise and vibration generation; however, the No Project alternative would not benefit from the proposed General Plan's policies.

- *Alternative A:* Alternative A generates fewer trips compared with the proposed General Plan, since it projects less development overall. Citywide noise levels associated with this alternative are therefore likely to be lower than the proposed General Plan.
- *Alternative B:* Although this alternative projects more households, it projects less non-residential development, thereby resulting in lower traffic volumes and associated noise levels than the proposed General Plan.
- *No Project:* The No Project alternative results in the lowest levels of development and therefore projects the fewest trips and associated noise increases of all the alternatives and the proposed General Plan. On the other hand, in terms of construction noise, this scenario would not benefit from noise mitigation policies provided by the proposed General Plan. Therefore, it may result in more noise impacts relative to rates of construction activity than the other alternatives.

HAZARDOUS MATERIALS AND TOXICS

Hazardous materials impacts under Alternatives A and B, as well as the No Project alternative, are considered to be similar to those of the proposed General Plan, since the nature and locations of new development are fairly similar. Hazardous materials generation, storage and clean-up are heavily regulated by federal, State and local regulations that would apply to all scenarios. The No Project alternative would not include the additional hazardous materials and public safety policies and implementation measures contained as part of the proposed General Plan.

INFRASTRUCTURE

Alternatives A and B are assumed to include the same set of policies in the proposed General Plan. This includes direction to prepare master plan documents for the potable water supply and

distribution, recycled water system, sanitary sewer system, White Slough Water Pollution Control Facility (WSWPCF), and storm water system. The No Project alternative assumes the continuation of policies in the current General Plan.

Water Supply

Water demand is projected to be accommodated by available water supply under both Alternative A and the No Project scenario, since their respective population projections are within those used in the City's current Urban Water Management Plan. Similar to the proposed General Plan, Alternative B expands reliable groundwater and surface water supplies through large annexations that increase the safe yield and WID agreement allowance, respectively. Thus water demand is met during average years. During dry years, total demand may not be met, but due to the policy measures proposed in the Plan that would also apply to Alternative B, the impact is likewise less than significant.

Wastewater

All of the alternatives and the proposed General Plan will require an expansion of the WSWPCF. However, Alternative B and the proposed General Plan will require a larger expansion earlier than Alternative A and the No Project Alternative (since the latter result in lower population growth). The proposed General Plan identifies the infrastructure needed over the life of the Plan, and includes policies that require the provision of infrastructure in a timely manner, which would also be present in Alternative A and B. Similar to the proposed General Plan, the impact is considered to be less than significant for all alternatives.

Stormwater

For all of the alternatives, the existing storm drain facilities should be adequate to serve infill areas. Likewise, the growth areas outside the existing urban area in the Alternatives and the proposed General Plan are within the area that can be drained to the Woodbridge Irrigation District (WID) canal. Using the analysis of storm drain facility needs completed for the proposed General Plan, we can deduce the impact and needs of each alternative. Alternative A and the No Project alternative, both allocating new development south of Harney Lane, will likely require similar detention basins and trunk storm drains improvements. Alternative B, which focuses development on the west side of the city, would similarly require trunk storm drains, detention basins, and outfall pipelines for each watershed. In addition, Alternative B, which accommodates the proposed Delta College and a small portion of development immediately south, would use a retention basin for disposal of storm runoff and the existing Cluff Avenue Storm Drain Pump Station outfall pipeline.

Because Alternative B and the proposed General Plan have the largest area that would drain to the WID canal, they would also require the largest stormwater detention basins. With less development area, Alternative A and the No Project alternative would have less of an impact on the stormwater system. Project level environmental analysis will be required for any infrastructure development that could result in additional environmental impacts, when design specifications are available. Still, just as in the proposed General Plan, the Alternatives would have a less than signification impact.

Solid Waste

Solid waste generation is calculated on a per capita basis, such that Alternative A and the No Project Alternative, which have lower population growth, will result in less waste generated and therefore requiring less landfill space. Alternative B will generate more waste and therefore

require more landfill space than the proposed General Plan and the other alternatives. The current permit for the North County Recycling Center and Sanitary Landfill, the landfill that accepts 98% of Lodi's waste, is expected to accommodate Lodi's solid waste in the future, although this does not account for major changes in the solid waste generation from other jurisdictions that landfill at this location. However, ongoing waste reduction and waste diversion efforts by the City are expected to reduce per capita waste over time. As a result, for each alternative and the proposed General Plan waste would be accommodated and the impact is less than significant.

PUBLIC FACILITIES

The comparison of impacts on public facilities is based on the degree of increased demand on public schools, and public safety and emergency preparedness facilities and services. The proposed General Plan and all three alternatives propose some increased demand on these public services and utilities. With little new demand for public services and facilities, the No Project alternative is the environmentally superior alternative in this issue area. However, impacts on all public services and utilities were found to be less than significant.

Schools

The comparison of impacts on school facilities is based on the degree of increased student enrollment and demand for new school facilities. Each of the alternatives and the proposed General Plan exceed capacity of existing facilities. This analysis considered the same enrollment factors per new housing unit for all alternatives (provided by the Lodi Unified School District [LUSD] Master Plan), as was used to evaluate the proposed General Plan. Table 4.3-5 shows the projected student enrollment for each alternative and the number of schools needed. Adequate facilities are provided by each scenario through land designated for public or quasi-public facilities, or in the case of the proposed General Plan and Alternatives A and B, within Mixed Use Centers. Moreover, the LUSD Master Plan, the current General Plan, and the proposed General Plan all support the sharing of City and LUSD facilities, which could result in lower costs and infrastructure needs. Each of the alternatives includes the students and facility needs resulting from approved development projects as well as development of the alternative scenario. All of the alternatives and the proposed General Plan result in a less than significant impact.

- *Alternative A.* In this alternative there will be fewer students, substantially reducing demand for new schools in Lodi, compared with Alternative B and the proposed General Plan. Approximately 5,200 new students are anticipated in this Alternative, requiring five new school facilities.
- *Alternative B.* This alternative results in the largest increase in housing and population, and therefore the largest increase in student enrollment and new school facility needs. This alternative would yield approximately 7,600 new students, requiring seven new schools.
- *No Project.* The No Project alternative results in the smallest population growth, and therefore the smallest increase in student enrollment. Under the No Project alternative there will be approximately 3,800 more students, requiring four new schools. Although new facilities would be required, a larger proportion of students would be accommodated through existing schools and potentially smaller facilities.

Table 4.3-5: Comparative New Student Projections and School Facility Need Estimates

	Alternative A	*Alternative B*	*No Project*	*Proposed General Plan*
New Students[1,2]	5,200	7,600	3,800	6,300
Elementary (K-6)	2,880	4,160	2,110	3,500
Middle (7-8)	760	1,120	540	1,000
High (9-12)	1,560	2,270	1,120	1,900
Schools Needed[3]	5	7	4	6
K-8[4]	1	1	1	5
High (9-12)	4	6	3	1

1. Includes students resulting from new housing units already approved or under construction.
2. Student generation rates are from the LUSD 2006 School Facilities Master Plan. Pupils per new housing unit are: 0.25 for K-6; 0.07 for 7-8; and .14 for 9-12. Numbers do not sum precisely due to rounding.
3. LUSD 2006 School Facilities Master Plan indicates school capacity at 840 students per school for K-8 and 2,200 students per school for grades 9-12. Land use required per student is assumed to be 800 square feet per student. Therefore, a K-8 school is expected to require approximately 15 acres and a 9-12 school is expected to require approximately 40 acres.
4. LUSD 2006 School Facilities Master Plan recommends that schools include K-8 rather than K-6 and 7-8 separately.

Source: Dyett & Bhatia, 2009; LUSD School Facilities Master Plan, 2006.

Public Safety and Emergency Preparedness

Current police and fire protection is designed to meet the needs of the existing population and employment base. Implementation of the proposed General Plan or any of the alternatives would result in an increase in residents and employees, thereby increasing the long-term demand for police assistance and emergency fire response. Under Alternatives A and B and the proposed General Plan, a Fire Services Master Plan would be prepared, which would determine the need for additional staffing and facilities based several considerations, including: the typical nature and type of calls for service; fire prevention and mitigation measures, such as sprinklers, fire retardant materials, and alarm; appropriate measures for determining adequate levels of service; and locations and requirements for additional facilities and staffing. In addition, policies that require the maintenance of levels of service would be included in all alternatives.

- *Alternative A:* With less new development overall, Alternative A would place less demand on police, fire, and emergency services and facilities than the proposed General Plan or Alternative B. However, Alternative A would include more development than the No Project, and therefore more demand on services. Expansion of existing capacity would be made based on identified needs, as described above.
- *Alternative B:* With the highest population and job growth of all the alternatives, and more residential growth than the proposed General Plan, but less job growth than the proposed General Plan, Alternative B would place more demand on police, fire, and emergency services and facilities than Alternative A or the No Project. Since it is assumed that residential services would make up a greater proportion of demand, Alternative B is expected to have the greatest impact on demand for services compared with the proposed General Plan. Expansion of existing capacity would be made based on identified needs, as described above.

- *No Project:* The No Project alternative would result in the smallest population and job increase, causing the least impact on fire and police resources. However, expansion of existing capacity may still be necessary as the population grows. For this scenario, improvements would be made based on existing General Plan policies, which specify a three-minute response time standard.

PARKS AND RECREATION

The City's parkland supply would increase under each alternative, though only Alternative B includes more parkland than the proposed General Plan. The smallest increase in parkland would occur under the No Project alternative. The proposed General Plan results in the largest number of acres per thousand residents for parks only and for parks and drainage basins.

- *Alternative A.* This alternative includes 100 acres of new parks and basins, resulting in 5.6 acres of parks and drainage basins per thousand residents and 3.6 acres of parks only per thousand residents. This ratio is the same as under existing conditions, and is less than the proposed General Plan, Alternative B or the No Project. This would not prevent deterioration of park resources and would not address the community desire for increased parkland. Further, this alternative would fall short of the proposed General Plan's goals of eight acres of parks and basins per thousand residents and four acres of parks only per thousand residents.
- *Alternative B.* This alternative includes 231 acres of parkland, the most of any alternative and more than the proposed General Plan. However, this alternative also includes the largest increase in population, therefore only resulting in 7.4 acres of parks and drainage basins per thousand residents and 4.8 acres of parks only per thousand residents. This is slightly less than under the proposed General Plan. This alternative would fall short of the goal of eight acres of parks and drainage basins per thousand residents, but would meet the goal of four acres of parks only per thousand residents.
- *No Project.* The No Project alternative only anticipates an increase of 64 acres of parkland, by far the lowest amount of parkland of any of the alternatives. This alternative also has the smallest increase in population, resulting in 6.7 acres of parks and drainage basins per thousand residents and 4.4 acres of parks only per thousand residents. This is slightly better than under existing conditions and Alternative A, but less than under the proposed General Plan or Alternative B. The No Project would fall short of the proposed General Plan's goals of eight acres of park and basins per thousand residents, but would meet the standard of four acres of parks only per thousand residents.

Table 4.3-6 illustrates the proposed parks and parks per thousand residents for each alternative and the proposed General Plan.

Table 4.3-6: Parkland Comparison of Alternatives

	Existing + Planned[1]	*Alternative A*	*Alternative B*	*No Project*	*Proposed General Plan*
Park Acreage					
Parks Only	226	65	150	41	136
Parks and Drainage Basins	366	100	231	64	210
Population	63,362	17,900	31,300	9,500	26,400
Acres/1,000 Resident					
Parks Only	3.6	3.6	4.8	4.4	5.2
Parks and Drainage Basins	5.8	5.6	7.4	6.7	8.0

1. "Planned" includes undeveloped parks, representing either city-owned properties with approved or proposed plans: DeBenedetti, Roget, Pixley, and Lodi Lake West Bank Area. Approved development projects and their associated parks and populations generated are not included in this table.

Source: Dyett & Bhatia, 2009; Department of Finance, 2008.

VISUAL RESOURCES

Differences in impacts on visual resources relate primarily to the extent and type of development under each of the alternatives, and to the impact on streetscape character. The No Project provides the least improvement of streetscape. The proposed General Plan and Alternatives A and B would result in similar impacts on visual resources.

- *Alternative A.* With slightly less new development projected for both residential and non-residential uses, this alternative would still include improved streetscape character. As under the proposed Project, views may be obstructed in localized areas due to new development though views would not be impacted on an area-wide basis and it is expected that overall, new views will compensate for any lost views. Existing views to agricultural lands are expected to be replaced new views of agricultural land. Protection of existing neighborhoods would be the same as with the proposed General Plan, and short-term impacts would be less since the overall level of development is less.
- *Alternative B.* With slightly more new development projected for housing units but less non-residential development, resulting in fewer jobs, this alternative would still include improved streetscape character. As under the proposed Project, views may be obstructed in localized areas due to new development though views would not be impacted on an area-wide basis and it is expected that overall, new views will compensate for any lost views. Protection of existing neighborhoods would be the same as with the proposed General Plan, as would short-term impacts since the overall level of development is similar.
- *No Project.* This alternative would not have as much development as the other alternatives, so it would have fewer short-term impacts on visual resources and make fewer changes to the existing character. However, it would not afford any improved streetscape character.

4.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives analyzed in an EIR. Alternative A has been selected as the environmentally superior alternative.

Since the No Project Alternative results in the least amount of development, it results in the fewest environmental impacts and therefore would be the environmentally superior alternative. However, CEQA Guidelines stipulate that if the No Project Alternative is identified as the environmentally superior alternative, then another environmentally superior alternative must be identified, among the other alternatives and the Project.

After the No Project, Alternative A has the least impact, relative to the proposed General Plan and Alternative B in the six environmental areas that have significant impacts: Traffic and Circulation, Agricultural Resources, Climate Change and Greenhouse Gases, Air Quality, and Noise. Alternative A has relatively more adverse impacts in the areas of Land Use and Housing and Parks and Recreation, when compared to the proposed General Plan and Alternative B. Particularly, in terms of Land Use, Alternative A does not allow sufficient growth to meet the city's future needs or the Growth Management Ordinance's allocation of 2% annual growth. This could also result in a cumulative regional impact as population and employment growth in the region may put additional pressure in the surrounding unincorporated areas or other parts of the region.

Alternative A and Alternative B meet many of plan objectives as described in Chapter 2: Project Description. However, the proposed General Plan achieves all these objectives to the highest extent, specifically exceeding the alternatives in the following three objectives:

- **Objective #1: Compact Urban Form.** The proposed Plan ensures the most compact urban form, by prioritizing infill development downtown and along the city's major corridors during Phase 1.
- **Objective #7: Agricultural Preservation Along Southern Boundary.** The proposed Plan and Alternative B also preserve an agricultural preservation buffer south of Hogan Lane (Alternative A and the No Project scenario both allow limited development through the Planned Residential Reserve designation).
- **Objective #11: Phasing Future Development.** The proposed Plan segments development into three phases, providing a framework for how and where urban growth should proceed. Urban reserve areas ensure that the city conforms to its Growth Management Ordinance and grows at a reasonable rate.

Although Alternative A has been chosen as the environmentally superior alternative, it does not in all cases adequately meet the three objectives described above (out of the 11 defined in the Project Description). Most critically, regarding Objective #11, Alternative A puts more growth pressures on other cities in the region and unincorporated portions of San Joaquin County. Reviewing historic trends, between 2000 and 2007, Lodi's population grew at half the rate compared with the County as a whole. Accommodating growth in Lodi through contiguous responsible development relieves some of this pressure elsewhere in the region. Alternative B conforms to the City's Growth Management Ordinance, but does not provide environmental impact reduction benefits and does not achieve of the plan objectives. The proposed General Plan achieves all plan objectives while establishing policies to reduce environmental impacts to the greatest extent possible.

5 CEQA Required Conclusions

This section summarizes growth-inducing, cumulative, significant unavoidable, and significant irreversible impacts, as required by California Environmental Quality Act (CEQA) Guidelines.

5.1 GROWTH-INDUCING IMPACTS

The EIR must examine the potential growth-inducing impacts of the proposed General Plan. More specifically, CEQA Guidelines require that the EIR "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly" (CEQA Guidelines §15126.2(d)). This analysis must also consider the removal of obstacles to population growth, such as improvements in the regional transportation system.

Growth-inducing impacts such as those associated with job increases that might affect housing and retail demand in other jurisdictions over an extended time period are difficult to assess with precision, since future economic and population trends may be influenced by unforeseeable events, such as natural disasters and business development cycles. Moreover, long-term changes in economic and population growth are often regional in scope; they are not influenced solely by changes or policies related to a city or development project. Business trends are influenced by economic conditions throughout the state and country, as well as around the world.

Another consideration is that the creation of growth-inducing potential does not automatically lead to growth. Growth occurs through capital investment in new economic opportunities by the private or public sector. These investment patterns reflect, in turn, the desires of investors to mobilize and allocate their resources to development in particular localities and regions. These and other pressures serve to create policy. These factors, combined with the regulatory authority of local governments, mediate the growth-inducing potential or pressure created by a proposed plan. Despite these limitations on the analysis, it is still possible to qualitatively assess the general potential growth-inducing impacts of the proposed General Plan.

PROJECTED GROWTH

Table 5.1-1 describes housing units, population and jobs resulting from existing development, approved projects, and the proposed General Plan. The table includes a total column, representing projected development under the proposed Plan, and a percent increase column for each characteristic, representing the percent change of the proposed Plan, over and above existing and approved development.

Housing Units

Lodi currently contains 23,353 housing units. Approximately 3,700 housing units have recently been approved or are under construction. The proposed General Plan accommodates 10,100 new residential units. Together, this results in the potential for 37,200 housing units, an increase of 38% above existing and approved units. Approximately half of the housing units will be low-density housing (i.e. single-family), a quarter medium-density, and the remaining quarter high-density and mixed-use residential (containing a mix of density levels).

Population

Lodi currently contains approximately 63,400 residents. The proposed General Plan could accommodate 26,400 additional residents. Accounting for the current population as well as new residents anticipated from recently approved projects (approximately 9,700 residents), full development of the General Plan could result in a total of 99,500 residents, representing an annual growth rate of 2%, consistent with the Growth Management Ordinance. Total residents under the proposed General Plan would exceed the San Joaquin Council of Governments (SJCOG) population projection of 81,717 in 2030 by 22%. (Notably, these SJCOG estimates are based on historical growth rates in Lodi and do not dictate how much growth could be accommodated.) The proposed General Plan accommodates 20% more residents than the No Project scenario, which allows for a population of 82,600 people. However, the population growth in the proposed General Plan is consistent with an annual growth rate of 2% as allowed in Lodi's Growth Management Ordinance.

Employment

Lodi currently contains 24,700 jobs. Recently approved or completed development projects are expected to produce an additional 2,900 jobs. Total additional employment accommodated in the General Plan by new commercial, office, industrial, and mixed-use land designations could allow for 23,400 new jobs in Lodi. In sum, Lodi could expect up to 51,000 jobs under the General Plan, an increase of 85%. Total jobs under the proposed General Plan would exceed the SJCOG jobs projection of 33,686 in 2030 by 51%. Similarly, the proposed General Plan accommodates 56% more jobs than the No Project scenario, which includes 32,700 jobs. The increase in jobs under the proposed General Plan serves to improve the balance of jobs and housing, as discussed below.

Table 5.1-1: General Plan Population and Employment Potential

Characteristic	*Existing (2008)*	*Approved Developments*	*Net New General Plan*	*Total*	*% Increase (Above Existing & Approved)*
Housing Units	23,353	3,700	10,100	37,200	38%
Population	63,400	9,700	26,400	99,500	36%
Jobs	24,700	2,900	23,400	51,000	85%

1. Total General Plan includes existing, approved/under construction, and net new resulting from General Plan.

Source: Dyett & Bhatia, 2009; California Department of Finance, 2008; San Joaquin Council of Governments, 2004.

Jobs/Housing Balance

A city's jobs/employment ratio (jobs to employed residents) would be 1.0 if the number of jobs in the city equaled the number of employed residents. In theory, such a balance would eliminate the need for commuting. More realistically, a balance means that in-commuting and out-commuting are matched, leading to efficient use of the transportation system, particularly during peak hours. The proposed General Plan projects a more balanced jobs/employed residents ratio when compared to existing conditions, as shown in Table 5.1-2. In 2008, Lodi had a jobs/employed residents ratio of 0.8, meaning that the city did not have quite enough jobs for all the working people who lived there, even if the match between job skills required and job skills offered had been perfect. As of 2000, 54% of Lodi's employed residents commuted out of Lodi for work. The proposed General Plan designates land area for substantial employment growth, should market opportunities exist, as one attempt to reduce out-commuting and enable existing and future Lodi

residents to work in Lodi. While the increase in new jobs exceeds the increase in new employed residents, the combined effect will result in a more balanced ratio of 1.0. This ratio suggests that the city would have about as many jobs as employed residents. Table 5.1-2 displays existing and projected jobs per employed residents' ratios.

Table 5.1-2: Jobs/Employed Residents, Existing and Potential

	Existing (2008)	*Net New*	*Total*
Jobs	24,700	26,300	51,000
Employed Residents[1]	32,000	18,251	50,251
Jobs/Employed Residents Ratio	0.8	1.4	1.0

1. The total General Plan jobs/employed residents ratio uses the same proportion of employed residents in the total population (51%) to estimate existing and future values. It also includes jobs resulting from approved projects.

Source: Dyett & Bhatia, 2009; California Employment Development Department, 2008; San Joaquin Council of Governments, 2004.

INCREASE IN REGIONAL HOUSING DEMAND

As the employment base in Lodi increases, more people may be drawn to Lodi and surrounding areas, thereby increasing housing demand in both Lodi and other adjacent areas that are within commuting distance. Proposed new employment would primarily be located in the southeastern corner of Lodi, easily accessible from major transportation routes. Service to Lodi via Amtrak and regional bus service would also provide access to new jobs from other cities. In addition, the proposed General Plan has the potential to result in development of approximately 10,100 new housing units by the year 2030, which will help meet some of the increased housing need. Lodi's updated Housing Element, which addresses housing programs and how Lodi will accommodate its regional housing needs allocation, is part of the proposed General Plan.

GROWTH MANAGEMENT

While the proposed General Plan allows growth beyond SJCOG's projections, the proposed General Plan represents an annual growth rate of 2%, which meets the maximum population permissible under the City's Growth Management Ordinance. The proposed General Plan also includes multiple growth management techniques including phasing, a community separator, and continuation of the Growth Management Ordinance. While policies to regulate the location, pace, and timing of growth are included, these will not restrict Lodi's ability to meet its housing need obligations or long-range growth projections by regional agencies. Key policies and strategies are described in Chapter 2: Project Description.

Because growth under the proposed General Plan is consistent with allowable growth under the Growth Management Ordinance, is managed through multiple strategies to maintain a compact form, and helps the City achieve a more balanced jobs/housing ratio, the proposed General Plan is not expected to significantly contribute, directly or indirectly, to regional, subregional or citywide growth inducing impacts.

5.2 CUMULATIVE IMPACTS

CEQA requires that the EIR examine cumulative impacts. As discussed in CEQA Guidelines § 15130(a)(1), a cumulative impact "consists of an impact which is created as a result of the

combination of the project evaluated in the EIR together with other projects causing related impacts." The analysis of cumulative impacts need not provide the level of detail required of the analysis of impacts from the project itself, but shall "reflect the severity of the impacts and their likelihood of occurrence" (CEQA Guidelines §15130(b)).

In order to assess cumulative impacts, the EIR must analyze either a list of past, present, and probable future projects or a summary of projections contained in an adopted general plan or related planning document. It is important to note that the proposed General Plan is essentially a set of projects, representing the cumulative development scenario for the reasonably foreseeable future in the Lodi Planning Area. This future scenario incorporates the likely effects of surrounding regional growth.

By their nature, the air quality, transportation, noise, and greenhouse gas (GHG) emissions analyses presented in Chapter 3: Settings, Impacts, and Mitigation Measures represent a cumulative analysis of the Planning Area as a whole. As a result of adding the proposed General Plan to the regional land use and transportation baseline, the travel demand, level of service operations, and associated air quality and GHG emissions produced by the proposed project is the cumulative condition for CEQA purposes. Some cumulative impacts on transportation, air quality, and noise are found to be significant; in addition, the cumulative effects on GHG emissions are found to be cumulatively significant, and the project's contribution cumulatively considerable.

Other cumulative impacts are identified below and within the relevant sections of Chapter 3.

AGRICULTURAL RESOUCES

With the implementation of the proposed General Plan there would be a loss of existing agricultural lands within the City's proposed Planning Area. The loss of agricultural land as a result of urban development is part of an overall trend within San Joaquin County. The County will continue to face development pressure in the foreseeable future. Though the proposed General Plan provides policies to minimize the extent of growth and sprawl associated with future development, the loss of agricultural lands as a result of the proposed General Plan would contribute considerably to a significant and unavoidable cumulative impact to agricultural resources.

BIOLOGICAL RESOURCES

Development associated with implementation of the proposed General Plan would contribute to the ongoing loss of natural and agricultural lands in the Lodi Planning Area, which currently provide habitat for a variety of federal and State listed special status species, as well as other wildlife and plant resources. Development under the proposed General Plan would result in the conversion of existing habitats to urban uses. Policies in the proposed General Plan as well as regional, State and federal regulations are available to mitigate impacts to biological resources at a project-specific level. Development outside of the Planning Area would also be subject to the same regional, State and federal regulations addressing sensitive species. However, since the City of Lodi is projected to continue to urbanize, the loss of open space areas and habitats as a result of the proposed General Plan would contribute considerably to a significant and unavoidable cumulative impact to biological resources.

CULTURAL RESOURCES

As stated in Section 3.5, the City will continue to ensure that a variety of preservation efforts are implemented for all future development projects to minimize impacts to archaeological resources (as defined in Section 15064.5), paleontological resources, or human remains. Under CEQA, however, any "substantial adverse change in the significance of an historical resource" (e.g., the destruction of such a resource) is considered a significant environmental effect as a matter of law. Because the accommodation of future growth also constitutes a likelihood that future development will encounter challenges associated with known and unknown historic resources, the City cannot be sure that cumulative impacts on all such historical resources can be mitigated to less than significant levels. Consequently, the proposed General Plan has the potential to contribute to significant and unavoidable cumulative impacts to these historic resources. However, similar considerations do not apply to unique archaeological resources or paleontological resources, which can be fully mitigated through data recovery where avoidance or preservation is infeasible or unnecessary (see Section 3.5 for a more detailed discussion). Therefore, implementation of the proposed General Plan would reduce the potential cumulative impact to a less-than-significant level with respect to human remains and archaeological resources that do not qualify as historical resources.

5.3 SIGNIFICANT ENVIRONMENTAL EFFECTS

TRANSPORTATION AND CIRCULATION

The proposed General Plan would result in a substantial increase in vehicular traffic that would cause certain facilities to exceed LOS standards established by the City (for City facilities) and the County (for regional routes). Proposed General plan policies and improvements have been identified to minimize transportation impacts, but even with these measures, the impact is considered significant and unavoidable.

General Plan policies, intended to improve neighborhood character and the pedestrian environment, could adversely affect access for emergency vehicles in Lodi. Planned improvements that would help mitigate this impact include roadway extensions, roadway widenings, and the construction of a new arterial, all of which would serve to enhance connectivity and local neighborhood circulation. Still, implementation of the proposed General Plan and increases in regional travel passing through Lodi would increase the amount of vehicular traffic in and around Lodi, and would therefore increase the number of potential emergency access conflicts, resulting in a significant and unavoidable impact.

The substantial increases in vehicle trips and vehicle miles of travel resulting from the proposed General Plan could create conflicts with the goals and objectives of established alternative transportation plans. Increased traffic volumes may make it more difficult and time-consuming for pedestrians to cross some streets. Higher traffic volumes on some facilities could discourage bicycle travel, especially among non-expert bicycle users. Additionally, increased delay on some of Lodi's roadway facilities could increase travel times for the various bus services that serve the city and provide access to regional travel services like Amtrak and ACE.

AGRICULTURAL RESOURCES

While one quarter of the gross proposed General Plan potential development area is infill and will not reduce the amount of farmland, some conversion of agricultural land to urban use is inevitable given Lodi's growth needs. If the proposed General Plan were developed to maximum capacity, 2,893 acres of land classified as Prime Farmland would be replaced by urban

development (including parks and open spaces). This area represents 69% of the new urban area delineated in the General Plan Land Use Diagram. The most prevalent crop types that would be displaced if the General Plan developed to its fullest potential are vineyards (1,676 acres), deciduous fruits and nuts (516 acres), and field crops (322 acres). Although there are policies in the proposed General Plan to reduce this impact, the potential conversion of agricultural land—which will affect some agricultural activities and prime agricultural soils—is significant and unavoidable.

CLIMATE CHANGE AND GREENHOUSE GASES

Under the proposed General Plan, future emissions are estimated to increase to 419,221 $MTCO_2e$ in 2030 with State mandates, an increase of approximately 32% over the existing condition. This increase in emissions under the proposed General Plan is largely a result of job growth. This estimate, however, does not account for policies in the proposed General Plan that would contribute to lowering emissions, but that are difficult to quantify. Given the current uncertainty in quantifying the impacts of the measures, it is not possible to determine in this analysis if the proposed policies would reduce emissions sufficiently. Therefore, the proposed General Plan would result in a considerable contribution to the significant cumulative impact.

AIR QUALITY

The proposed General Plan would result in an increase in criteria pollutant emissions primarily due to related motor vehicle trips. Stationary sources and area sources would result in lesser quantities of criteria pollutant emissions. Stationary sources and diesel-fueled mobile sources would also generate emissions of TACs including diesel particulate matter that could pose a health risk. Future growth in accordance with the proposed General Plan would exceed the annual SJVAPCD thresholds for PM10, as well as the threshold used for this analysis for PM2.5, and would therefore result in a cumulatively considerable net increase of criteria pollutants.

NOISE

Implementation of the proposed General Plan will result in higher traffic volumes, more industrial and commercial noise sources, and a larger population, all of which will contribute to the noise environment in Lodi. Future noise impacts related to traffic, railroads, and stationary sources would remain significant and unavoidable, given the uncertainty as to whether future noise impacts could be adequately mitigated for all the individual projects that will be implemented as part of the General Plan.

5.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGE

The EIR must also examine irreversible changes to the environment. More specifically, CEQA Guidelines require the EIR to consider whether "uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely" (CEQA Guidelines §15126.2(c)). "Nonrenewable resource" refers to the physical features of the natural environment, such as land, waterways, etc.

AIR QUALITY

Increases in vehicle trips and traffic resulting from implementation of the proposed General Plan would potentially contribute to long-term degradation of air quality and atmospheric conditions in the region, other parts of California, and the Western United States. However, technological

improvements in automobiles, as well as commercial and industrial machinery, may lower the rate of air quality degradation in the coming decades.

AGRICULTURAL LAND AND OPEN SPACE

Development under the proposed General Plan could result in the permanent conversion of just under 2,893 acres of prime farmland to urban uses. This conversion has a wide array of impacts, ranging from habitat modifications to visual disruptions to new noise sources and stormwater drainage constraints. Overall, this represents a significant and irreversible environmental change.

ENERGY SOURCES

New development under the proposed General Plan would result in the commitment of existing and planned sources of energy, which would be necessary for the construction and daily use of new buildings and for transportation. Residential and non-residential development use electricity, natural gas, and petroleum products for power, lighting, heating, and other indoor and outdoor services, while cars use both oil and gas. Use of these types of energy for new development would result in the overall increased use of non-renewable energy resources. This represents an irreversible environmental change. However, energy-reduction efforts may lower the rate of increase.

CONSTRUCTION-RELATED IMPACTS

Irreversible environmental changes could also occur during the course of constructing development projects made possible by the proposed General Plan. New construction would result in the consumption of building materials, natural gas, electricity, water, and petroleum products. Construction equipment running on fossil fuels would be needed for excavation and the shipping of building materials. Due to the non-renewable or slowly renewable nature of these resources, this represents an irretrievable commitment of resources.

5.5 EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA requires that an EIR provide a brief statement indicating why various possible significant impacts were determined to be not significant. Significance of an impact is assessed in relation to the significance criteria provided in each section in Chapter 3: Settings, Impacts, and Mitigation Measures. A summary of all impacts is provided in the Executive Summary of this EIR. Chapter 3 discusses all potential impacts, regardless of their magnitude. A similar level of analysis is provided for impacts found to be less than significant as impacts found to be significant. However, some topic areas were analyzed and then found not to be significant issues and therefore were not presented in Chapter 3. These issues are discussed below.

ENERGY AND MINERAL RESOURCES

Mineral Resources

The California Geological Survey's (formerly the Division of Mines and Geology) Special Report 160 identifies the classification of aggregate resources within the Stockton-Lodi Production-Consumption (P-C) Region. The Region covers 430 square miles and includes several large urbanized portions of San Joaquin County. The primary emphasis of the study was to delineate land containing sand and gravel deposits suitable for the production of high-quality, Portland cement concrete (PCC) aggregate and calculate the quantity and adequacy of those reserves. According to Special Report 160, the Planning Area is designated as MRZ-1, meaning that the area is highly unlikely to contain significant mineral resources (CDMG, 1988).

Natural Gas Resources

Historically, natural gas has been extracted with San Joaquin County and the Planning Area. However, annual reports compiled by the State Oil and Gas Supervisor for the last five years have shown no production figures for gas fields in the Planning Area. Gas wells associated with River Island Gas field—located approximately four miles northeast of the Planning Area—have consistently produced gas within the last five years (DOC, 2002, 2003, 2004, 2005, 2006). The Lodi Gas field is located approximately one mile north of the northeastern corner of the Planning Area. There are still large pockets of gas in two reservoirs. These reservoirs are now used to store gas, which is transported via a 33-mile long pipeline along the northern portion of the Planning Area. The pipeline connects the storage facility with two PG&E connections east of the Planning Area. The City's Planning Area is buffered from the Lodi Gas Storage facility by agricultural land (Jones and Stokes, 1999).

Proposed General Plan Implications

Changes in land use associated with implementation of the proposed General Plan are focused in areas surrounding the existing city and are not likely to increase land use conflicts between the few existing locations of mineral and natural gas resources and the placement of future sensitive land uses. Additionally, the proposed General Plan includes several policies that strive to minimize land use conflicts between incompatible land uses through the establishment of buffer areas.

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CHAPTER 3

LAND USE AND HOUSING

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CHAPTER 5

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7 Report Authors

THE CITY OF LODI

City of Lodi
221 W Pine St
Lodi, CA 95240

Konradt Bartlam, Interim Community Development Director
Wally Sandelin, Public Works Director

CONSULTANT TEAM

Dyett & Bhatia, Urban and Regional Planners
755 Sansome Street, Suite 400
San Francisco, CA 94111

Rajeev Bhatia, Principal
Jean Eisberg, Associate
Hannah Lindelof, Planner
Mark Chambers, Graphics Manager
Andrew Duszak, GIS Specialist

Environmental Science Associates
2600 Capitol Avenue, Suite 200
Sacramento, CA 95816

Ray Weiss, Project Director
Ellen Morales, Project Manager

Agricultural Resources
Cultural Resources
Energy and Mineral Resources
Fire Hazards
Flood Hazards
Hydrology and Water Quality
Seismic and Geologic Hazards
Hazardous Materials and Toxics
Aaron Hecock, Environmental Planner

Biological Resources
Stephanie Parsons

Air Quality
Matt Morales
Paul Miller, REA

Noise
Donnie Ambroziak
Paul Miller, REA

Fehr & Peers
100 Pringle Avenue, Suite 600
Walnut Creek, California 94596

Traffic and Circulation
Julie Morgan, AICP
Tiffany Barkley

West Yost
2020 Research Park Drive, Suite 100
Davis, CA 95618

Infrastructure Analysis
Doug Moore, Engineering Manager

Charles M. Salter Associates, Inc.
130 Sutter Street, Suite 500
San Francisco, CA, 94104, USA

Noise Consultation
Randy D. Waldeck, P.E., LEED AP, Principal Consultant

Appendix A:

Notice of Participation

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NOTICE OF PREPARATION OF
DRAFT ENVIRONMENTAL IMPACT REPORT

Date: February 17, 2009

To: Interested Agencies, Organizations, and Individuals

Subject: Notice of Preparation (NOP) of Draft Environmental Impact Report (EIR) for the City of Lodi General Plan Update

Location: City of Lodi, California

The City of Lodi is preparing a General Plan Update and has determined that a comprehensive Environmental Impact Report (EIR) will be necessary. The City of Lodi requests your input regarding the scope and content of environmental analysis that is relevant to you or your respective agency's statutory/regulatory responsibilities in order to ascertain potential impacts of the proposed project. The City of Lodi, in compliance with the California Environmental Quality Act (CEQA), will direct the preparation of an EIR for the project. The project description is provided in the attached Notice of Preparation (NOP).

Although specific proposals and revisions for the Lodi General Plan have not yet been determined, we are soliciting your comments. This will allow your input to be taken into consideration during formulation of the environmental effects to be addressed in the EIR. A description of the proposed action, location map, and preliminary identification of the potential environmental effects are contained in the attached materials.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but **no later than 30 days** after receipt of this notice; the comment period will extend through March 20, 2009. Please send your written response, with the name of your agency contact person, if applicable, to the following address: Rad Bartlam, City of Lodi, Planning Division, 221 West Pine Street, Lodi, CA 95241.

A Scoping Meeting will be conducted at 6:00p.m. on March 17, 2009, at the Lodi City Council Chambers (Carnegie Forum), 305 W. Pine Street. If you have questions regarding this NOP or the Scoping Meeting, you can contact Rad Bartlam at (209) 333-6711.

Rad Bartlam
Interim Community Development Director
City of Lodi

2/17/2009
Date

PROJECT TITLE

City of Lodi General Plan Update

LEAD AGENCY

City of Lodi
Planning Division
221West Pine Street
Lodi, CA 95241

CONTACT PERSON

Rad Bartlam
Interim Community Development Director
(209) 333-6711
rbartlam@lodi.gov

PROJECT LOCATION AND BOUNDARIES

Location

Located along the Mokelumne River abutting the Sacramento Delta, Lodi is situated in the San Joaquin Valley between Stockton, six miles to the south, and Sacramento, 35 miles to the north. It is adjacent to U.S. Highway 99, within five miles of Interstate 5 via State Highway 12, and located on the main line of the Southern Pacific Railroad.

Planning Boundaries

The Planning Area Boundaries for the 2030 General Plan are similar to the one of the 1991 General Plan, with slight expansion northwards. The Planning Area covers approximately 79.4 square miles. The City is not contemplating annexation of this large Planning Area; the future urban area is likely to encompass only a portion of land within this larger Planning Area, contiguous to the existing City limits.

Sphere of Influence

Lodi's current Sphere of Influence (SOI) includes the community of Woodbridge, lands west and east of City limits where developments have been approved, as well as a small pocket in the northeast portion. In total, it covers 16.6 square miles. This boundary encompasses incorporated and

unincorporated territory that is envisioned to be the City's ultimate service area.

City Limits

Lodi's incorporated limits encompass an area of about 14 square miles. This area includes the 1.7 square mile waste treatment facility of White Slough, located within the city limits, but separated from the urbanized area of Lodi by several miles. Figure 1 illustrates the city's planning boundaries, sphere of influence, and city limits.

DESCRIPTION OF PROJECT

Lodi's current General Plan was adopted in 1991. Although many of its policies are still relevant, the city has undergone changes during this period. Despite the recent slowdown in housing demand, growth pressures continue to be felt from within and outside the city limits. Between 2000 and 2008, according to the California Department of Finance, Lodi's population grew by 11 percent, an increase from 57,011 residents to 63,362. The City's total jobs also grew by nearly nine percent between 2000 and 2005, according to the San Joaquin Council of Governments, increasing from 21,450 to 23,438.

The City of Lodi has initiated a comprehensive update of its General Plan, which is an opportunity for community members to explore long-term goals and development for the city. The State of California requires every city and county to have a comprehensive general plan that serves as a constitution for long-term physical development. The plan will identify current and future needs in areas such as economic development, land use, circulation, noise, open space and conservation, public services, safety and environmental quality. The Update offers the community and decision makers an opportunity to establish the City's priorities related to growth, infill development, transportation, neighborhoods, and activity centers.

The Draft General Plan resulting from the Update process will contain background information, goals, and policies addressing the following topics which may be combined or may be stand-alone elements:

- Land Use
- Growth Management

- Community Design
- Housing
- Circulation
- Open Space
- Conservation
- Noise
- Safety

BACKGROUND STUDIES AND PUBLIC PARTICIPATION

Work on the General Plan Update is in progress. Four working papers documenting existing conditions, trends, planning issues, and implications were prepared:

- Working Paper #1: Land Use, Transportation, Environment, and Infrastructure (July 2007) provides baseline information on existing conditions in the city, focusing on the physical environment and built form.
- Working Paper #2: Urban Design and Livability (October 2007) analyzes neighborhood and citywide form and reports residents' perceptions of the interrelationship of livability and urban design.
- Working Paper #3: Growth and Economic Development Strategy (July 2007) presents economic growth trends and market demand for various land uses.
- Working Paper #4: Greenbelt Conservation Strategies (September 2007) describes the viability, size, location, and possible implementation strategies for a greenbelt.

This technical analysis was supplemented with community input. A community workshop was held in June 2007, in which participants were given a chance to brainstorm their visions for the future of Lodi and share their thoughts on the specific issues of citywide land use, community design and development, and transportation. Input was also solicited through a citywide survey, interviews with stakeholders, and meetings with decision-makers.

A Sketch Plan report was prepared in May 2008, presenting alternative land use scenarios for development. The report described impacts of different growth scenarios on traffic,

the City's fiscal health, and infrastructure. A community open house was held following the release of the report to inform community members about the effects of various development scenarios and to solicit feedback on a preferred alternative. In addition, meetings with more than 20 business and community groups were held in summer and fall 2008.

Following community feedback, a Preferred Plan was prepared, and reviewed by the Planning Commission. The Planning Commission unanimously approved a Preferred Plan for City Council consideration in fall 2008. The City Council (in a joint meeting with the Planning Commission in February 2009) unanimously endorsed the Planning Commission approved Preferred Plan. This preferred land use diagram will provide the starting point for development of the General Plan policies, and may be modified and refined as details are fleshed out and environmental impacts assessed. The Land Use Diagram will provide the basis for the environmental impact assessment and will be included in the Draft General Plan. The Preferred Plan is shown in Figure 2.

Background technical reports, alternatives, and the Preferred Plan are available for download at http://www.lodi.gov/community_development/general_plan/reports.htm

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

No other public agency is required to approve the Lodi General Plan Update. Development under the Plan, however, may require approval of State, federal and responsible trustee agencies that may rely on this EIR for information relative to their area of expertise and jurisdiction.

POTENTIAL ENVIRONMENTAL IMPACTS TO BE CONSIDERED

Topic areas to be addressed in the EIR include:

- Air Quality
- Agricultural Resources
- Biological Resources
- Cultural Resources
- Climate Change and Greenhouse Gases
- Energy and Mineral Resources
- Fire Hazards

- Flood Hazards
- Hazardous Materials and Toxics
- Hydrology and Water Quality
- Land Use and Housing
- Noise
- Parks and Recreation
- Public Facilities
- Seismic and Geologic Hazards
- Traffic, Circulation, and Parking
- Visual Resources

In addition to the potential environmental effects listed above, the EIR will evaluate potential cumulative effects of the proposed Lodi General Plan update as well as alternatives to the proposed General Plan. The No Project alternative will evaluate the impacts resulting from continued implementation of existing plans, policies, and regulations that govern the City. As appropriate, other alternatives that would avoid or lessen environmental effects related to the proposed Lodi General Plan update will be discussed. Referring to General Plan policies, the Draft EIR will also recommend measures to mitigate environmental impacts.

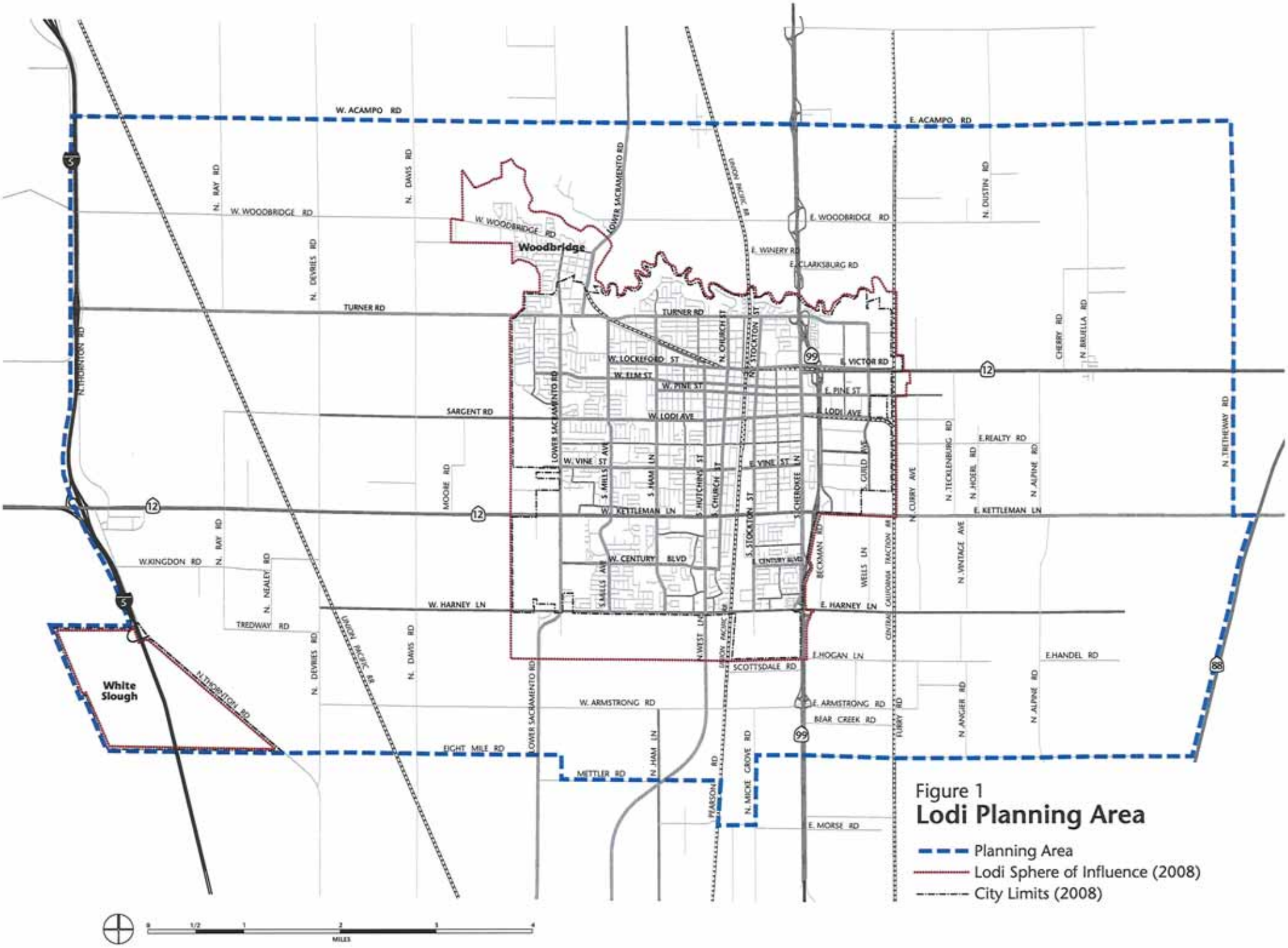

Figure 1
Lodi Planning Area

- Planning Area
- Lodi Sphere of Influence (2008)
- City Limits (2008)

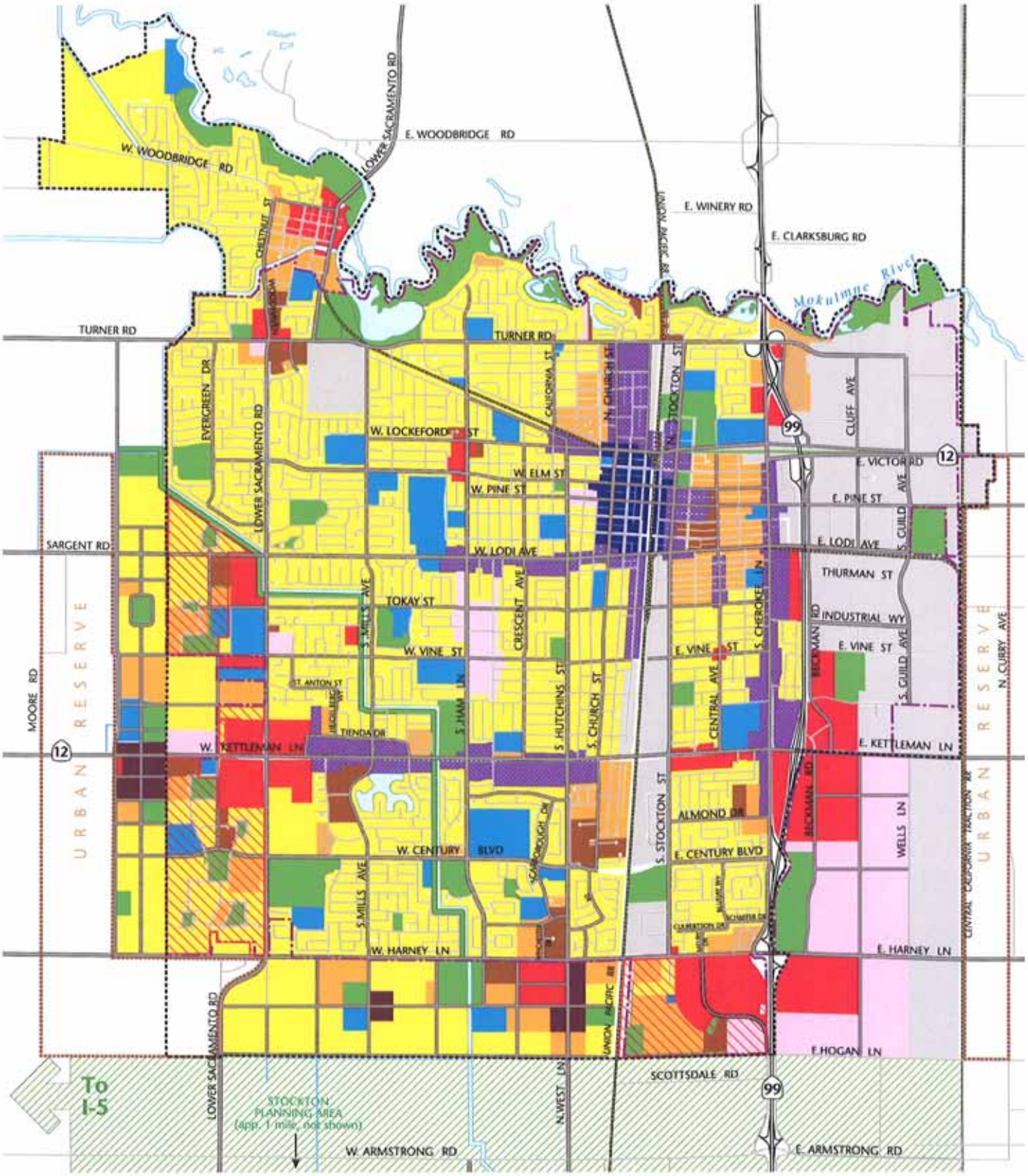

Figure 2
Draft Preferred Plan
February 2009

Appendix B:

Notice of Participation Comments

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STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, Governor

CALIFORNIA EMERGENCY MANAGEMENT AGENCY
DISASTER ASSISTANCE PROGRAMS BRANCH
3650 SCHRIEVER AVENUE
MATHER, CALIFORNIA 95655
PHONE (916) 845-8101 FAX (916) 845-8381

RECEIVED
MAR 04 2009
COMMUNITY DEVELOPMENT DEPT
CITY OF LODI

March 2, 2009

Rad Bartlam
City of Lodi
221 West Pine Street
Lodi, CA 95241

RE: Notice of Preparation for a Draft Environmental Impact Report for the City of Lodi's General Plan Update, SCH# 2009022075

Dear Mr. Bartlam:

Thank you for the opportunity to comment on your Notice of Preparation for a Draft Environmental Impact Report (DEIR) for the city's general plan update. In preparing the general plan and accompanying DEIR, the city should examine the sections of state planning law that involve potential hazards the city may face. For your information, I have underlined specific sections of state planning law where identification and analysis of hazards are discussed (see Attachment A).

Prior to the release of the draft general plan or within the DEIR, city staff or your consultants should examine each of the requirements in state planning law and determine if there are hazard issues within the community which the general plan should address. A table in the DEIR (or general plan) which identifies these specific issues and where they are addressed in the general plan would be helpful in demonstrating the city has complied with these requirements. If the DEIR determines that state planning law requirements have not been met, it should recommend that these issues be addressed in the general plan as a mitigation measure.

We note that state planning law includes a requirement for consultations with state agencies in regard to information related to hazards. OES would be happy to share all available information at our disposal to facilitate the city's ability to comply with state planning and environmental laws.

If you have any questions about these comments, please contact Andrew Rush at (916) 845-8269 or andrew.rush@OES.ca.gov.

Sincerely,

Dennis Castrillo
Environmental Officer

cc: State Clearinghouse

Attachment A
Hazards and State Planning Law Requirements

General Plan Consistency

65300.5. In construing the provisions of this article, the Legislature intends that the general plan and elements and parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency.

Seven Mandated Elements

65302. The general plan shall consist of a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals. The plan shall include the following elements:

(a) A land use element that designates 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 location and designation of the extent of the uses of the land for public and private uses shall consider the identification of land and natural resources pursuant to paragraph (3) of subdivision (d). 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 shall identify and annually review those areas covered by the plan that are subject to flooding identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources. The land use element shall also do both of the following:

(1) Designate in a land use category that provides for timber production those parcels of real property zoned for timberland production pursuant to the California Timberland Productivity Act of 1982, Chapter 6.7 (commencing with Section 51100) of Part 1 of Division 1 of Title 5.

(2) Consider the impact of new growth on military readiness activities carried out on military bases, installations, and operating and training areas, when proposing zoning ordinances or designating land uses covered by the general plan for land, or other territory adjacent to military facilities, or underlying designated military aviation routes and airspace.

(A) In determining the impact of new growth on military readiness activities, information provided by military facilities shall be considered. Cities and counties shall address military impacts based on information from the military and other sources.

(B) The following definitions govern this paragraph:

(i) "Military readiness activities" mean all of the following:

(I) Training, support, and operations that prepare the men and women of the military for combat.

(II) Operation, maintenance, and security of any military installation.

(III) Testing of military equipment, vehicles, weapons, and sensors for proper operation or suitability for combat use.

(ii) "Military installation" means a base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the United States Department of Defense as defined in paragraph (1) of subsection (e) of Section 2687 of Title 10 of the United States Code.

(b) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.

(c) A housing element as provided in Article 10.6 (commencing with Section 65580).

(d) (1) A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The conservation element shall consider the effect of development within the jurisdiction, as described in the land use element, on natural resources located on public lands, including military installations. That portion of the conservation element including waters shall be developed in coordination with any countywide water agency and with all district and city agencies, including flood management, water conservation, or groundwater agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or county.

(2) The conservation element may also cover all of the following:

(A) The reclamation of land and waters.

(B) Prevention and control of the pollution of streams and other waters.

(C) Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.

(D) Prevention, control, and correction of the erosion of soils, beaches, and shores.

(E) Protection of watersheds.

(F) The location, quantity and quality of the rock, sand and gravel resources.

(3) Upon the next revision of the housing element on or after January 1, 2009, the conservation element shall identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

(e) An open-space element as provided in Article 10.5 (commencing with Section 65560).

(f) (1) A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Care Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

(A) Highways and freeways.

(B) Primary arterials and major local streets.

(C) Passenger and freight on-line railroad operations and ground rapid transit systems.

(D) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

(E) Local industrial plants, including, but not limited to, railroad classification yards.

(F) Other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

(2) Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (Ldn). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraphs (1) to (6), inclusive.

(3) The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

(4) The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

(g) (1) A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wild land and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

(2) The safety element, upon the next revision of the housing element on or after January 1, 2009, shall also do the following:

(A) Identify information regarding flood hazards, including, but not limited to, the following:

(i) Flood hazard zones. As used in this subdivision, "flood hazard zone" means an area subject to flooding that is delineated as either a special hazard area or an area of moderate or minimal hazard on an official flood insurance rate map issued by the Federal Emergency Management Agency. The identification of a flood hazard zone does not imply that areas outside the flood hazard zones or uses permitted within flood hazard zones will be free from flooding or flood damage.

(ii) National Flood Insurance Program maps published by FEMA.

(iii) Information about flood hazards that is available from the United States Army Corps of Engineers.

(iv) Designated floodway maps that are available from the Central Valley Flood Protection Board.

(v) Dam failure inundation maps prepared pursuant to Section 8589.5 that are available from the Office of Emergency Services.

(vi) Awareness Floodplain Mapping Program maps and 200-year flood plain maps that are or may be available from, or accepted by, the Department of Water Resources.

(vii) Maps of levee protection zones.

(viii) Areas subject to inundation in the event of the failure of project or nonproject levees or floodwalls.

(ix) Historical data on flooding, including locally prepared maps of areas that are subject to flooding, areas that are vulnerable to flooding after wildfires, and sites that have been repeatedly damaged by flooding.

(x) Existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities.

(xi) Local, state, and federal agencies with responsibility for flood protection, including special districts and local offices of emergency services.

(B) Establish a set of comprehensive goals, policies, and objectives based on the information identified pursuant to subparagraph (A), for the protection of the community from the unreasonable risks of flooding, including, but not limited to:

(i) Avoiding or minimizing the risks of flooding to new development.

(ii) Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in flood hazard zones.

(iii) Maintaining the structural and operational integrity of essential public facilities during flooding.

(iv) Locating, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities or identifying construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.

(v) Establishing cooperative working relationships among public agencies with responsibility for flood protection.

(C) Establish a set of feasible implementation measures designed to carry out the goals, policies, and objectives established pursuant to subparagraph (B).

(3) After the initial revision of the safety element pursuant to paragraph (2), upon each revision of the housing element, the planning agency shall review and, if necessary, revise the safety element to identify new information that was not available during the previous revision of the safety element.

(4) Cities and counties that have flood plain management ordinances that have been approved by FEMA that substantially comply with this section, or have substantially equivalent provisions to this subdivision in their general plans, may use that information in the safety element to comply with this subdivision, and shall summarize and incorporate by reference into the safety element the other general plan provisions or the flood plain ordinance, specifically showing how each requirement of this subdivision has been met.

(5) Prior to the periodic review of its general plan and prior to preparing or revising its safety element, each city and county shall consult the California Geological Survey of the Department of Conservation, the Central Valley Flood Protection Board, if the city or county is located within the boundaries of the Sacramento and San Joaquin Drainage District, as set forth in Section 8501 of the Water Code, and the Office of Emergency Services for the purpose of including information known by and available to the department, the office, and the board required by this subdivision.

(6) To the extent that a county's safety element is sufficiently detailed and contains appropriate policies and programs for adoption by a city, a city may adopt that portion of the county's safety element that pertains to the city's planning area in satisfaction of the requirement imposed by this subdivision.

Consistency with Airport Land Use Plans

65302.3. (a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.

Review of Safety Element

65302.5. (a) At least 45 days prior to adoption or amendment of the safety element, each county and city shall submit to the Division of Mines and Geology of the Department of Conservation

one copy of a draft of the safety element or amendment and any technical studies used for developing the safety element. The division may review drafts submitted to it to determine whether they incorporate known seismic and other geologic hazard information, and report its findings to the planning agency within 30 days of receipt of the draft of the safety element or amendment pursuant to this subdivision. The legislative body shall consider the division's findings prior to final adoption of the safety element or amendment unless the division's findings are not available within the above prescribed time limits or unless the division has indicated to the city or county that the division will not review the safety element. If the division's findings are not available within those prescribed time limits, the legislative body may take the division's findings into consideration at the time it considers future amendments to the safety element. Each county and city shall provide the division with a copy of its adopted safety element or amendments. The division may review adopted safety elements or amendments and report its findings. All findings made by the division shall be advisory to the planning agency and legislative body.

(1) The draft element of or draft amendment to the safety element of a county or a city's general plan shall be submitted to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county at least 90 days prior to either of the following:

(A) The adoption or amendment to the safety element of its general plan for each county that contains state responsibility areas.

(B) The adoption or amendment to the safety element of its general plan for each city or county that contains a very high fire hazard severity zone as defined pursuant to subdivision (b) of Section 51177.

(2) A county that contains state responsibility areas and a city or county that contains a very high fire hazard severity zone as defined pursuant to subdivision (b) of Section 51177, shall submit for review the safety element of its general plan to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county in accordance with the following dates as specified, unless the local government submitted the element within five years prior to that date:

(A) Local governments within the regional jurisdiction of the San Diego Association of Governments: December 31, 2010.

(B) Local governments within the regional jurisdiction of the Southern California Association of Governments: December 31, 2011.

(C) Local governments within the regional jurisdiction of the Association of Bay Area Governments: December 31, 2012.

(D) Local governments within the regional jurisdiction of the Council of Fresno County Governments, the Kern County Council of Governments, and the Sacramento Area Council of Governments: June 30, 2013.

(E) Local governments within the regional jurisdiction of the Association of Monterey Bay Area Governments: December 31, 2014.

(F) All other local governments: December 31, 2015.

(3) The State Board of Forestry and Fire Protection shall, and a local agency may, review the draft or an existing safety element and report its written recommendations to the planning agency within 60 days of its receipt of the draft or existing safety element. The State Board of Forestry and Fire Protection and local agency shall review the draft or existing safety element and may

offer written recommendations for changes to the draft or existing safety element regarding both of the following:
(A) Uses of land and policies in state responsibility areas and very high fire hazard severity zones that will protect life, property, and natural resources from unreasonable risks associated with wildland fires.
(B) Methods and strategies for wildland fire risk reduction and prevention within state responsibility areas and very high hazard severity zones.
(b) Prior to the adoption of its draft element or draft amendment, the board of supervisors of the county or the city council of a city shall consider the recommendations made by the State Board of Forestry and Fire Protection and any local agency that provides fire protection to territory in the city or county. If the board of supervisors or city council determines not to accept all or some of the recommendations, if any, made by the State Board of Forestry and Fire Protection or local agency, the board of supervisors or city council shall communicate in writing to the State Board of Forestry and Fire Protection or to the local agency, its reasons for not accepting the recommendations.

Open Space Plans

65560. (a) "Local open-space plan" is the open-space element of a county or city general plan adopted by the board or council, either as the local open-space plan or as the interim local open-space plan adopted pursuant to Section 65563.
(b) "Open-space land" is any parcel or area of land or water that is essentially unimproved and devoted to an open-space use as defined in this section, and that is designated on a local, regional or state open-space plan as any of the following:
(1) Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands.
(2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of groundwater basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
(3) Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
(4) Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

CITY OF STOCKTON

COMMUNITY DEVELOPMENT DEPARTMENT

City Hall • 425 N. El Dorado Street • Stockton, CA 95202-1997
209-937-8266

March 20, 2009

Rad Bartlam, Interim Community Development Director
City of Lodi
221 West Pine Street
Lodi, CA 95241

COMMENTS REGARDING THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF LODI GENERAL PLAN UPDATE

Thank you for the opportunity to review and comment on the Notice of Preparation of a Draft Environmental Impact Report for the City of Lodi General Plan Update. Based on a review of the City of Lodi's proposed planning area, it appears that it overlaps with the City of Stockton's adopted General Plan (see attached 2035 General Plan – Land Use/Circulation Diagram). The overlap area is primarily designated Open Space/Agriculture with Micke Grove Regional Park designated as Parks and Recreation. In order to avoid an overlap in planning areas, I am respectfully requesting that the City of Lodi set its planning area boundary at the northern boundary of the City of Stockton's General Plan Land Use/Circulation Diagram.

The City requests that the EIR address the potential traffic impacts of City of Lodi growth on the State Highway Route 99 and Interstate 5 corridors and interchanges south of Lodi to the City of Stockton. The EIR traffic analysis should address the potential impacts of City of Lodi growth on the local street network between the City of Lodi and City of Stockton, including but not limited to, West Lane, Lower Sacramento Road, Thornton Road, Davis Road and collector streets as the City of Stockton already is and will continue to be an major employment destination for Lodi residents. Further, it is recommended that a traffic mitigation fee program be considered with the adoption of the General Plan update to address Lodi's growth impacts on the transportation facilities cited above that will occur outside of the City of Lodi General Plan area.

We wish to thank you for the opportunity to review and comment on the above-referenced document and to coordinate our planning efforts. Please direct copies of any subsequent environmental documentation, as well as any notification of meetings regarding the proposed project, to me at the above-noted address. Should you have any questions, please feel free to contact Planning Manager David Stagnaro, AICP at 937-8598.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

MMN:DJS:sis

cc:

emc: Guy Petzold, Deputy City Attorney
Gregg Meissner, Deputy Director of Coomunity Development, Engineering and Transportation Planning
Mike McDowell, Planning Manager
Mark Madison, Director, Municipal Utilities Department
David Stagnaro, ACCP, Planning Manager
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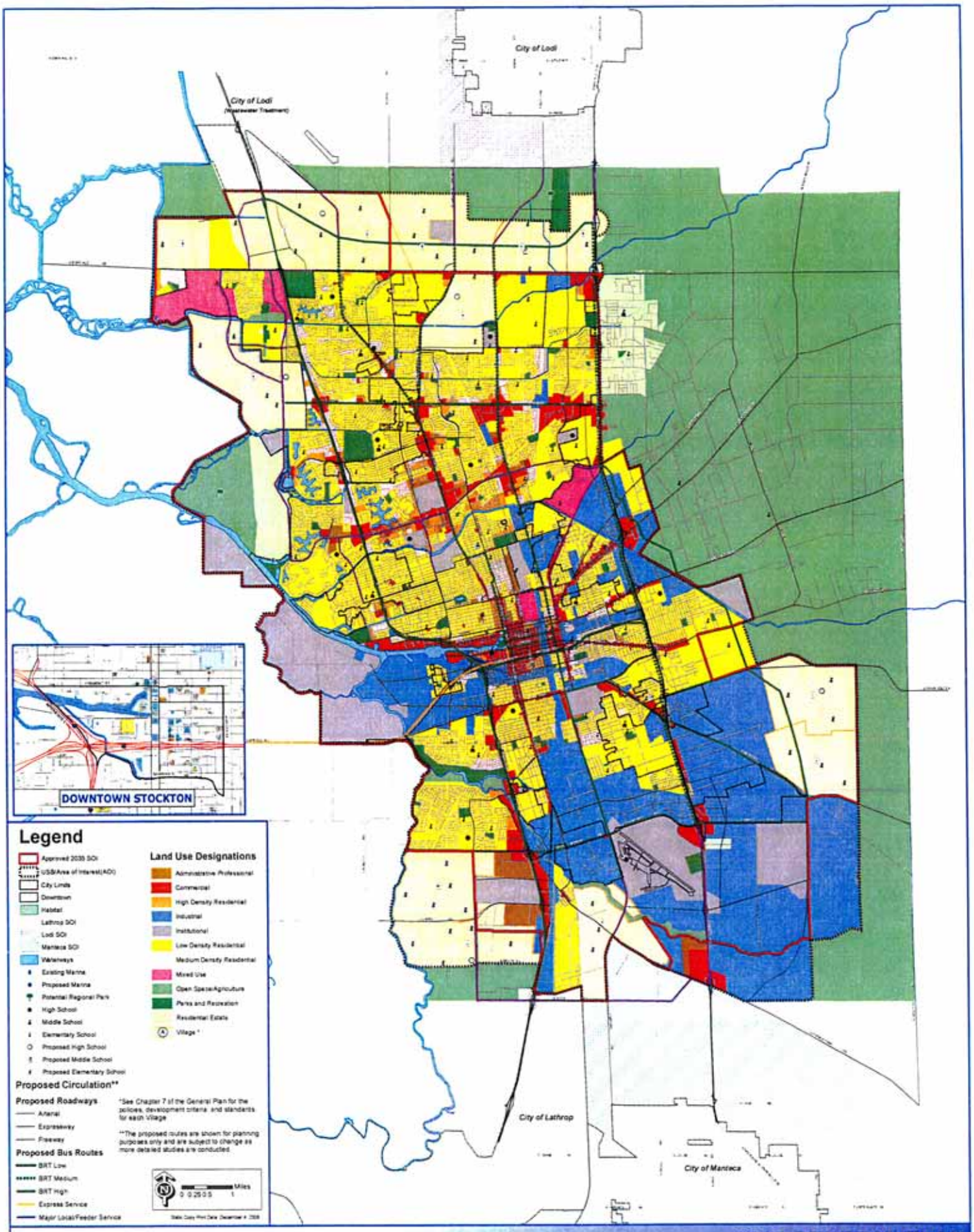
Stockton
All-America City
2004
1999



CITY OF STOCKTON

2035 GENERAL PLAN
LAND USE/CIRCULATION DIAGRAM

December 11, 2007

DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
916-358-2900

March 26, 2009

Rad Bartlam
City of Lodi, Planning Division
221 West Pine Street
Lodi, CA 95241

Dear Mr. Rad Bartlam:

The Department of Fish and Game (DFG) has reviewed the Notice of Preparation (NOP) of a draft Environmental Impact Report (DEIR) for the City of Lodi's General Plan Update. The project consists of a comprehensive update of Lodi's General Plan which will guide the physical development of the city through the year 2030. Lodi is located on the eastern edge of the Sacramento/San Joaquin Delta, in San Joaquin County.

Wildlife habitat resources within Lodi's compact City Limits and Sphere of Influence (SOI) consist of a core of urban development. Habitat within the large planning area consists primarily of large areas of agricultural land. Significant natural resources of the project include habitat for sensitive species. Within the planning area, California Natural Diversity Database files contain records for the following species:

Swainson's hawk	(*Buteo swainsoni*)
California black rail	(*Laterallus jamaicensis cortuniculus*)
Giant garter snake	(Thamnophis gigas)
Western pond turtle	(*Actinemys marmorata*)
Vernal pool tadpole shrimp	(*Lepidurus packardii*)
Mid-valley fairy shrimp	(*Branchinecta mesovalleyesii*)
Valley elderberry long-horned beetle	(*Desmocerus californicus dimorphus*)

Additionally, the Mokelumne River, which forms Lodi's northern boundary, provides habitat for the federal-listed Chinook salmon (*Oncorhychus tshawytscha*), and steelhead (*Oncorhychus mykiss*), as well as, the Sacramento splittail (*Pogonichthys macrolepidotus*). We recommend that the DEIR discuss and provide mitigation for the following concerns:

1. The project's impact upon fish and wildlife and their habitat.

2. The project's impact upon significant habitat such as wetlands including vernal pools and riparian habitat. The project should be designed so impacts to wetlands are avoided. Mitigation should be provided for unavoidable impacts based upon the concept of no net loss of wetland habitat values or acreage.

3. The project's impact to special status species including species which are state and federal listed as threatened and endangered.

4. The project's growth inducing and cumulative impacts upon fish, wildlife, water quality and vegetative resources.

5. The DEIR should provide an analysis of specific alternatives which reduce impacts to fish, wildlife, water quality and vegetative resources.

6. The DEIR should contain an evaluation of the proposed projects consistency with the applicable land use plans, such as Watershed Master Plans, or Habitat Conservation Plans. Since Lodi is a permit holder under the San Joaquin Multi-Species Conservation Plan we recommend that the General Plan update incorporate appropriate provisions of the Conservation Plan.

The DEIR should consider and analyze whether implementation of the proposed project will result in reasonably foreseeable potentially significant impacts subject to regulation by the DFG under section 1600 et seq. of the Fish and Game Code. Such impacts result whenever a proposed project involves work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel, including ephemeral streams and water courses. Impacts triggering regulation by the DFG under these provisions of the Fish and Game Code typically result from activities that:

- Divert, obstruct, or change the natural flow or the bed, channel or bank of any river, stream, or lake;

- Use material from a streambed; or

- Result in the disposal or deposition of debris, waste, or other material where it may pass into any river stream, or lake.

In the event implementation of the proposed project involves such activities, and those activities will result in reasonably foreseeable substantial adverse effects on fish or wildlife, a Lake or Streambed Alteration Agreement (LSAA) will be required by the DFG. Because issuance of a LSAA is subject to review under the California Environmental Quality Act (CEQA), the DEIR should analyze whether the potentially feasible mitigation measures set forth below will avoid or substantially reduce impacts requiring a LSAA from the DFG.

This project will have an impact to fish and/or wildlife habitat. Assessment of fees under Public Resources Code Section 21089 and as defined by Fish and Game Code Section 711.4 is necessary. Fees are payable by the project applicant upon filing of the Notice of Determination by the lead agency.

Pursuant to Public Resources Code Sections 21092 and 21092.2, the DFG requests written notification of proposed actions and pending decisions regarding this project. Written notifications should be directed to this office.

Thank you for the opportunity to review this project. If the DFG can be of further assistance, please contact Mr. Dan Gifford, Staff Environmental Scientist, at (209) 369-8851 or, Mr. Jeff Drongesen, Senior Environmental Scientist, at (916) 358-2919.

Sincerely,

Kent Smith
Habitat Conservation Program Manager

cc. Jeff Drongesen
Dan Gifford
Department of Fish and Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Susan Jones
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W2605
Sacramento, CA 92825-1888

State of California—Business, Transportation and Housing Agency ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
3330 Ad Art Road
Stockton, CA 95208
(209) 943-8666
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

March 4, 2009

RECEIVED
MAR 12 2009
COMMUNITY DEVELOPMENT DEPT
CITY OF LODI

File No.: 265.9921.11961.LODI GENERAL PLAN UPDATE

Rad Bartlam
City of Lodi
Planning Division
221 West Pine Street
Lodi, CA 95241

Dear Mr. Bartlam,

Thank you for the opportunity to review the Notice of Preparation of Draft Environmental Impact Report for the City of Lodi General Plan Update. While the specific proposals and revisions for the Lodi General Plan have not yet been determined, it is evident the ultimate development of this area will significantly impact traffic on the surrounding roadways.

Located between Sacramento and Stockton, the Planning Area covers approximately 79.4 miles and encompasses numerous county roads, as well as State Routes 99 and 12, and is within 5 miles of Interstate 5 to the west. The Notice of Preparation does indicate the City of Lodi continues to feel growth pressures from within and outside the city limits. As the City of Lodi continues to grow and expand, it will pose a potentially significant impact on the various transportation system components, such as increased traffic volume, congestion, and emergency access in the area. As you know, the California Highway Patrol (CHP) has the primary responsibility for traffic enforcement on county roads and freeways. Therefore, it is important the City of Lodi work closely with the Department of Transportation (Caltrans) as well as the California Highway Patrol in developing long range plans that are beneficial to all the citizens utilizing the highway system.

Should you have any questions, please feel free to call me or Lieutenant Larry Chambers of my staff at (209) 943-8666.

Sincerely,

For...

J. E. DIAL, Captain
Commander
Stockton Area

STATE OF CALIFORNIA
FACSIMILE COVER
10-2A-0049 (NEW 10/92)

ATTENTION:	FROM:	
Mr. Rad Bartham	Barbara Hempstead Department of Transportation 1976 Dr. Martin Luther King Stockton, CA 95205	
City of Lodi Planning Division 221 West Pine Street Lodi, CA 95241	DATE: 3/16//09	TOTAL PAGES (Including Cover Page) 3
	FAX # (Include Area Code) (209) 948-7164	Phone (209) 948-3909
PHONE # (& Area Code) 209-333-6711 / FAX # (& Area Code) 209-333-6842	ORIGINAL DISPOSITION: Destroy ☐ Return ☐ Call for Pickup ☐	

COMMENTS:
10-SJ-Various
Notice of Preparation
City of Lodi General Plan Update
SCH#200902275

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MAR 16 2009
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CITY OF LODI

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 STOCKTON, CA 95201
(1976 E. CHARTER WAY/1976 E. DR. MARTIN
LUTHER KING JR. BLVD. 95205)
TTY: California Relay Service (800) 735-2929
PHONE (209) 941-1921
FAX (209) 948-7194

Flex your power!
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March 16, 2009

10-SJ-Various
City of Lodi
General Plan Update
SCH 2009022075

Mr. Rad Bartham
City of Lodi
Planning Division
221 West Pine Street
Lodi, CA 95241

Dear Mr. Bartham

The California Department of Transportation (Department) appreciates the opportunity to have reviewed the Notice of Preparation (NOP) for the City of Lodi General Plan Update draft Environmental Impact Report (EIR). The Department has the following comments:

Travel Forecasting Comments

1. Please include Highway 88 in The Document Details Report, "Proximity" section. Highway 88 impacts also need to be addressed in the DEIR.

2. We recommend the General Plan contain background information, goals, and policies addressing the topics Air Quality and Greenhouse Gases along with the listed topics on page 4.

3. The most recent approved City of Stockton General Plan Update moved Stockton's City Limits line north of Eight Mile Road. Please include discussion of this change in boundaries in the City of Lodi General Plan Update.

4. As Lodi expands west/east, the surrounding State Highway Systems (SHS), highway interchanges and intersections (signalized/unsignalized) will feel the impacts of the

additional traffic. The Department is anticipating the DEIR to discuss these impacts, detail any mitigation needed as well as funding mechanisms and responsibility for construction of any mitigation.

Traffic Operations Comments

1. A traffic impact study (TIS) is necessary to determine the operational mitigation measures necessary to remediate the identified transportation impacts on the State Highway System. The Department recommends the TIS be prepared in accordance with the *Caltrans Guide for the Preparation of Traffic Impact Studies,* dated December 2002 (Guide). The Guide is available online at the following web address: http://www.dot.ca.gov/hq/tpp/planning_tools/tools.htm. The TIS should include a discussion of identified mitigation measures/improvements and funding responsibility. It should also include all approved and pending projects within the vicinity.

2. An Encroachment Permit will be required for work done within the Department's right of way. This work is subject to the California Environmental Quality Act. Therefore, environmental studies may be required as part of the encroachment permits application. A qualified professional must conduct any such studies undertaken to satisfy the Department's environmental review responsibilities. Ground disturbing activities to the site prior to completion and/or approval of required environmental documents may affect the Department's ability to issue a permit for the project. Furthermore, if engineering plans or drawings will be part of your permit application, they should be prepared in standard units.

We suggest that the City of Lodi continue to coordinate and consult with the Department to identify and address potential cumulative transportation impacts that may occur within this geographical location. This will assist us in ensuring that the traffic safety and quality standards are maintained for the traveling public on existing and future state transportation facilities.

If you have any questions or would like to discuss our comments in more detail, please contact Barbara Hempstead at (209) 948-3909 (e-mail: barbara_hempstead@dot.ca.gov) or me at (209) 941-1921.

Sincerely,

for Barbara Hempstead

TOM DUMAS, Chief
Office of Metropolitan Planning

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

RECEIVED
MAR 2 0 2009
COMMUNITY DEVELOPMENT DEPT
CITY OF LODI

March 19, 2009

Rad Bartlam
City of Lodi
Planning Division
221 W. Pine Street
Lodi, CA 95241

Subject: Notice of Preparation (NOP) for Environmental Impact Report (EIR)

Project: City of Lodi General Plan Update

District Reference No: 20090160

Dear Rad Bartlam:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the NOP for the City of Lodi General Plan Update that includes a planning area of 79.4 square miles (including a 14 square miles within the city limits and a 16.6 square mile sphere of influence). The District offers the following comments:

District Comments

1) The District recommends that the general plan include an air quality element, or its equivalent. AB 170 (Reyes) requires cities and counties in the San Joaquin Valley to include an air quality element or air quality implementation strategies in their general plans and to submit their plan to the District for review. To assist in addressing this new requirement the District has prepared its Air Quality Guidelines for General Plans (AQGGP). The AQGGP can be found on the District's website at http://www.valleyair.org/transportation/Entire-AQGGP.pdf.

2) The District recommends that the air quality section of the EIR include the following discussions:

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
Tel: (661) 326-6900 FAX: (661) 326-6985

www.valleyair.org

Printed on recycled paper

2a) **A description of federal, state, and local regulatory environment and existing air quality conditions impacting the area.** The District is currently designated as extreme non-attainment of the federal national ambient air quality standard for ozone and non-attainment for PM2.5. More information on the District's federal and state attainment status can be found on the District's web page at http://www.valleyair.org/aqinfo/attainment.htm.

2b) **A description of the project, including a discussion of existing and post-project emissions.** The discussion should include a description of the methodology, model assumptions, inputs and results used in characterizing the project's impact on air quality. The discussion should also include emissions from short-term activities such as construction, and emissions from long-term activities, such as operational, and area wide emission sources.

2c) **A discussion of cumulative air impacts.** The discussion should identify any impacts that would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment.

2d) **A discussion of greenhouse gas (GHG) emissions.** At this time there are no established significance thresholds for greenhouse gas emissions, however, it is suggested that the EIR include a discussion of GHG emissions generated by the project and the effect they will have, if any, on global climate change.

2e) **A discussion of the potential health impact of Toxic Air Contaminants (TACs), if any, to near-by receptors.** Accurate quantification of health risks and operational emissions requires detailed site specific information, e.g. type of emission source, proximity of the source to sensitive receptors, and trip generation information. The required level of detail is typically not available until project specific approvals are being granted. Thus, the District recommends that as future projects are identified the potential health risks be further reviewed, including those that would be exempt from CEQA requirements.

Special consideration should be given when approving projects that could expose sensitive receptors to TACs. Prior to conducting a Health Risk Assessment (HRA), an applicant may perform a prioritization on all sources of emissions to determine if it is necessary to conduct an HRA. A prioritization is a screening tool used to identify projects that may have significant health impacts. If the project has a prioritization score of 10 or more, the project has the potential to exceed the District's significance threshold for health impacts of 10 in a million. If the prioritization score indicates that TACs are a concern, the District recommends that an HRA be performed. If an HRA is to be performed, it is recommended that the project proponent contact the District to review the proposed modeling approach. For more Information on conducting a

prioritization or HRA please contact Mr. Leland Villalvazo, Supervising Air Quality Specialist, at hramodeler@valleyair.org. Additional information on TACs can be found on the District's Air Quality Modeling page at http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm.

2f) **A discussion of nuisance odors.** If there is evidence that the project could result in sensitive receptors being exposed to objectionable odors, the District recommends that potential odor impacts be included in the discussion. The discussion should include potential impacts as a result project location. Special consideration should be given when siting new odor sources near existing receptors or when siting new receptors near existing sources. The District recommends that as individual projects are identified the odor impacts be further evaluated, including those that would be exempt from CEQA requirements.

2g) **A discussion of all feasible measures that will reduce air quality impacts.** Given the size of the project, it is reasonable to conclude that mobile source emissions resulting from growth and development would have significant impacts on air quality. To reduce the project related impacts on air quality the General Plan should include design standards that reduce vehicle miles traveled (VMT). VMT can be reduced through encouragement of mixed-use development, walkable communities, etc. Recommended design elements can be found on the District's website at http://www.valleyair.org/ISR/ISROnSite Measures.htm.

District staff is available to meet with you and/or the applicant to further discuss the regulatory requirements that are associated with this project. If you have any questions or require further information, please call Jessica Willis at (559) 230-5818 and provide the reference number at the top of this letter.

Sincerely,

David Warner
Director of Permit Services

Jessica R. Willis

for Arnaud Marjollet
Permit Services Manager

DW: jw

cc: File

S J C O G, Inc.

555 East Weber Avenue • Stockton, CA 95202 • (209) 468-3913 • FAX (209) 468-1084

San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP)

SJMSCP RESPONSE TO LOCAL JURISDICTION (RTLJ)
ADVISORY AGENCY NOTICE TO SJCOG, Inc.

RECEIVED
MAR 17 2009
COMMUNITY DEVELOPMENT DEPT
CITY OF LODI

To: Rad Bartlam, Interim Community Development Director, City of Lodi

From: Anne~Marie Poggio-Castillou, Regional Habitat Planner, SJCOG, Inc.

Date: March 16, 2009

Local Jurisdiction Project Title: NOP of Draft EIR for the City of Lodi General Plan Update

Local Jurisdiction Project Number: N/A

Total Acres to be converted from Open Space Use: Undetermined

Habitat Types to be Disturbed: Agriculture, Urban, Natural, and Multi-Purpose Habitat Land

Species Impact Findings: Findings to be determined by SJMSCP biologist.

Dear Mr. Bartlam:

SJCOG, Inc. has reviewed application for the City of Lodi General Plan Update. The General Plan Update will be the blueprint for Lodi's next 20 years. Key issues will be identified in consultation with the community; likely topics will include:

- Managing growth
- Establishing a greenbelt community separator
- Preserving agriculture and viticulture
- Leveraging the wine industry and tourism
- Rehabilitating neighborhoods and key corridors
- Strategic economic development
- Expanding housing options, and
- Maintaining the small town character of Lodi and the quality of life.

The project is located along the Mokelumne River abutting the Sacramento Delta. Lodi is situated in the San Joaquin Valley between Stockton, six miles to the south, and Sacramento, 35 miles to the north. It is adjacent to U.S. Highway 99, within five miles of Interstate 5 via State Highway 12. The Planning Area covers approximately 79.4 square miles. The city is not contemplating annexation of this large Planning Area; the future urban area is likely to encompass only a portion of land within this larger Planning Area, contiguous to the existing City Limits.

The Draft Preferedd Plan Figure 2 identifies some area that will require participant in the "unmapped project" review process. Projects which are seeking coverage through the SJMSCP as an Unmapped Land Use Projects (e.g., annexation and general plan amendments (adjacent to existing incorporated cities and defined communities); airport expansions adjacent to existing airports and Freeway Services Commercial):

- General Plan amendments and city annexations adjacent to existing incorporated cities and adjacent to the boundaries of defined communities (excluding the establishment of new towns or new communities); freeway service commercial; expansion of unincorporated, existing industrial areas; and similar anticipated projects located outside of or adjacent to designated urban boundaries as indicated on the SJMSCP Planned Land Use Map.

- Projects for this category of Permitted Activities shall be subject to a case-by-case review by the JPA's Technical Advisory Committee (TAC) to ensure that the biological impacts of the proposed projects are within the parameters established by the SJMSCP and the Biological Opinion. Projects for this category shall be located adjacent to existing city limits, adjacent to the boundaries of defined communities, adjacent to existing airport facilities (i.e., Stockton, Lodi and Tracy airports), within designated Freeway Service

Commercial Areas, or adjacent to existing industrial areas in the unincorporated county as indicated on the SJMSCP Planned Land Use Map Projects for this category shall not be located in any geographic area where coverage is prohibited under the SJMSCP.

The City of Lodi is a signatory to San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Participation in the SJMSCP satisfies requirements of both the state and federal endangered species acts, and ensures that the impacts are mitigated below a level of significance in compliance with the California Environmental Quality Act (CEQA). The LOCAL JURISDICTION retains responsibility for ensuring that the appropriate Incidental Take Minimization Measure are properly implemented and monitored and that appropriate fees are paid in compliance with the SJMSCP. Although participation in the SJMSCP is voluntary, Local Jurisdiction/Lead Agencies should be aware that if project applicants choose against participating in the SJMSCP, they will be required to provide alternative mitigation in an amount and kind equal to that provided in the SJMSCP.

It should be noted that two important federal agencies (U.S. Army Corps of Engineers and the California Regional Water Quality Control Board) have not issued permits to the SJCOG and so payment of the fee to use the SJMSCP will not modify requirements that could be imposed by these two agencies. Potential waters of the United States [pursuant to Section 404 Clean Water Act] are believed to occur on the project site. It may be prudent to obtain a preliminary wetlands map from a qualified consultant. If waters of the United States are confirmed on the project site, the Corps and the Regional Water Quality Control Board (RWQCB) would have regulatory authority over those mapped areas [pursuant to Section 404 and 401 of the Clean Water Act respectively] and permits would be required from each of these resource agencies prior to grading the project site.

This Project and all sequential projects are subject to the SJMSCP. This project and all sequential projects are subject to a case-by-case review. This can be a 90 day process and it is recommended that the project applicant contact SJMSCP staff as early as possible. It is also recommended that the project applicant obtain an information package. http://www.sjcog.org
After this project is approved by the Habitat Technical Advisory Committee and the SJCOG Inc. Board, the following process must occur to participate in the SJMSCP:

- Schedule a SJMSCP Biologist to perform a pre-construction survey ***prior to any ground disturbance***
- Sign and Return Incidental Take Minimization Measures to SJMSCP staff (given to project applicant after pre-construction survey is completed)
- Pay appropriate fee based on SJMSCP findings. **Fees shall be paid in the amount in effect at the time of issuance of Building Permit**
- Receive your Certificate of Payment and release the required permit

If you have any questions, please call (209) 468-3913.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

February 23, 2009

RECEIVED
FEB 27 2009
COMMUNITY DEVELOPMENT DEPT
CITY OF LODI

To: Reviewing Agencies

Re: City of Lodi General Plan Update
SCH# 2009022075

Attached for your review and comment is the Notice of Preparation (NOP) for the City of Lodi General Plan Update draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Rad Bartlam
City of Lodi
Planning Division
221 West Pine Street
Lodi, CA 95241

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Assistant Deputy Director & Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	2009022075
Project Title	City of Lodi General Plan Update
Lead Agency	Lodi, City of

Type	**NOP** Notice of Preparation
Description	Lodi's General Plan was adopted in 1991. Although many of its policies are still relevant, the city has undergone changes during this period. Despite the recent slowdown in housing demand, growth pressures continue to be felt from within and outside the city limits. Between 2000 and 2008, according to the California Department of Finance, Lodi's population grew by 11 percent, an increase from 57,011 residents to 63,362. The City's total jobs also grew by nearly nine percent between 2000 and 2005, according to the San Joaquin Council of Governments, increasing from 21,450 to 23,438.

Lead Agency Contact

Name	Rad Bartlam		
Agency	City of Lodi		
Phone	209-333-6711	*Fax*	
email			
Address	Planning Division 221 West Pine Street		
City	Lodi	*State* CA	*Zip* 95241

Project Location

County	San Joaquin			
City	Lodi			
Region				
Cross Streets	Citywide			
Lat / Long				
Parcel No.				
Township		*Range*	*Section*	*Base*

Proximity to:

Highways	Hwy 99, I-5, Hwy 12
Airports	
Railways	SPRR
Waterways	
Schools	
Land Use	

Project Issues	Landuse; Growth Inducing; Other Issues; Housing; Traffic/Circulation; Noise
Reviewing Agencies	Resources Agency; Department of Conservation; Office of Historic Preservation; Department of Parks and Recreation; Central Valley Flood Protection Board; Department of Water Resources; Department of Fish and Game, Region 2; Department of Food and Agriculture; Office of Emergency Services; Native American Heritage Commission; Caltrans, Division of Transportation Planning; California Highway Patrol; Department of Housing and Community Development; Caltrans, District 10; Regional Water Quality Control Bd., Region 5 (Sacramento)

Date Received 02/23/2009 *Start of Review* / / *End of Review* / /

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: SAN JOAQUIN

SCH# 2009022019

Resources Agency

- [x] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Mike Sotelo
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [x] **Dept. of Conservation**
  Rebecca Salazar
- [ ] **California Energy Commission**
  Dale Edwards
- [ ] **Cal Fire**
  Allen Robertson
- [x] **Office of Historic Preservation**
  Wayne Donaldson
- [x] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [x] **Central Valley Flood Protection Board**
  Jon Yego
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [x] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou
- [ ] _____
  Conservancy

Fish and Game

- [ ] **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Game Region 1**
  Donald Koch
- [ ] **Fish & Game Region 1E**
  Laurie Harnsberger
- [x] **Fish & Game Region 2**
  Jeff Drongesen
- [ ] **Fish & Game Region 3**
  Robert Floerke
- [ ] **Fish & Game Region 4**
  Julie Vance
- [ ] **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- [ ] **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M**
  Gabrina Getchel
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- [x] **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- [ ] **Dept. of Public Health**
  Bridgette Binning
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Linda Flack
- [x] **Office of Emergency Services**
  Dennis Castrillo
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse
- [x] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Leo Wong
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Marina Brand
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [x] **Caltrans - Planning**
  Terri Pencovic
- [x] **California Highway Patrol**
  Scott Loetscher
  Office of Special Projects
- [x] **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Bruce de Terra
- [ ] **Caltrans, District 4**
  Lisa Carboni
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Elmer Alvarez
- [ ] **Caltrans, District 8**
  Dan Kopulsky
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [x] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Ryan P. Chamberlain

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
  - [ ] Transportation Projects
    Douglas Ito
  - [ ] Industrial Projects
    Mike Tollstrup
- [ ] **California Integrated Waste Management Board**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [x] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____

Last Updated on 01/07/2009

STATE OF CALIFORNIA

Arnold Schwarzenegger, *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

RECEIVED
MAR 26 2009
COMMUNITY DEVELOPMENT DEPT
CITY OF LODI

March 24, 2009

Rad Bartlam
City of Lodi
221 West Pine Street
Lodi, CA 95241

Re: Notice of Preparation (NOP), Draft Environmental Impact Report (EIR)
City of Lodi General Plan Update/ SCH# 2009022075

Dear Mr. Bartlam:

As the state agency responsible for rail safety within California, the California Public Utilities Commission (CPUC or Commission) recommends that development projects proposed near rail corridors be planned with the safety of these corridors in mind. New developments and improvements to existing facilities may increase vehicular traffic volumes, not only on streets and at intersections, but also at at-grade highway-rail crossings. In addition, projects may increase pedestrian traffic at crossings, and elsewhere along rail corridor rights-of-way. Working with CPUC staff early in project planning will help project proponents, agency staff, and other reviewers to identify potential project impacts and appropriate mitigation measures, and thereby improve the safety of motorists, pedestrians, railroad personnel, and railroad passengers.

The Commission recommends that the City include consideration of potential project-related rail safety impacts and measures to reduce adverse impacts of the proposed project. The project's traffic impact study (TIS) is the mechanism by which to address these concerns since it will be the basis for the analysis within the Traffic/Circulation section of the DEIR.

In general, the major types of impacts to consider are collisions between trains and vehicles, and between trains and pedestrians. Changes in land use should not be allowed that would permit housing adjacent to existing rail yards. Similarly, where a need for grade-separated crossings is identified, new development should not be placed adjacent to at-grade highway rail crossings, within the footprint of land needed for future grade-separation structures.

General categories of measures to reduce potential adverse impacts on rail safety include:

- Installation of grade separations at crossings, i.e., physically separating roads and railroad track by constructing overpasses or underpasses
- Improvements to warning devices at existing highway-rail crossings
- Installation of additional warning signage
- Improvements to traffic signaling at intersections adjacent to crossings, e.g., traffic preemption
- Installation of median separation to prevent vehicles from driving around railroad crossing gate

- Where soundwalls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains
- Prohibition of parking within 100 feet of crossings to improve the visibility of warning devices and approaching trains
- Installation of pedestrian-specific warning devices and channelization
- Installation of additional traffic lanes through the crossing to accommodate additional traffic
- Construction of pull-out lanes for buses and vehicles transporting hazardous materials
- Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way
- Elimination of driveways near crossings
- Increased enforcement of traffic laws at crossings
- Rail safety awareness programs to educate the public about the hazards of highway-rail grade crossings

CPUC also encourages localities to set up mechanisms whereby new developments pay a fair share of their impact costs to fund the above measures if not already in an existing Fee program by the City or a Regional Fee program.

Commission approval is required to modify an existing highway-rail crossing or to construct a new crossing.

Please forward the TIS scope, so we may have an opportunity to review the proposed analysis which will make our review more efficient and expedient for the project proponent. Should you have a planned scoping meeting for the traffic study, we would like to be notified along with other agencies affected or impacted by the proposed project.

Thank you for your consideration of these comments and we look forward to working with the City on this project. If you have any questions in this matter, please call me at (415) 713-0092 or email at ms2@cpuc.ca.gov.

Sincerely,

Moses Stites
Rail Corridor Safety Specialist
Consumer Protection and Safety Division
Rail Transit and Crossings Branch
515 L Street, Suite 1119
Sacramento, CA 95814

DYETT & BHATIA
Urban and Regional Planners

755 Sansome Street, Suite 400
San Francisco, California 94111
415 956 4300 415 956 7315