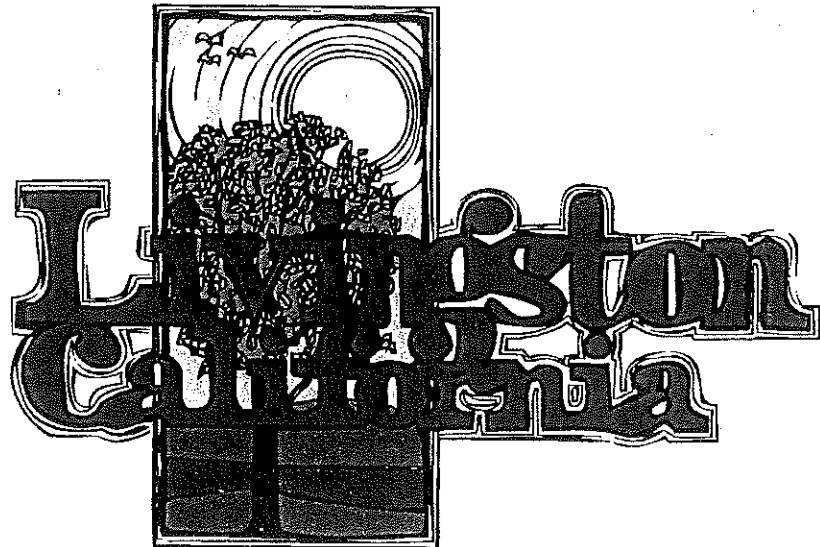


GENERAL PLAN



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CHAPTER 1
INTRODUCTION

1.0

INTRODUCTION

1.1 OVERVIEW OF THE UPDATE PROCESS

The General Plan is a long-term, comprehensive framework to guide physical, social and economic development within a community's Planning Area. The City of Livingston's General Plan is a long-range guide for attaining the City's goals within its Sphere of Influence and accommodating its population growth to the year 2020. A comprehensive document, it coordinates all components of the City's physical development and sets objectives, policies and standards which guide future growth within the City's Planning Area.

In January, 1998, the Livingston City Council authorized an update to the City's General Plan and associated elements including Land Use, Circulation, Open Space and Conservation, Housing and Safety, Noise, Community Design, Public Services and Facilities.

The City Council appointed a General Plan Review Committee to work with staff and Quad Knopf, Inc., the General Plan consultant. The Committee consisted of representatives from the City Staff, the Planning Commission, City Council, Livingston public schools and Livingston Chamber of Commerce. The General Plan Review Committee has provided crucial input and review to all aspects of the General Plan.

In addition, before preparing the draft General Plan update, Quad Knopf met with local service clubs, held a workshop and four town hall meetings. These preliminary activities were held to discuss and to seek public input into the planning process. The workshops were facilitated by the General Plan consultant team. Members of the public at large were asked a series of questions relating to the quality of life in Livingston such as what things were important to maintain and what would they change in Livingston if money were no object. Participants in the workshop were also asked to design a plan for the future of Livingston using drawing paper, colored markers, and magazine clippings.

Using the results of the workshops, the consultant team developed a series of working papers that were released at intervals during the process. The working papers included a *Preliminary Development Forecasts/Community Concern Summary*, a *Draft Background Report*, and a *Constraints and Opportunities Report*. These papers were distributed to the General Plan Review Committee, for its consideration and approval. The last paper, the *Constraints and Opportunities Report*, served as the foundation for the General Plan update and was also approved by the Planning Commission and City Council and subject to two noticed town hall meetings. The Draft

Background Report is included in the General Plan as Chapter 2 *Environmental Setting and Background*.

1.2 BASIS FOR THE GENERAL PLAN

While many residents cherish the “small town” character of the city, they also find commercial and recreation opportunities are limited because of the city’s size and the effects of State Highway (SH) 99 realignment. The rerouting of SH 99 has resulted in major transformation of the city’s center removing twenty housing units and relocating thirty-five businesses. The realigned SH 99 poses challenges to Livingston and provides a unique opportunity to direct growth in a manner that will promote a sustainable future. The General Plan update will include, in addition to more traditional topics and issues, modified land use controls that will focus economic development to capture lost sales tax revenue currently generated by Livingston residents shopping outside of the city, and increase employment and housing opportunities. Policies to evaluate development on the City’s public services will also be included in the General Plan.

The determination of the study area boundary for the General Plan Update was guided by the following factors:

- ▶ Existing development in the area, including unincorporated areas;
- ▶ Major physical features in the community including the Merced River;
- ▶ Hard edges including major roadways;
- ▶ Undeveloped areas necessary to square off the development boundaries; and
- ▶ Areas within which the city may likely grow over the next 30 years.

The General Plan map shows the results of this analysis and includes the city’s current growth boundaries such as the city limits and the adopted Specific Urban Development Plan (SUDP) lines. The General Plan includes enough land to meet the City’s development needs over the planning period of twenty years and a geographical territory to enable city review of development proposals that may occur in the County adjacent to the city limits. The Sphere of Influence, the outer limits of the City’s Planning Area, serves as the catalyst for future planning discussion. The Study Area also provides sufficient flexibility to review alternative growth scenarios that would focus growth in either the northern or southern sections of the community, along the SH 99 axis, or other alternatives identified by the community.

The first step in the General Plan update process was the preparation of a *Preliminary Development Forecast* to estimate the demand for various land uses in the City of Livingston. Based upon the results of this study the City was able to determine the residential pattern needed to complement a proposed retail/commercial and industrial land use configuration that was most likely to generate a stable economic base for the community. The General Plan map reflects the land uses needed to support the City’s targeted retail/commercial and industrial employers. This approach reflects the City’s commitment to increase its revenue base, which will support future demand for services, thus maintaining and enhancing Livingston’s quality of life.

1.3 ISSUES OF IMPORTANCE

Using the results of the work program, workshops and steering committee meetings discussed above, City staff and the general plan consultant concluded the following issues to be of greatest importance when drafting policies for the General Plan update:

Agricultural Preservation - Agriculture and its related industries were determined to be crucial to the character of the City of Livingston and its surroundings, and the key to the economic vitality of the community. Agriculture and agricultural-related industries were determined to be the most important employment base for the City of Livingston.

Contiguous Planning - In order to maintain a vital economy, preserve surrounding agricultural lands, maintain a healthy quality of life, and minimize public service and facility costs, it was determined that future growth within the Livingston Planning Area should be contiguous to existing development, making the best possible use of existing vacant lands within the City limits and allowing the City to provide services to new development at the most cost-effective, efficient manner possible. The economic vitality of the City is best served by concentric growth, which maintains the existing downtown as the center of the community.

Public Facilities - A key policy throughout all elements of the General Plan is the need for development to "pay its own way." New development will be directed to develop in areas which can adequately accommodate the increased demand on public services and facilities. Ten year and twenty year urban improvement boundaries have been established based upon the capabilities of the City to accommodate new growth. Development will be required to contribute to the cost of providing facilities called for in the General Plan.

Neighborhood Development - As Livingston increases in size from 10,550 in 1998 to over 23,000 in 2020, neighborhood planning will become a key component. Street planning will provide needed connectivity between neighborhoods

The downtown will decrease its primary role as a neighborhood shopping area and transition to a community center for government, office and limited commercial uses. New centers on Winton Parkway, Hammatt Avenue, and Main Street north of SH 99, will provide for the city's growing commercial land use needs.

1.4 ORGANIZATION OF THIS DOCUMENT

State law requires all cities and counties to adopt and maintain a General Plan. The document is structured to contain background information to support the General Plan update and its Environmental Impact Report.

Chapter Two, *Environmental Setting and Background*, contains background information compiled for the Draft Background Report phase of the Livingston General Plan update. It describes the existing conditions that apply to the subject areas to be addressed in the Plan, and also serves as the

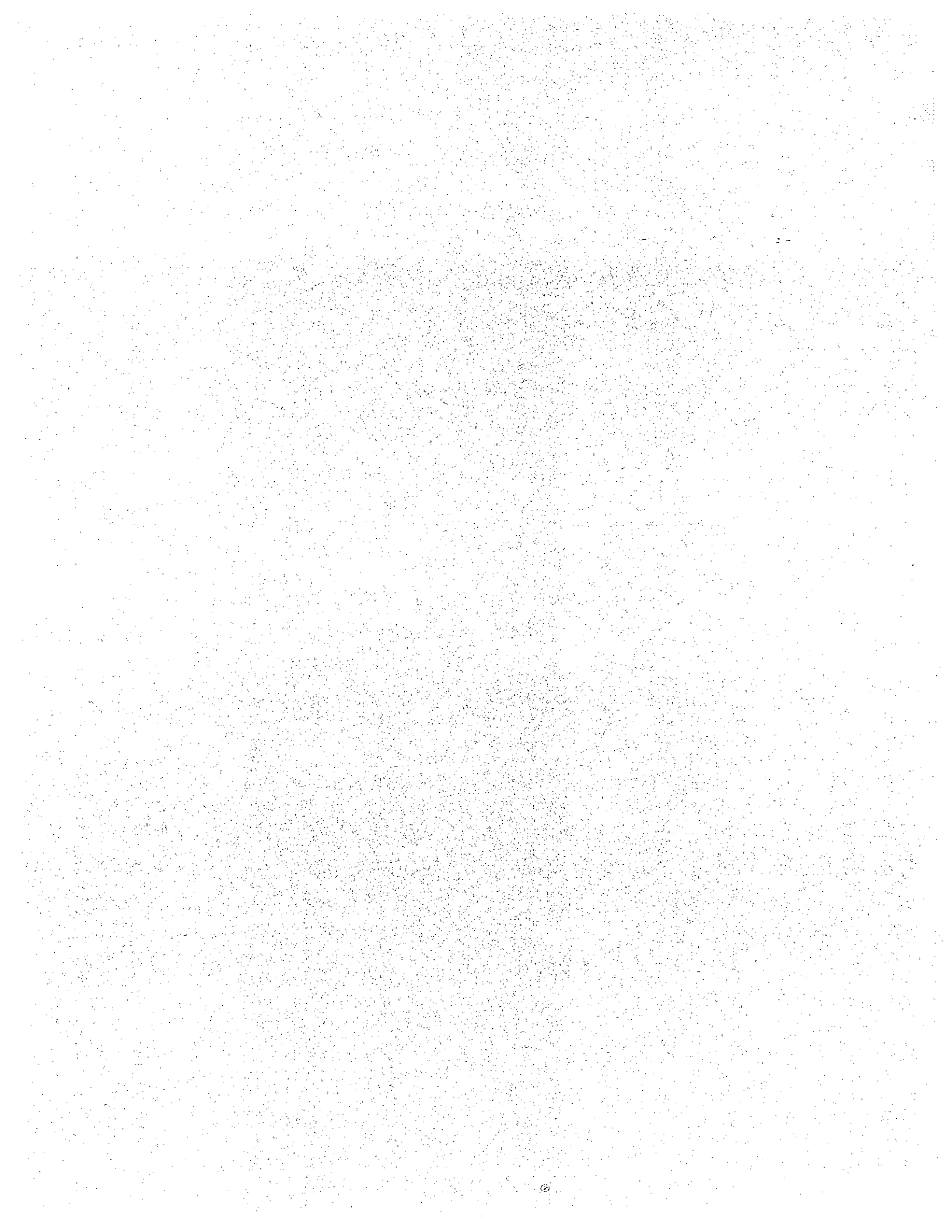
“environmental setting” portion of the Environmental Impact Report (EIR) to be prepared for the General Plan Update. This chapter is organized to correspond to major headings that will appear in the EIR.

Chapters 3-11 contain the mandatory elements of the General Plan: Land Use, Circulation, Conservation and Open Space, Recreation, Urban Boundary, Noise, Safety, and Housing Elements. New elements were added including Community Design and Public Services and Facilities.

It is noted that the Housing Element was not included into the update process. This element was found to be adequate and will be updated when Merced County’s regional allocation of housing needs is completed in the near future. Its existing goals and policies have been included into the General Plan.

Each chapter contains the objectives, policies, and standards of the General Plan as determined by the efforts of the City staff, General Plan Review Committee, various public workshops and General Plan consultant team.

CHAPTER 2
ENVIRONMENTAL SETTING AND BACKGROUND



2.0

ENVIRONMENTAL SETTING AND BACKGROUND

Project Location and Description

The City of Livingston is located along State Highway 99 (SH 99) in north central Merced County. The City is bisected by SH 99, a major north-south interstate transportation artery, and by the Southern Pacific Railroad. Incorporated as a general law city in 1922, Livingston is centrally located between Stockton and Fresno in the San Joaquin Valley along the Highway 99 corridor. The current population is 10,490. Livingston lies in a highly productive agricultural region and is poised to transition from a small town to the service center of the surrounding community. The city limits currently contain approximately 3.5 square miles, with approximately 480 acres of residential land, 150 acres of commercial land, and 200 acres of industrial land available for development.

2.1 LAND USE

2.1.1 Present Livingston General Plan

The City of Livingston General Plan, last revised in September 1988, is the current comprehensive plan governing the community. State law requires a general plan to possess Land Use, Circulation, Housing, Conservation/Open Space, Noise, and Safety elements, as either separate elements or combined as a community sees fit. Used as a guide for orderly development, Livingston's Land Use Element designates the general distribution of land for residential, commercial, industrial, and governmental development as well as the public facilities needed to serve the residents of the city. The plan includes land outside the City's boundaries, providing a comprehensive growth and development plan.

In addition to the General Plan, the city has adopted the following additional plans and policy statements:

- ▶ 1992 Sewer Collection System Study and Master Plan and its 1996 addendum (Lew-Garcia-Davis)
- ▶ 1992 Water Distribution System Study and Master Plan (Lew-Garcia-Davis)
- ▶ 1992 Storm Drain Collection System Study and Master Plan (Lew-Garcia-Davis)
- ▶ 1993 Parks and Recreation Master Plan 1994-2003 (Floyd Davis, Jr., P.E.)
- ▶ 1997 Livingston Community Redevelopment Plan (Urban Futures, Inc.)

2.1.2 Present City Land Use Controls

Land within the city limits are governed by the Livingston Zoning Ordinance and the 1994 Uniform Building Code. The Zoning Ordinance is used to implement the General Plan. It divides the city into zones and prescribes regulations relating to land use, the size of the building allowed on the land, and the height and intensity of use. Re-zonings must be consistent with the General Plan. Like the Plan, the zoning ordinance is periodically amended to reflect changes in urban development standards and community values.

The Building Code prescribes construction and safety standards for new development and the administration of building inspection programs.

2.1.3 Existing Land Use within Current City Limits

The current city limits hold about 2,330 acres. Table 2-1 indicates that this existing land uses include about 381 acres of residential, 27 acres of commercial, 109 acres of industrial, 20 acres of parks, and 114 acres of public facilities. Figure 2-1 illustrates the distribution of these uses.

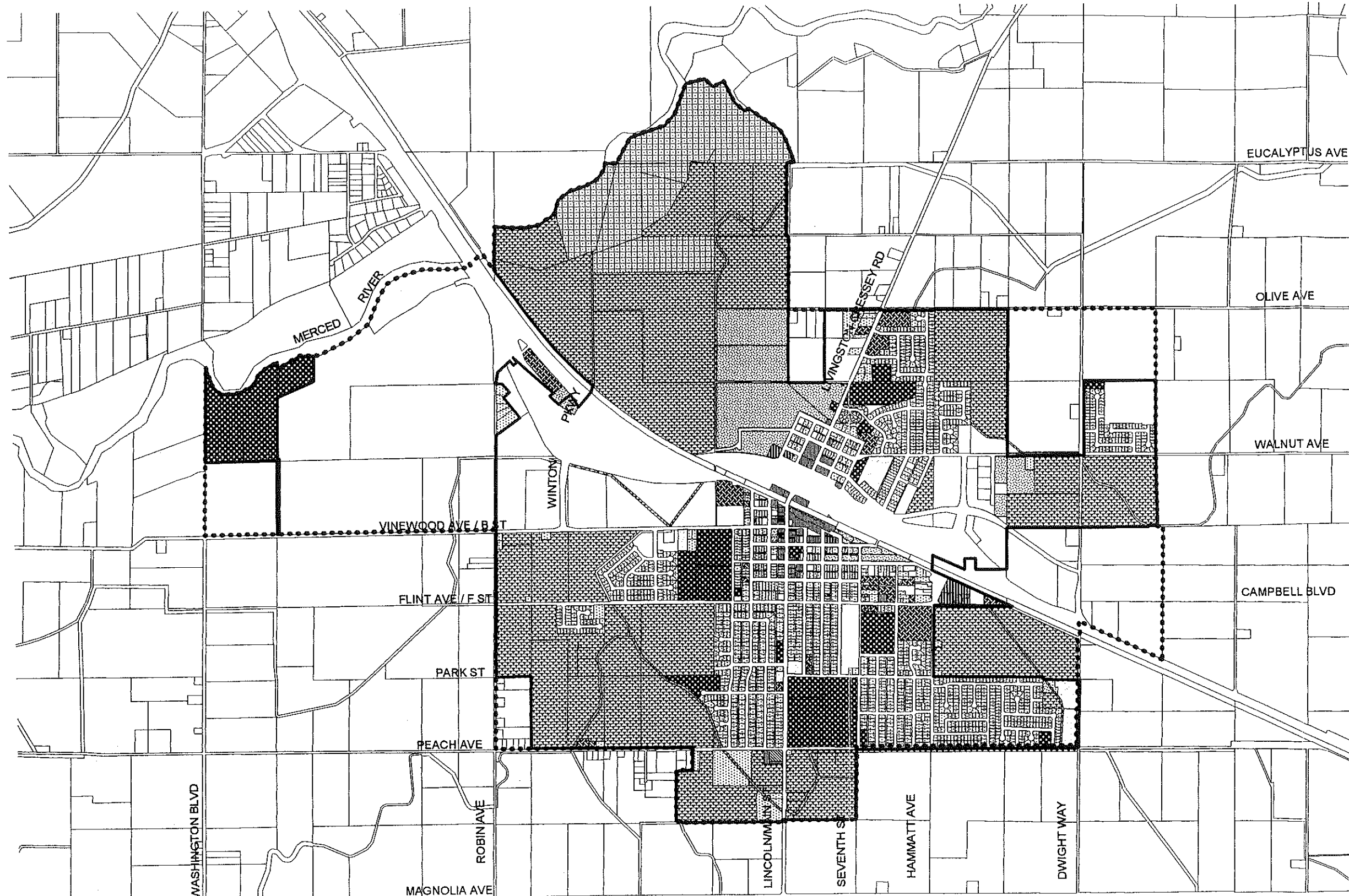
Between the city limits, out to the Sphere of Influence, land uses are predominantly agricultural (670 acres) with about 20 acres in residential uses.

As with most cities in California, the detached single-family home is the predominant residential unit in Livingston.

2.1.4 Merced County General Plan and Zoning Ordinance, Implications

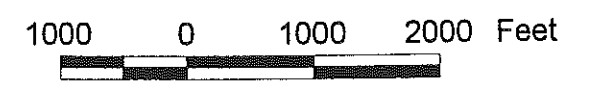
Merced County is responsible for planning and land use control in the unincorporated areas of the county. Urban development in the unincorporated area is guided by County policy toward existing cities and urbanized areas. Lands outside of the Livingston City limits but located within the city's Specific Urban Development Plan (SUDP) are found by the County to be appropriate for urbanization.

The Merced County Year 2000 General Plan uses an urban centered concept to direct urban expansion toward cities and unincorporated communities "to accomplish anticipated urban expansion in an orderly manner, based on the ability of these communities to furnish public services along with land needs based on population demands and in balance with employment-generating land uses." As a planning tool unique to Merced County, the SUDP is intended to accommodate all classifications of urban land use. It is "a boundary line which is recognized as the ultimate growth boundary of the community over the life of the (General) Plan, and all land within the SUDP is planned for eventual development in a mixture of urban and urban related uses."



LEGEND

- Current Sphere of Influence
 - City Limits
- Land Use Summary**
- Low Density
 - Medium and High Density
 - Commercial
 - Highway Commercial
 - Neighborhood Commercial
 - Industrial
 - Agricultural
 - Public Facility
 - Parking
 - Church
 - Private WWTP
 - Vacant



Land Use Within Current City Limits

Figure 2-1

TABLE 2-1
City of Livingston
Existing Land Use Totals (all in acres)

	Within the Sphere of Influence	Within the City Limits	Between the Sphere of Influence and the City Limits
Land Use Category			
Agriculture	977.5	300.0	677.5
Orchard	507.8	507.8	0.0
Irrigation	1.7	1.7	0.0
Low Density Residential	359.1	343.3	15.8
Medium Density Residential	11.0	7.7	3.3
High Density Residential	31.7	30.5	1.1
Commercial	19.6	19.6	0.0
Highway Commercial	6.0	6.0	0.0
Neighborhood Commercial	1.1	1.1	0.0
Industrial	111.1	109.7	1.4
Church	15.7	15.7	0.0
Parking	0.8	0.8	0.0
Public Facility	114.2	114.2	0.0
Civic Center	1.3	1.3	0.0
City Well	0.6	0.6	0.0
Drainage	5.1	5.1	0.0
Park	19.3	19.3	0.0
Wastewater Treatment Plant	40.0	29.0	0.0
SPRR	42.1	29.2	12.9
School	73.0	73.0	0.0
Vacant	251.5	228.5	23.0
Total	2590.1	1844.0	699.1
Right-Of-Way	528.9	485.6	43.3
Total in sphere (including city)	3119.0	2329.6	742.4

2.1.5 Sphere of Influence

The Sphere of Influence is defined in the California Government Code Section 56076 as “a plan for the probable ultimate physical boundaries and service area for a local agency as determined by” the Local Agency Formation Commission (LAFCo). Annexations to the city must be located within the Sphere of Influence in order to be approved by LAFCo. By State law, the City must be notified of any proposed land uses changes within its Sphere of Influence and provided an opportunity to comment on the changes.

The Merced County LAFCo reviews changes to Sphere of Influence and Specific Urban Development Plan boundaries, annexations to cities and special districts in Merced County, the adequacy of public services to proposed annexations, and the effect of these actions on prime agricultural land. LAFCo has adopted Local Goals, Objectives and Policies to guide its decision-making. These are:

1. Planned, well-ordered, efficient development patterns.
2. Governmental services are delivered efficiently and effectively and effectively.
3. The need to provide for urban development is balanced with the conservation of open space lands.

Applications to amend city limits, for example, are presented to LAFCo, which then approves, approves with conditions, or denies the applications.

The conversion of ag lands to urban uses and the provision of urban services by growing communities are important issues to the county and LAFCo. Potential revenue losses to counties resulting from annexations have created problems in the relationship between cities and counties in California, and Merced County is no different. During the General Plan update, the implications of the post-Prop 13 fiscal environment to the City of Livingston can be seen as an opportunity to create a more predictable revenue-expenditure model. Such a model may provide a more robust platform to base long-range planning decisions. Los Banos and Merced have executed tax-sharing agreements to facilitate their planned urban growth. Livingston’s planned growth will, at some time, require annexation to the city. A revenue distribution agreement between the City and County will provide both parties with two advantages. First, long range planning in the Livingston Sphere of Influence will occur with a vision shared by both parties and with a revenue stream that can be relied on for the duration of the agreement. Second, an agreement will permit both parties to focus their limited resources on to other matters; its absence will necessitate that the city and county coordinate their planning programs on a piecemeal fashion.

Activities by cities that are consistent with LAFCo policies are typically less controversial than others.

Using a grant from the California Department of Conservation, Merced County will be preparing a Resource Conservation Model to determine the relative value of agricultural lands in the County that are or will be proposed for urbanization. Measures to mitigate ag land conversion, including

the use of agricultural easements, will be set forth in the model. The development and application of this model will take place concurrently with the Livingston General Plan update.

2.1.6 Regional Plans

In 1972, the Merced County Association of Governments (MCAG) was designated as the Regional Transportation Planning Agency for Merced County by State of California. The State requires that MCAG prepare the 1996 Merced County Regional Transportation Plan (RTP) to provide a comprehensive long-range view of transportation issues, opportunities and needs for Merced County. The RTP identifies goals, objectives and policies for future transportation improvements within its 20-year horizon. The plan addresses actions that must be taken, and the funding needs and options available for successful implementation.

It is the responsibility of local, state, and federal governments to implement the RTP. This is accomplished at the level of the Livingston General Plan by participation in the development of the Policy, Action, and Financial Elements and in evaluating private development and public improvements in light of these elements.

2.1.7 Other Agencies' Relationship to Livingston's General Plan (Federal and State Plans Regarding Public Lands and Facilities)

A number of state and federal agencies' activities bear on Livingston's general planning issues. These include, but are not limited to, the Regional Water Quality Control Board, Department of Health Services, California EPA, the San Joaquin Valley Unified Air Pollution Control District, and the Merced Irrigation District. These agencies are interested in the interaction of the General Plan with their own long-range resource management activities. Generally, these agencies will comment on development proposals advanced by the City of Livingston. They will likely advise the City whether a future development is consistent with their plans, whether an impact to their particular resource will occur, and what condition or proposal modification will lessen the impact.

Further, many of these agencies have made technical guidelines available in order to assist the public and private sectors to manage development with natural resources in mind.

2.2 URBAN DESIGN ANALYSIS

2.2.1 Review and Evaluation of Studies, Plans and Programs Undertaken to Date for Urban Design Improvements for Livingston

The Livingston Community Redevelopment Agency (Agency) was established to eliminate existing blighted conditions, provide public services and facilities, enhance the visual impact of the project area, and preserve and enhance historic structures. In 1985, the Agency adopted a redevelopment area (Original Plan) covering 182 acres, much of it in downtown. In 1997, it amended the Original Plan and added approximately 100 acres as Amendment No. 1.

Pursuant to Section 33490(a)(1), in December, 1997, the Agency adopted a five year Implementation Plan to meet the objectives of the Agency for the Project Area requirements for each project area. The Implementation Plan describes goals and objectives of the agency for the project area, including potential projects and estimated expenditures to be made during the next five years.

The 1993 Livingston Downtown Revitalization Plan was completed in order to keep the downtown viable in the face of inevitable pressure for commercial development at the new freeway interchanges. It examines demographics, market area, and makes recommendations to strengthen the civic center.

In general, the goals of the Redevelopment Plan are consistent with those of the General Plan. They both serve to protect the public welfare and promote the logical provision of urban services to residents and property owners in the city. The primary difference is that the Agency has been granted specific powers by the California Community Redevelopment Law to implement the Redevelopment Plan by activities that are scheduled and funded in the Implementation Plan. The Agency has the power to acquire property, to allocate funds, and carry out the physical improvements to public and private property that are set forth in the Implementation Plan.

The General Plan, on the other hand, establishes goals, policies and implementation measures that are used to evaluate development of private property within the city and the scope of public improvements needed to serve the city at the build out of its sphere of influence.

2.2.2 Inventory and Analysis of Urban Form and Structure Issues and Opportunities

Incompatible land uses, urban blight and needed public infrastructure have been identified in the redevelopment area. Opportunities to remedy these have been presented in the Amendment No. 1 to the Redevelopment Plan report. Redevelopment projects are summarized as follows:

Infrastructure Improvements

- Street widening
- Street reconstruction and resurfacing
- Drainage system improvements
- Traffic signal improvements
- Undergrounding of utilities

Community Facilities Program

- Improvement of community facilities
- Recreation, cultural and educational facilities

Community Development and Beautification Programs

- Relocation assistance for residential, commercial, and industrial improvement programs
- Rehabilitation and expansion loan and grant programs
- Demolition of vacant or deteriorated commercial and industrial structures
- Graffiti abatement

Housing Programs

No less than 20% of all tax increment will be used to increase, preserve and improve the community's supply of low and moderate income housing

2.2.3 Existing Functional Relationships Within the City, Including the Relationship of Downtown to Contiguous and Outlying Areas

Livingston's downtown has long been recognized as a place of opportunity as a commercial and cultural city and regional center. However, this position is challenged by the growth of the city and the realignment of SH 99. Reasserting the historic relationship of downtown to the growing community will be a matter of much public debate.

The size of Livingston provides its residents with relatively short trip times and distances. For example, the location of city offices, police, fire, and other governmental functions downtown serves to reduce trip duration. The proximity of commercial services in this area, however limited, reinforce downtown's role as a center for government and commerce. As a consequence of the realignment of SH 99, the relationship of downtown to the north side of Livingston has been altered. Notwithstanding the overpasses that connect the north to the south over SH 99, attention should be given in the General Plan to construct land use and circulation elements that minimize the bifurcation of the city. This also applies to the establishment of classified street plans in growth areas that minimize impact on existing and future residents.

The proposed Highway Commercial nodes at Winton Parkway and Hammatt Avenue represent opportunities to capture highway commerce and support existing commercial trips from outlying consumers.

2.3 POPULATION, ECONOMIC CONDITIONS AND FISCAL CONSIDERATIONS

This section analyzes the characteristics of the existing social and economic conditions and trends that effect the demand for residential, commercial, and industrial land use in Livingston. An overview assessment of Livingston's current demographic and economic condition allows projections to be adjusted based on various factors. These projections are used to forecast demand for dwelling units and acreage for residential, commercial and industrial uses for the 20 year period from 1999 to 2019, showing incremental development at five year intervals and projecting the quantitative and qualitative implications of each land usage. This discussion is intended to be used as a guide in the development of planning options and general plan policies.

2.3.1 Demographic and Real Estate Trends and Outlook

Population and Household Growth

According to the California Department of Finance's January 1997 population estimates, Livingston has a population of 10,490 residents and 2,412 households. This represents 44 percent growth from 1990, when the population census showed 7,317 residents and 1,656 households in Livingston. The annual growth rate between 1990 and 1997 was 5.3 percent, which was the highest rate of any of the cities in Merced County. But much of this growth occurred in the early 90's prior to the onset of the recession. As the recession concluded, other nearby communities such as Delhi emerged as the new growth leaders. Population growth in Livingston from 1996 to 1997 is estimated at only 50 persons, for a growth rate of less than one-half percent for that year.

Merced County as a whole is projected to accelerate its growth from what it has been during the 1990's. Although the County grew at an annual rate of 1.7 percent between 1990 and 1997, the State Department of Finance (DOF) projects the County to grow at an annual rate of 2.75 percent out to the year 2020. The rates within this period are expected to be about 2.7 percent between now and the year 2000, nearly 3 percent per year from 2000 to 2010, and then about 2.6 percent between 2010 and 2020. The projections for surrounding Counties are slightly lower than for Merced County. Between 1996 and 2020, Stanislaus County is projected to grow at a 2.7 percent rate annually, Madera County at 2.6 percent along with Fresno County, and 2.3 percent for San Joaquin County.

The State DOF projections are the most recent available, but two years ago the Merced County Association of Governments (MCAG) developed a set of even higher projections showing a 3.2 percent growth rate between 1995 and 2020. However, these projections showed a 4.4 percent rate between 1995 and 2000, while in fact the County has only grown at 1.7 percent for the last couple years.

The MCAG projections show Livingston experiencing a very high rate of growth through the year 2005, with the rate then declining gradually through the year 2020. Livingston is projected to have the highest growth rate of any of the cities in the County, but a number of the smaller unincorporated communities such as Beachwood/Franklin, Delhi, Hilmar, and Le Grand are projected to have even faster rates of growth.

Livingston, along with a number of the other communities in the region, have experienced population growth from commuters working in job centers outside the County. For the most part, this is a result of the eastward expansion of growth from the Bay Area, which has raised housing prices in communities in San Joaquin and Stanislaus County and created a need for some families with workers in these counties to look elsewhere for affordable housing. This trend slowed down considerably during the recession several years ago, but now the Bay Area is rapidly expanding again and Livingston will see increased housing demand gain in the near future.

In view of all of these factors, a population level of 10,550 in 1998, increasing to 22,440 by the year 2018, as seen in Table 2-2. The population projections are converted to numbers of households by using an average household size for each year in the projection. The household size in Livingston

is high compared to the County average but has been falling slightly in recent years. In 1997, it is estimated at 4.35 persons, down from 4.42 in 1990. The County average has also declined from 3.21 persons in 1990 to 3.19 persons in 1997. The Center for Continuing Study of the California Economy (CCSCE) tracks these trends and projects that the downward movement in household sizes will reverse itself again, and that by 2005 the County average household size will have climbed back to 3.32 persons. CCSCE is recognized as the leading source of projections of these kinds of demographic variables in California, and their overall growth assumptions have been incorporated into the projections for Livingston. Consequently, there is a continuing decline in Livingston household sizes until about 2003 and then a gradual increase. The rate of projected increase would result coincidentally in the year 2018 household size matching the figure for 1990 at 4.42, as seen in Table 2-2.

**TABLE 2-2
Population and Household Projections**

	1998	2003	2008	2013	2018
Population	10,600	12,600	15,761	19,695	22,440
Households	2,431	2,932	3,614	4,485	5,077
Persons per Households	4.34	4.30	4.36	4.39	4.42

The growth rates used in this analysis for Livingston are somewhat lower than the MCAG rates, shown in Table 2-3, to reflect the longer ramping up period the City and the region has experienced from the last recession. However, Livingston is still expected to be one of the fastest growing communities in the County over the next ten to fifteen years, trailing perhaps only Delhi. After 2013, growth in Livingston is projected to moderate back to the overall County average level.

**TABLE 2-3
Rates of Growth**

	1998-2003	2004-2008	2009-2013	2014-2018
ADE Projections				
Livingston	3.61%	4.58%	4.56%	2.64%
Merced County	2.78%	2.86%	2.94%	2.64%
MCAG Projections				
Livingston	5.88%	6.03%	4.42%	2.67%
Merced County	4.41%	3.75%	2.81%	2.94%

Source: ADE, Inc., Merced County Association of Governments

Real Estate Growth

Currently, about 75 percent of the housing units in Livingston are in the low density category. Attached single-family units are less than 4 percent of the housing stock while the 2-4 unit and the 5+ unit categories represent 7.4 percent and 13.5 percent of the total units, respectively. These latter two categories have increased their percentage slightly since 1990, but this has come mostly at the expense of the attached single family category rather than the low density single family units, as shown in Table 2-4.

TABLE 2-4
Housing Types in Livingston

Unit Type	1990	%	1997	%
Detached Single Family	1265	75.3%	1884	75.4%
Attached Single Family	81	4.8%	93	3.7%
2 or 4 Units	109	6.5%	184	7.4%
5 or More Units	224	13.3%	338	13.5%

Source: 1990 Census, California State Department of Finance, 1997.

Based on the household projections plus a 5 percent vacancy rate, the total number of dwelling units is projected to increase from 2,552 units in 1998 to 5,331 units in 2018, as seen in Table 2-5, along with projections of density and acreage demand.

TABLE 2-5
Residential Land Use Demand Projections

	1998	2003	2008	2013	2018
Dwelling Units					
<i>Low Density</i>	1,914	2,309	2,846	3,532	3,998
<i>Medium Density</i>	97	101	105	109	113
<i>High Density</i>	542	669	843	1,069	1,220
Total Dwelling Units	2,553	3,079	3,794	4,710	5,331
Acreage Demand (Total)					
<i>Low Density</i>	348.8	420.8	518.5	643.6	728.5
<i>Medium Density</i>	8.1	8.4	8.7	9.0	9.4
<i>High Density</i>	31.7	39.1	49.4	62.5	71.4
Acreage Demand (Growth)					
<i>Low Density</i>		71.9	97.7	125.1	84.9
<i>Medium Density</i>		0.3	0.3	0.3	0.3
<i>High Density</i>		7.5	10.2	13.2	8.9
Acreage Demand (Growth From 1998)					
<i>Low Density</i>		71.9	169.7	294.8	379.6
<i>Medium Density</i>		0.3	0.7	1.0	1.3
<i>High Density</i>		7.5	17.7	30.9	39.7
Acreage Demand (Percent Growth From 1998)					
<i>Low Density</i>		20.6%	48.6%	84.5%	108.8%
<i>Medium Density</i>		4.1%	8.2%	12.3%	16.5%
<i>High Density</i>		23.6%	55.9%	97.4%	125.4%

SOURCE: ADE, Inc.

The distribution of units by density is projected to remain nearly the same as the current distribution, with slower growth in the attached single family category compensated by slightly higher growth in the higher density categories. This assumption is strongly affected by the general plan and zoning policies adopted by the City, so the actual land use plan and housing type distribution may well be different than this when the general plan update process is complete

The acreage demand for the housing units is estimated on the basis of the current average density in each residential category. Comparing the unit counts with the total acreage for each residential land use category, the average densities are approximately 5 units per acre in the low density category, 12 units per acre in the medium density category and 17 units per acre in the high density category. Again, these figures could change as a result of the general plan update, but they provide the basis for the preliminary estimates of land demand for residential uses.

Economic Trends

Merced County had in 1996 a total employment of 47,390¹, an increase of 3,132 since 1991. This represents a 7% percent increase for the period or an annual growth rate of about 1.38 percent. This may be contrasted to the state, which had only a 3% increase from 1991 to 1996, and an annual growth rate of only 0.6%. (Table 2-6). The County's performance is indicative of its potential comparative economic advantages versus other regions of the state. The substantially lower labor costs in the County could explain to a large extent this performance. In 1996, the average wage for the County was 63 percent of the average wage for the state (Table 2-7).

On the other hand, the agricultural sector's health and importance for the County seems to be less the result of lower labor costs than the result of economies of scale and other inherent comparative advantages. The average agricultural sector wage in the County was 98.4% percent of the state's average for the same sector (Table 2-7), up from 95.5% in 1991.

County employment in the manufacturing sector increased during the period by over 15 percent, while the state as whole lost close to 9 percent of its employment in this sector during the same period (Table 2-6). Again, the lower manufacturing wage in Merced County, \$26,085, which is only about 65 percent of the corresponding state's average of \$39,815, could have contributed substantially to the employment growth in the County.

Employment generated by retail trade in the County also outperformed the state (Chart 2-1). In the 1992-1996 period there was a 11 percent increase, while the state figure was only 2.4 percent. This differential performance cannot be accounted for by a higher population in Merced County. During the period, the County's population increase of 8.2 percent was only slightly higher than the state's 6.4 percent.

¹ MIG ES202 County Files. The figure does not include self-employed persons, and Federal, State and Local government employees.

TABLE 2-6
Employment from 1991 to 1996
Merced County vs. California

	Employment 1991	Employment 1996	% Change 1991 to 1996	Annual Growth Rate	Employment Distribution, 1996
MERCED COUNTY INDUSTRIES					
Total	44,258	47,390	7.1%	1.38%	100%
AGRICULTURE	10,369	11,417	10.1%	1.94%	24.1%
MINING	96	18	-81.3%	-28.45%	0.0%
CONSTRUCTION	1,549	1,537	-0.8%	-0.16%	3.2%
MANUFACTURING	9,055	10,432	15.2%	2.87%	22.0%
TRANSP.& UTILITIES	2,229	1,890	-15.2%	-3.25%	4.0%
WHOLESALE TRADE	2,052	1,652	-19.5%	-4.24%	3.5%
RETAIL TRADE	9,186	10,177	10.8%	2.07%	21.5%
F.I.R.E.	2,427	2,204	-9.2%	-1.91%	4.7%
SERVICES	7,295	8,063	10.5%	2.02%	17.0%
			% Change 1991 to 1996	Annual Growth Rate	Employment Distribution, 1996
CALIFORNIA INDUSTRIES					
Total	10,738,600	11,077,100	3.2%	0.62%	100%
AGRICULTURE	426,083	495,608	16.3%	3.07%	4.5%
MINING	38,739	28,780	-25.7%	-5.77%	0.3%
CONSTRUCTION	546,165	504,237	-7.7%	-1.58%	4.6%
MANUFACTURING	2,012,129	1,836,942	-8.7%	-1.81%	16.6%
TRANSPORTATION & PUBLIC UTILITIES	599,995	625,593	4.3%	0.84%	5.6%
WHOLESALE TRADE	735,936	746,093	1.4%	0.27%	6.7%
RETAIL TRADE	2,173,551	2,226,190	2.4%	0.48%	20.1%
FINANCE, INSURANCE, & REAL ESTATE	820,650	732,276	-10.8%	-2.25%	6.6%
SERVICES	3,335,811	3,845,850	15.3%	2.89%	34.7%

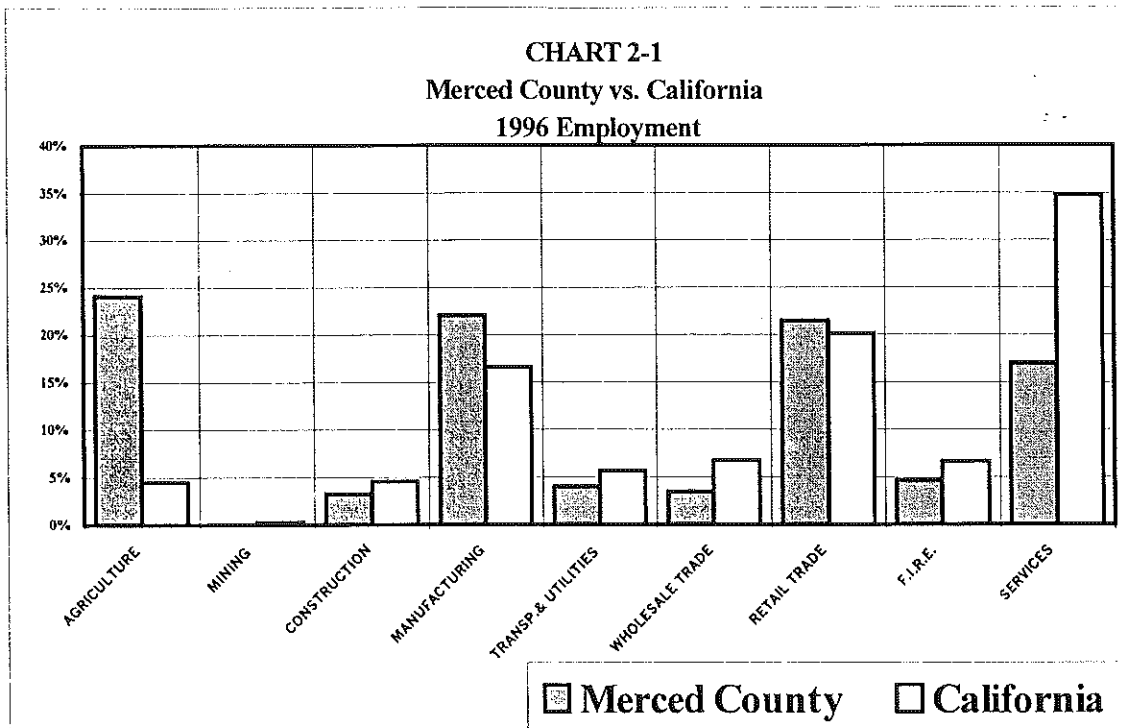
NOTE: EMPLOYMENT FIGURES EXCLUDE SELF EMPLOYED PERSONS AND ALL STATE, FEDERAL AND LOCAL GOVERNMENT EMPLOYEES.

TABLE 2-7
Payroll in Merced County and California
(1996 \$'s)

<i>1991</i>	County Earnings Employee '91	State Earnings Employee '91	Avg. County Salary as % of Avg. State Salary 1991
Total	\$ 19,734	\$ 30,881	63.9%
AGRICULTURE	\$ 15,333	\$ 16,063	95.5%
MINING	\$ 17,409	\$ 50,151	34.7%
CONSTRUCTION	\$ 22,671	\$ 34,688	65.4%
MANUFACTURING	\$ 24,618	\$ 38,694	63.6%
TRANSPORTATION & PUBLIC UTILITIE	\$ 29,230	\$ 38,750	75.4%
WHOLESALE TRADE	\$ 25,674	\$ 38,525	66.6%
RETAIL TRADE	\$ 14,233	\$ 17,833	79.8%
FINANCE, INSURANCE, & REAL ESTATE	\$ 24,956	\$ 38,188	65.4%
SERVICES	\$ 19,949	\$ 30,863	64.6%

<i>1996</i>	County Earnings Employee '96	State Earnings Employee '96	Avg. County Salary as % of Avg. State Salary 1996
Total	\$ 19,602	\$ 31,185	62.9%
AGRICULTURE	\$ 14,621	\$ 14,864	98.4%
MINING	\$ 26,756	\$ 54,222	49.3%
CONSTRUCTION	\$ 21,009	\$ 32,636	64.4%
MANUFACTURING	\$ 26,085	\$ 39,815	65.5%
TRANSPORTATION & PUBLIC UTILITIE	\$ 29,726	\$ 38,520	77.2%
WHOLESALE TRADE	\$ 25,801	\$ 39,433	65.4%
RETAIL TRADE	\$ 13,819	\$ 17,276	80.0%
FINANCE, INSURANCE, & REAL ESTATE	\$ 26,523	\$ 43,303	61.3%
SERVICES	\$ 19,747	\$ 31,800	62.1%

SOURCE: ADE, Data from MIG ES202 County Files



During the period, the County's population increase of 8.2 percent was only slightly higher than the state's 6.4 percent.

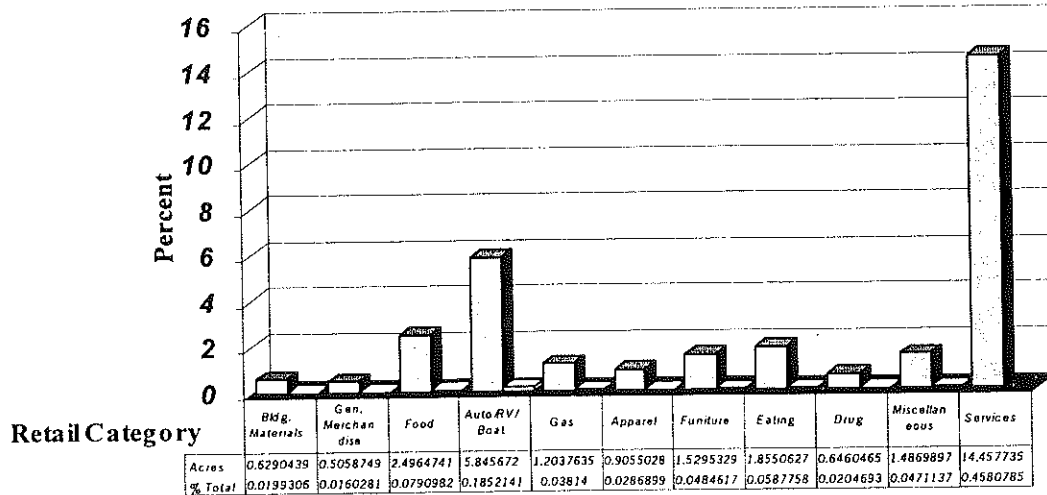
The County sectors that did not perform particularly well in generating employment for the County were transportation and public utilities, and wholesale trade. Employment in transportation and public utilities decreased by 15.2 percent or 339 employees for the period, while the second registered a 19.5 percent or 400 jobs decline. In contrast, the state posted a 4.3 and 1.4 percent respective increases for the period. Finance, insurance, and real estate employment also declined by 9 percent in the County, similar to the state's 11% decline.

In the general category of services, employment in the County rose by about 11 percent, while the state figure was 15 percent.

Retail Trends and Outlook

Using a retail demand model based on consumer spending patterns, aggregate income, and sales per square foot figures, ADE estimated the 1996 aggregate demand per retail type of Livingston households, and estimated the acreage of commercial land that would be needed to meet that demand. The result of the demand model is pictured in Chart 2-2.

CHART 2-2
Supportable Acreage by 1996 Retail Demand



SOURCE: ADE, Inc.

The demand for retail stores and local services in Livingston could have supported 31.5 acres in 1996, and by 1998 that demand has increased to support nearly 33 acres of commercial development. The land use inventory indicates that the City has about 28 acres developed at present time, some of which is not performing exceptionally well. The difference between demand and supply can be attributed to a variety of factors but is likely mostly due to competition from larger commercial centers in Merced and Turlock. Many workers residing in Livingston work out of town and do some of their shopping where they work. A number of other residents in the community are lower income and while they shop locally due to their lack of mobility, have lower disposable incomes and therefore register lower sales than do other segments of the population. Finally, Livingston is underserved in several categories that often are provided in regional shopping centers which are more difficult for smaller communities to attract. These include furniture and home furnishing, apparel, and auto/RV sales, among others.

Based on the growth in population and households discussed earlier, as well as growth in disposable income in the community, the projected the acreage of land needed for commercial use from 1998 to 2018, shown in Table 2-8. Demand for commercial land is estimated primarily on the basis of projected changes in purchasing power of the City's population.

**TABLE 2-8
Commercial Land Use Demand Projections**

	1998	2003	2008	2013	2018
Acres Needed	37.8	47.2	75.5	93.5	108.7
Growth in Acres Needed		9.4	28.3	18.0	15.3
Growth From 1998		9.4	37.7	55.7	70.9
Percent Growth From 1998		24.9%	99.7%	147.2%	187.5%

SOURCE: ADE, Inc.

An additional five acres are added to the projected acreage to 1998 estimates for highway commercial uses serving freeway traffic. In the year 2008, 15 acres is added to the demand to reflect the opportunity for a regional serving shopping center which would also serve nearby communities such as Delhi. Livingston by itself does not reach sufficient population size during the twenty year study period to support a regional discount shopping center, but it could possibly capture a center that would serve surrounding communities. Livingston is situated centrally between Merced and Turlock and as the population grows in this region demand should develop for an additional center. Both Delhi and Atwater may compete for this center, however, so it will be important for Livingston to incorporate a site for this development in its General Plan and begin the process of marketing the concept to commercial developers early on, so as to position itself in front of other possible sites.

2.3.2 Industrial Trends and Outlook

Livingston Industrial Land Use Projections and Implications

Merced County has enjoyed a relatively strong rate of growth in industrial development. Between 1970 and 1990, manufacturing employment grew at a 7.2 percent annual rate while wholesale distribution employment grew 4.9 percent per year. This growth slowed considerably during the early 1990s, but still remained positive while the state as a whole actually lost manufacturing employment. MCAG estimates that growth in manufacturing between 1990 and 1995 occurred at a 3.2 percent annual rate, with wholesale distribution posting a 4.5 percent rate. MCAG projects that total industrial growth will continue at about 3.5 to 4 percent per year through 2015. Projections for Livingston lag the County growth rate slightly in the early years, but shows a steady increase toward 4 percent per year growth by 2018. (Table 2-9)

**TABLE 2-9
Industrial Land Use Demand Projections**

	1998	2003	2008	2013	2018
Acres Needed	109.7	127.4	151.8	183.6	223.4
Growth in Acres Needed	--	17.7	24.4	31.8	39.8
Growth From 1998	--	17.7	42.1	73.9	113.7
Percent Growth From 1998	--	16.1%	38.4%	67.4%	103.6%

SOURCE: ADE, Inc.

Merced County Outlook

The most important economic sector of Merced County's growing economic base in terms of employment is agriculture, as it is shown in Table 2-6. By 1996 there were 11,390 people, or more than 24 percent of the County's job base, employed directly in this sector. From 1991 to 1996 agricultural employment in the County expanded by 1,048 employees or 10 percent. This compares favorably to the County's own overall employment growth of 7 percent. It is obvious that Merced County relies heavily on agricultural employment, since almost a quarter of its labor base, as opposed to 4.5 percent for the state, is involved in this sector.

Not every subcategory belonging to the agricultural sector performed satisfactorily, however. A few sectors in the County declined in absolute employment from 1991 to 1996 while the same sectors at the state level increased in employment. Examples of these declining base industries are Soil Preparation Services (SIC 071), Animal services, except veterinary (SIC 075), Farm labor and management services (SIC 076), Farm labor contractors,(SIC 0761), Fish hatcheries and preserves (SIC 092), and Farm Management Services (SIC 0762).

Manufacturing, however, shows a promising future, having the second largest share in the local economy by adding 1,377 new jobs between 1991 and 1996 and increasing its employment by 15.2 percent during the period. This increase is the highest for any particular economic sector in the County, and it becomes more important if one takes into account that during that same period the state's employment in manufacturing declined by a substantial 8.7 percent. Total County employment in the manufacturing sector was by 1996 10,432 employees or 22 percent of the County's labor base, in contrast to 16.6 percent for the state. For the 1991 - 1996 period, manufacturing employment grew yearly by 0.93 percent faster than agricultural employment (Table 2-6), and the manufacturing sector could become in the future the predominant employer in the County. Such a development could be beneficial because of higher wages in the manufacturing sector, as compared to agriculture. In 1996 the average manufacturing wage, at \$26,085 was 78 percent higher than the corresponding agricultural average of \$14,621 (Table 2-7). Higher per capita income translates into higher tax revenue for the County, it increases the potential for significant infrastructure investment, and through the multiplier effect has a significant impact on creating new jobs for the local economy.

A benefit of the strong agricultural sector in the County has been the establishment and growth in the County of various food processing industries which use as inputs the agricultural output. These include processing plants for dairy products, canned, dry and frozen fruits and vegetables, and meat packing plants. For example, as Table 2-10 shows, employment in plants that produce preserved fruits and vegetables increased 112% during the 1992-1996 period, increasing from 1,092 to 2,310 employees at an average annual growth rate of 16%. At the state level, during the five-year period these sectors produced an 11 percent decrease.

TABLE 2-10
Growing Economic Industries in Merced County

SIC	Description	Merced County				California			
		Employment 1991	Employment 1996	Annual Growth Rate	% Change Employment, 1991 to 1996	Employment 1991	Employment -1996	Annual Growth Rate	% Change Employment, 1991 to 1996
AGRICULTURAL									
0721	Crop planting, cultivating, and protecting	198	233	3%	18%	5,257	5,464	1%	4%
0722	Crop harvesting, primarily by machine	159	391	20%	146%	8,722	8,516	0%	-2%
0724	Cotton ginning	29	45	9%	55%	1,036	1,052	0%	2%
0740	Veterinary services	87	148	11%	70%	16,414	18,623	3%	13%
0751	Livestock services, except veterinary	84	62	-6%	-26%	868	602	-7%	-31%
MANUFACTURING									
<i>Dairy products</i>									
2022	Cheese, natural and processed	316	415	6%	31%	2,545	2,724	1%	7%
2023	Dry, condensed, evaporated products	65	138	16%	112%	883	697	-5%	-21%
<i>Preserved fruits and vegetables</i>									
2033	Canned fruits and vegetables	1,092	2,310	16%	112%	39,490	35,143	-2%	-11%
2034	Dehydrated fruits, vegetables, soups	295	668	18%	126%	23,587	19,518	-4%	-17%
2037	Frozen fruits and vegetables	45	149	27%	231%	9,344	8,924	-1%	-4%
<i>Fats and oils</i>									
2074	Cottonseed oil mills	752	1,493	15%	99%	6,559	6,701	0%	2%
<i>Beverages</i>									
2086	Bottled and canned soft drinks	30	92	25%	207%	585	566	-1%	-3%
<i>Paper and Allied Products</i>									
2653	Corrugated and solid fiber boxes	77	179	18%	132%	9,164	9,614	1%	5%
2676	Sanitary paper products	150	190	5%	27%	13,125	13,594	1%	4%
275	Commercial Printing	8	10	5%	25%	1,747	1,390	-4%	-20%
2759	Commercial printing, nec	202	811	32%	301%	64,058	58,301	-2%	-9%
<i>Chemicals and Allied Products</i>									
2873	Nitrogenous fertilizers	33	791	89%	2297%	21,047	21,063	0%	0%
2875	Fertilizers, mixing only	212	350	11%	65%	1,111	1,022	-2%	-8%
2875	Fertilizers, mixing only	212	350	11%	65%	784	1,103	7%	41%
METAL PRODUCTS									
3411	Metal cans	3	82	94%	2633%	5,316	4,721	-2%	-11%
3412	Metal barrels, drums, and pails	44	95	17%	116%	957	642	-8%	-33%
3446	Architectural metal work	4	158	109%	3850%	3,674	3,141	-3%	-15%
3451	Screw machine products	21	75	29%	257%	3,358	3,590	1%	7%
3713	Truck and bus bodies	16	25	9%	56%	2,301	2,120	-2%	-8%
3732	Boat building and repairing	96	236	20%	146%	3,516	3,045	-3%	-13%
WHOLESALE TRADE									
5083	Farm and garden machinery	181	222	4%	23%	7,991	7,755	-1%	-3%

Source: ADE, Inc., Data from MIG ES202 County Files

Opportunities for Diversification

While recognizing that food processing is a major component of industrial development in the County, Livingston does have limitations in its ability to support industrial development. Because the existing wastewater treatment facilities in Livingston are not adequate to serve additional major food processing plants, it would be beneficial to look at other industries which have also showed strong growth in recent years. Particular industries within the manufacturing sector that experienced substantial growth besides food processing are various sectors of commercial printing and metal products (See Table 2-10). Employment in commercial printing increased more than fourfold during the period, from 202 employees in 1991 to 811 in 1996. Other industries boosting employment were metal cans and shipping containers, paperboard containers and boxes, screw machine products, electronic components, medical instruments and other fabricated metal products. All of these industries have experienced double-digit growth through 1996, the latest year such detailed data are available, in spite of declining or a significantly smaller growth in employment on the state level. Similarly, machinery equipment and supplies (SIC 508), a Wholesale Trade sector and part of the growing economic base for the County, also experienced growth while the state declined. Livingston already has firms in some of these industries, and its location on Highway 99 gives it a good opportunity to attract further industrial development.

While the agricultural and manufacturing sectors comprise the main component of the County's growing economic base, certain other industries show a potential for a promising future. Table 2-11 lists a group of emerging industries in the County, business sectors that show a high growth rate when compared to the corresponding state sector performance (i.e., the relative growth rate is positive), but whose share in the local economy is small compared to the share of that same sector in the state economy (i.e., the degree of concentration is less than one.) A promising fledgling sector is manufacturing electronic components, which had a 35 percent increase in employment from 1991 to 1996 and an annual growth rate of 6 percent, while the state had a 5 percent decline over the five year period, as shown in Table 2-11. Various business services also grew during this time period, suggesting that business in the area is on a promising upswing.

**TABLE 2-11
Emerging Industries in Merced County**

SIC	Description	Merced County				California			
		Employment--1991	Employment--1996	Annual Growth Rate	% Change Employment, '91-'96	Employment--1991	Employment--1996	Annual Growth Rate	% Change Employment, '91-'96
Manufacturing									
2439	Structural wood members, nec	7	12	11%	71%	2478	2852	3%	15%
2511	Wood household furniture	5	8	10%	60%	10595	11455	2%	8%
2541	Wood partitions and fixtures	5	14	23%	180%	5225	5281	0%	1%
3599	Industrial machinery, nec	1	17	76%	1600%	31615	35130	2%	11%
3679	Electronic components, nec	49	66	6%	35%	32998	31245	-1%	-5%
Business Services									
7311	Advertising agencies	10	19	14%	90%	22857	22466	0%	-2%
7342	Disinfecting & pest control services	40	66	11%	65%	10949	15503	7%	42%
7381	Detective & armored car services	30	105	28%	250%	72681	89685	4%	23%
7382	Security systems services	9	19	16%	111%	5271	7951	9%	51%

Source: ADE, data from MIG ES202 County Files

Note: Emerging industries are defined as the industries whose job growth between 1991 and 1996 outperformed the rest of the state, but had a concentration of employment lower than the state as whole.

Developing Buyer/Seller Relationships

In order to better understand the potential for developing new or expanded businesses in the County, it is useful to investigate the trade relationships between County buyers and out-of-County suppliers and to identify leakages from the County economy. There are 153 industries for which the County is a net importer. The list was created by evaluating the input requirements for all the industries analyzed in the previous section of the report using an input-output model. By comparing the leakages with the typical production levels of one production facility in each industry, it is possible to determine whether there is enough demand from businesses in the County for a particular industry to support the creation of an additional establishment in the County.

The following list shows the industries whose County-wide demand is higher than the average sales per establishment and therefore are potential candidates for establishing a production facility within the County. There are eight industries that fulfill the above criterion:

- ▶ Commercial Printing (SIC 2750)
- ▶ Typesetting (SIC 2791)
- ▶ Plate Making (SIC 2796)
- ▶ Miscellaneous Plastics Products (SIC 3080)
- ▶ Metal Foil and Leaf (SIC 3497)
- ▶ Fabricated Metal Products, n.e.c. (SIC 3499)
- ▶ Industrial Machines, n.e.c. (SIC 3599)
- ▶ Motor Vehicle Parts and Accessories (SIC 3714)

In addition, two more industries, Coated & Laminated Paper (SIC 2672) and Plating and Polishing Operations (SIC 3471), have leakages that exceed 80 percent of the average sale per establishment; similarly, Printing Ink (SIC 2893) and Hardware (SIC 3429) have leakages that exceed 58 percent of the state average sales per establishment. These last four industries fall also within the feasible range of supporting an additional production facility in the County. The input-output analysis provides a guide for evaluating potential business development opportunities which can be followed up with further research to confirm the specific buyer/supplier relationships among Merced County businesses, and the existence of competing plants elsewhere in the region.

2.3.3 Employment and Commuting Patterns

The countywide economic picture could bring perspective and new opportunities to Livingston. In order to determine what type industry could be a benefit to Livingston residents, the intent of this section is to give a clearer picture of the employment and commuting patterns of the residents.

As of the 1990 Census, over half of Livingston's work force had less than a ninth grade education, as compared to only a fifth of the same population in the County. Table 2-12 shows that about 30% of Livingston's 25-year-and-older population had at least a high school diploma, but only 5% had been to college at least four years. All of these statistics are lower than the County average.

TABLE 2-12
Educational Attainment
City of Livingston and Merced County

City of Livingston	1980		1990		% Change '80-'90
		%		%	
25 years and older	2324		3505	51%	51%
Less than 9th Grade	1143	49%	1805	51%	58%
9th to 12th grade, no diplo	373	16%	608	17%	63%
High School graduate	380	16%	427	12%	12%
Some college	259	11%	481	14%	86%
Four years college or more	169	7%	184	5%	9%

Merced County	1980		1990		% Change '80-'90
		%		%	
25 years and older	71262		98819	39%	39%
Less than 9th Grade	18194	26%	20880	21%	15%
9th to 12th grade, no diplo	10049	14%	15545	16%	55%
High School graduate	22220	31%	22806	23%	3%
Some college	13337	19%	27715	28%	108%
Four years college or more	7462	10%	11873	12%	59%

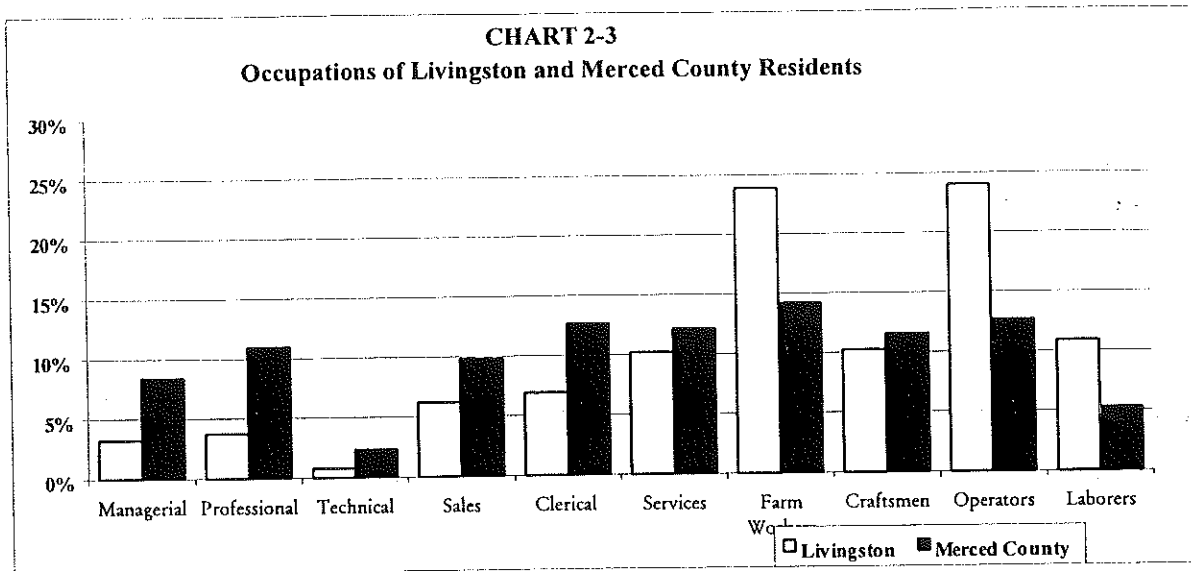
SOURCE: ADE, Inc.

This level of education is reflected in the types of positions attained by the majority of Livingston residents. Table 2-13 and Chart 2-3 show that only 7% of Livingston's labor force in 1990 was in a managerial, executive, or professional role, in contrast to 19% of Merced County's labor force. Seventy percent (70%) of Livingston's labor force were farm workers, craftsmen, operators, or laborers, in contrast to the County's 44%.

TABLE 2-13
Labor Force by Occupation
City of Livingston and Merced County

Labor Force by Occupation	Livingston City Employment				
					80-'90
	1980	%	1990	%	Percent Change
Managerial/Executive	58	3%	89	3%	53%
Professional	90	5%	104	4%	16%
Technical	15	1%	21	1%	40%
Sales	92	5%	173	6%	88%
Clerical	168	9%	192	7%	14%
Services	196	10%	284	10%	45%
Farm Workers	181	10%	665	24%	267%
Craftsmen	320	17%	285	10%	-11%
Operators	461	25%	670	24%	45%
Laborers	295	16%	303	11%	3%
Total Labor Force (16yrs+)	1,876		2,786		49%
	Merced County Employment				
Labor Force by Occupation					80-'90
	1980	%	1990	%	Percent Change
Managerial/Executive	3,658	7%	5,566	8%	52%
Professional	4,038	8%	7,233	11%	79%
Technical	1,130	2%	1,542	2%	36%
Sales	4,962	10%	6,495	10%	31%
Clerical	6,874	14%	8,365	13%	22%
Services	6,873	14%	8,041	12%	17%
Farm Workers	7,458	15%	9,405	14%	26%
Craftsmen	6,131	12%	7,625	12%	24%
Operators	5,529	11%	8,377	13%	52%
Laborers	2,578	5%	3,467	5%	34%
Total Labor Force (16yrs+)	49,231		66,116		34%

SOURCE: ADE, Inc., 1990 Census



The top employers in Livingston, listed in Table 2-14, seem like they may offer many of the agricultural and manufacturing jobs worked by Livingston residents. However, only 45% of the 16 and older labor force work within the city of Livingston; over half travel outside the city to work, with an average commute time of 13 minutes. (Table 2-15)

TABLE 2-14
Livingston's Top Employers

Employer	SIC	Industry	Employees
Foster Farms	5144-9904	Poultry live, hatchery	3900
Gallo E& J Winery	5821-0102	Wine Cellar	250-499
Rogers Foods	2034-0000	Dried & Dehydrated	250-499
Angelaki's Vineyards	0139-0202	Sweet Potato Farm	50-99
Campus Park Elementary School	8211-0000	School	50-99
Grace Nursing Home Inc.	8051-9901	Convalescent Home	50-99
Livingston High School	8211-9903	High School	50-99
Livingston Middle School	9411-0000	Administration	50-99
Yamato Colony Elementary School	8211-0303	Elementary School	50-99

SOURCE: ADE, Inc., Dunn and Bradstreet, 1st Qtr., 1998

**TABLE 2-15
Commute Patterns**

Means of Transportation to Work	Livingston City		Merced County	
Workers 16 years +	3,479		82,968	
Drove alone	1,730	50%	49,986	60%
Carpooled	765	22%	10,708	13%
Public transportation	8	0%	235	0%
Motorcycle	-	0%	456	1%
Bicycle	34	1%	732	1%
Walked	132	4%	3,411	4%
Other means	37	1%	734	1%
Worked at home	-	0%	2,435	3%
Place of Workplace Level				
Worked in Livingston	1,208	45%	23,262	48%
Worked outside Livingston	1,498	55%	25,138	52%
Average Commute Time (Minutes)	13		13.5	

SOURCE: ADE, Inc., 1990 Census

2.3.4 Livingston City Budget

The City budget consists of a number of funds as shown in Table 2-16. The largest fund in terms of its annual expenditures is the general fund, which pays the operating costs for most of the basic city services such as police, fire protection, park maintenance and recreation services. Revenues for this fund come from general taxes such as property and sales taxes and a variety of permit and license fees charged by the City. The general fund is discussed in more detail below, but it is a significant area in the budget where the City has some discretion in terms of allocating expenditures to various services. On the other hand, the general fund is also the most sensitive to the character of development in the community, which affects the strength of the tax base upon which the general fund depends for its revenue.

Enterprise funds as a group are the next largest in the budget. These funds pay for water and sewer services based on fees collected from households and businesses receiving those services. Enterprise funds are designed to pay for themselves through service charges and therefore are not as sensitive as the general fund to economic ups and downs.

The special revenue funds are mainly state funds received for street maintenance. The Redevelopment Agency collects tax increment funds which are used for economic development and low-income housing assistance projects. Special Assessment Funds reflect maintenance districts that have been established to fund local improvements and which are largely self-supporting. The internal service funds pay for City vehicle purchase and maintenance.

TABLE 2-16
Livingston City Budget Fund Balances

	Estimated Fund Balance	Estimated Revenue	Transfers In	Estimated Fund Available	Estimated Expenditures	Transfers Out	Projected Fund Balance
	July 1, 1998			Fy 98-99			June 30, 1999
General Fund	1,979,000	2,287,165	786,325	5,052,490	3,181,396	134,310	1,736,784
Special Revenue Funds	425,930	543,670	50,000	1,019,600	427,735	398,750	193,115
Special Assesment Funds	(2,700)	184,745	-	182,045	31,480	153,265	(2,700)
Agency And Trust Funds	6,125	-	-	6,125	-	-	6,125
Redevelopment Agency	136,500	195,200	26,000	357,700	51,500	176,000	130,200
Enterprise Funds	4,173,800	2,531,235	-	6,705,035	2,713,495	-	3,991,540
Internal Service Funds	27,000	126,910	-	153,910	166,035	-	(12,125)
Total All Funds	6,745,655	5,868,925	862,325	13,476,905	6,571,641	862,325	6,042,939

Source: Livingston City Budget 1998-1999

Table 2-17 details the revenues and expenditures within the general fund. The general fund budget is slightly out of balance, but as noted in the City Manager's budget message, this is partly explainable by the one-time expense to update the general plan and is not a major cause for concern. Aside from transfers from the other funds, shown in Table 2-16, the largest category of revenues is license and permit fees. Most of this revenue comes from franchise fees paid by utility providers, but the category also includes business license fees and building fees paid by new development. The second largest source of revenue is the vehicle in lieu tax, which is actually a state subvention to cities. The state is currently considering significantly reducing this revenue. If this occurs without corresponding reimbursement for cities, it will have a major impact on Livingston.

It is significant that the property tax and sales tax in Livingston rank below the vehicle in lieu tax, indicating that both the property tax base and the level of retail sales are relatively low in the community. The property tax has limited revenue potential due to restrictions created by Proposition 13, but many California cities have focused on developing retail opportunities as a means of increasing local sales tax revenues. For many cities, the sales tax is a stronger source of revenues than is the property tax. In Livingston, however, this is not the case.

Overall, the City is in a sound financial position, with adequate fund balances throughout the budget. This is mainly a reflection of prudent spending polices rather than a generous tax base in the community.

TABLE 2-17
General Fund Revenues and Expenditures

Revenues	Estimated 1998-99
Property Tax	\$ 372,135
Sales & Use Tax	\$ 236,535
Transient Tax	\$ 2,100
Other Taxes	\$ 85,270
Licenses and Permits	\$ 502,640
Fines	\$ 62,500
Investment Revenues	\$ 81,660
Service / Reimbursement Revenue	\$ 288,910
Vehicle in Lieu Tax	\$ 435,000
Other Revenues	\$ 27,615
Operating Transfers	\$ 786,325
Total General Fund Revenue	\$ 2,880,690
Expenditures	
City Council	\$ 95,165
City Manager	\$ 188,515
City Clerk	\$ 9,135
City Attorney	\$ 42,535
City Treasurer	\$ 795
Admin. Services	\$ 364,160
Police Dept.	\$ 1,289,570
Recreation	\$ 73,145
Parks	\$ 145,245
Fire	\$ 50,745
Streets	\$ 370,330
Public Works	\$ 77,855
Planning	\$ 132,715
Building	\$ 59,335
Total Expenses	\$ 2,899,245

Source: Livingston City Budget 1998-1999

2.4 TRANSPORTATION AND CIRCULATION

2.4.1 Introduction

The component of the General Plan that deals most directly with circulation and transportation is the Circulation Element. It describes in a single document the policies, plans and goals that are relevant to the community's current and future circulation requirements. The Circulation Element

is also designed to support the goals of the community as they relate to the planned land uses. This Element will set forth the strategies and policies that will maintain the level of service of the City's streets and highways, transit, aviation, bicycle/pedestrian facilities, truck routes and transportation system management strategies.

The objective of the Livingston Circulation Element is to develop an overall plan or "blueprint" for the future transportation needs and to maintain and improve the overall circulation system in and around Livingston to a level of service deemed acceptable by the community. The Element is designed to be compatible with the various elements of the General Plan and responds to the land use, open space, and conservation goals of the City.

The legal authority for the Livingston Circulation Element is outlined in the California Government Code Section 65302 (b), which states a general plan shall include "...a circulation element consisting of the extent and general location of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan."

Circulation elements have been a mandatory element of the local General Plan since 1955. The Element is basically a plan to create an infrastructure so that there will be efficient circulation of people, goods, communications, etc. In recent years, circulation elements have seen added emphasis placed on the direct correlation with the community's land use element, the fundability of the proposed projects outlined in this document, other modes of transportation and the adequacy of the adopted policies to carry out the intent of the element.

2.4.2 Purpose

The intent of this section is outline the existing transportation conditions within the City of Livingston and to address the current and future needs that will have an impact on the overall movement of people and goods throughout the City. Identifying the needs will assist in planning an efficient circulation system that will aid in improving the community as well as the safeguarding the environment.

2.4.3 Study Area

The City of Livingston is located in the northern section of Merced County along the Highway 99 corridor. As noted, Washington Boulevard and the Merced River to the west, Eucalyptus Avenue to the north, Sultana Drive to the East, and Magnolia Avenue to the south border the Study Area for the General Plan. For the purposes of this section, the boundaries are Robin Avenue to the west, Olive Avenue to the north, Peach Avenue to the south, and Dwight Way to the east. Highway 99 was reconstructed as a four-lane freeway in 1996. It passes through the middle of town running northwest to southeast. The City now has four major entrances. The new entrances are:

- ▶ A highway interchange at Winton Parkway. This interchange is in the northwestern portion of the City.
- ▶ A highway interchange at Hammatt Avenue. This interchange is in the southeast portion of the City.
- ▶ Livingston-Cressey Road from the north.
- ▶ Lincoln Boulevard/Main Street from the south.

Since the completion of SH 99, the City's through traffic has three overpasses to connect the north side of town with the south side. The overpasses include, Winton Parkway, Main Street bridge, and Hammatt Avenue. These streets can be found on Figure 2-1.

2.4.4 Streets and Highways

This section deals with the automobile and truck transportation as the primary sources for moving people and commodities in and through the City of Livingston. A complete description of the street and highway system is included in this section. Also included is an analysis of the operating condition of the current circulation system, along with identification of traffic problems within the community. Other alternative transportation modes including transit, aviation, rail, bicycle and pedestrian, truck, transportation management systems, and goods movement are discussed.

Functional Classification

A community's street system is composed of a wide range of facilities. Street and highway facilities serve two basic functions, mobility and land access. Mobility means the provisions for the movements of motorists between their points of interest or from one place to another. Land access means providing for the parking, storage or driveway access at the origin or destination of a person's trip.

Each facility type in a circulation element is designed to emphasize to varying degrees the mobility or land access function. Some facilities emphasize land access over mobility, while other streets emphasize mobility over land access. The following hierarchy delineates the typical function of the facilities used in this circulation element. The functional classification of the roads in an area is an essential task of roadway planning. It serves several useful purposes that include the following:

- Assignment of jurisdictional responsibility
- Development of design standards
- Assignment of funding responsibility
- Setting of priorities for improvements and maintenance

TABLE 2-18
Functional Classification

Facility Type	Emphasis
Freeway	Mobility with no direct land access and access limited to interchanges.
Expressway	Mobility with more frequent access to arterial streets, but no direct land access.
Major Arterial	Mobility with connections to freeways, arterial streets and other collector streets, and limited access to traffic generators.
Arterial	Mobility with connections to other arterial streets, collectors, some local streets and major traffic generators.
Collector	Connects local streets with arterial street, also provides access to adjacent land uses; balances mobility and access.
Local	Access to adjacent land uses only; no mobility function.

The above functional classification table (Table 2-18) shows that freeways are designed to provide for higher volumes of traffic at higher speeds over longer distances. Greater volumes and speeds require limited access and this is generally regulated by interchanges spaced at a minimum of one mile in urban areas and two miles apart in rural areas. Expressways also provide for higher traffic volumes, at higher speeds and longer travel distances. Access is provided via at-grade intersections generally spaced no closer than one-half mile apart. Expressways are intended to provide a high level of capacity in selected high volumes corridors.

Major Arterial streets provide access to major traffic generators and are typically designed with six lanes for through traffic, a parking/transit/right turn lane, and a median with dual left turn lanes at intersections. Access to adjacent land uses is limited. Arterial streets provide for moderate volumes at moderate speeds and distances with access to other arterial streets and collectors at half-mile intervals, and access to local streets and collectors at quarter mile intervals.

Arterial

Intended to provide the majority of a community's traffic carrying capacity, arterial streets provide connections via interchanges to the freeway system and to other arterial streets and collectors via intersections. Arterial streets, more than any other type of street, illustrate the conflicts which may arise between the provision of access and mobility. Typically, arterial streets are designed with two through lanes in each direction, a median with a left turn lane, and transit stop/right turn lanes on each side.

Collectors

Intended to provide connectivity between local street and the arterial street system, collectors provide access to major activity centers (commercial or employment) and some abutting land uses. Collector streets are typically designed with one through lane in each direction, a left turn lane, and parking/right turn lane/transit stop areas on both sides.

Local Streets

Local streets are intended to provide direct access to land uses, with movement of traffic a secondary purpose. Regular through traffic is considered undesirable on local streets. Local streets also serve as easements for all types of utilities. Typically, these streets are designed with one lane in each direction and parking is provided on both sides.

The proper designation of the community's street network can assist in the development of an efficient system for both mobility and access. The proper balance not only ensures that a street is sized to function properly, but it also allows a community to properly allocate its resources to the streets needing additional capacity or improvements. A properly designed system will also prevent the use of local streets for through trips or the overburdening of freeways, expressways, and arterial traffic.

Problems begin to occur in a system when a street that is designated to provide mobility is asked to provide land access. Land access typically requires driveways and on-street parking to adequately address the land access function. When many access points or on-street parking is provided, traffic conflicts occur and the facility loses its ability to provide for mobility. Likewise, when a street designated for access is asked to provide mobility, conflicts occur. This generally happens on arterial and collector streets that were not developed with adequate access control or on local streets that are asked to carry through traffic.

2.4.5 Existing Street System

The following describes the existing circulation system for the community.

State Highways and Freeways

Highway 99 through Livingston is the only Freeway. It was converted to a four-lane freeway December of 1996. Highway 99 between Livingston and Atwater to the south and between Livingston and Delhi to the north is a State Highway with a number of access points onto the highway. Highway 99 through Livingston has two overpasses located in the northwest and southeast, dividing the City into two portions. Highway 99 provides regional movement and inter-regional access through the Central Valley from Bakersfield to Sacramento. The highway is also used extensively for travel between northern and southern California.

Arterials

There are ten arterial streets designated in the Study Area. Currently, arterial streets are developed with right-of-way widths of 80 feet depending on medians and turn pocket requirements. The City of Livingston only has one arterial developed to full arterial standards which is four lanes and a center turn lane. Most of the existing arterial streets in the community are one lane in each direction with stop signs at the intersections. (Table 2-19)

TABLE 2-19
Arterial Streets

North-South	East-West
Livingston-Cressey/Main Street	Olive Avenue
Winton Parkway	Walnut Avenue/Davis Street
Hammatt Avenue	Campbell Boulevard
Sixth Street between F Street and C Street	B Street
	F Street
	Peach Avenue

Collectors

A listing of collector streets in Livingston are shown in Table 2-20. Collectors are currently constructed on 60 feet to 70 feet right-of-ways with one lane in each direction and parking on both sides.

TABLE 2-20
Collectors

North-South	East-West
First Street between B Street and Peach Avenue	C Street and the realigned B Street between Seventh Street and Main Street
Prusso Street between B Street and F Street	
Seventh Street between F Street and Peach Avenue.	
Olds Avenue between Walnut Avenue and Olive Avenue	
Dwight Way between Peach Avenue and Olive Avenue	
Robin Avenue	

Local Streets

The remainder of the streets in the community are classified as local. Local streets are typically 60 feet right-of-way with two lanes with parking on each side.

2.4.6 Roads of Regional Significance

Regional access to the City of Livingston exists through rural type roadways. Roadways that provide regional access are State Route 140 to Lincoln Boulevard from the south and Santa Fe Drive to Cressey Road from the north. State Route 140 is a primary east-west arterial that extends from Stanislaus County from the west through Merced County to the east connecting to Lincoln Boulevard. Lincoln Boulevard is a primary north-south rural road that turns into Main Street at the intersection of Peach Avenue and Main Street. Santa Fe Drive is a major route that runs northwest to southeast from Modesto to Merced. It bypasses Cressey Road which comes into the City of Livingston. Cressey Road is a country road that runs from southwest to northeast and turns into Livingston-Cressey Road.

2.4.7 Existing 1988 General Plan

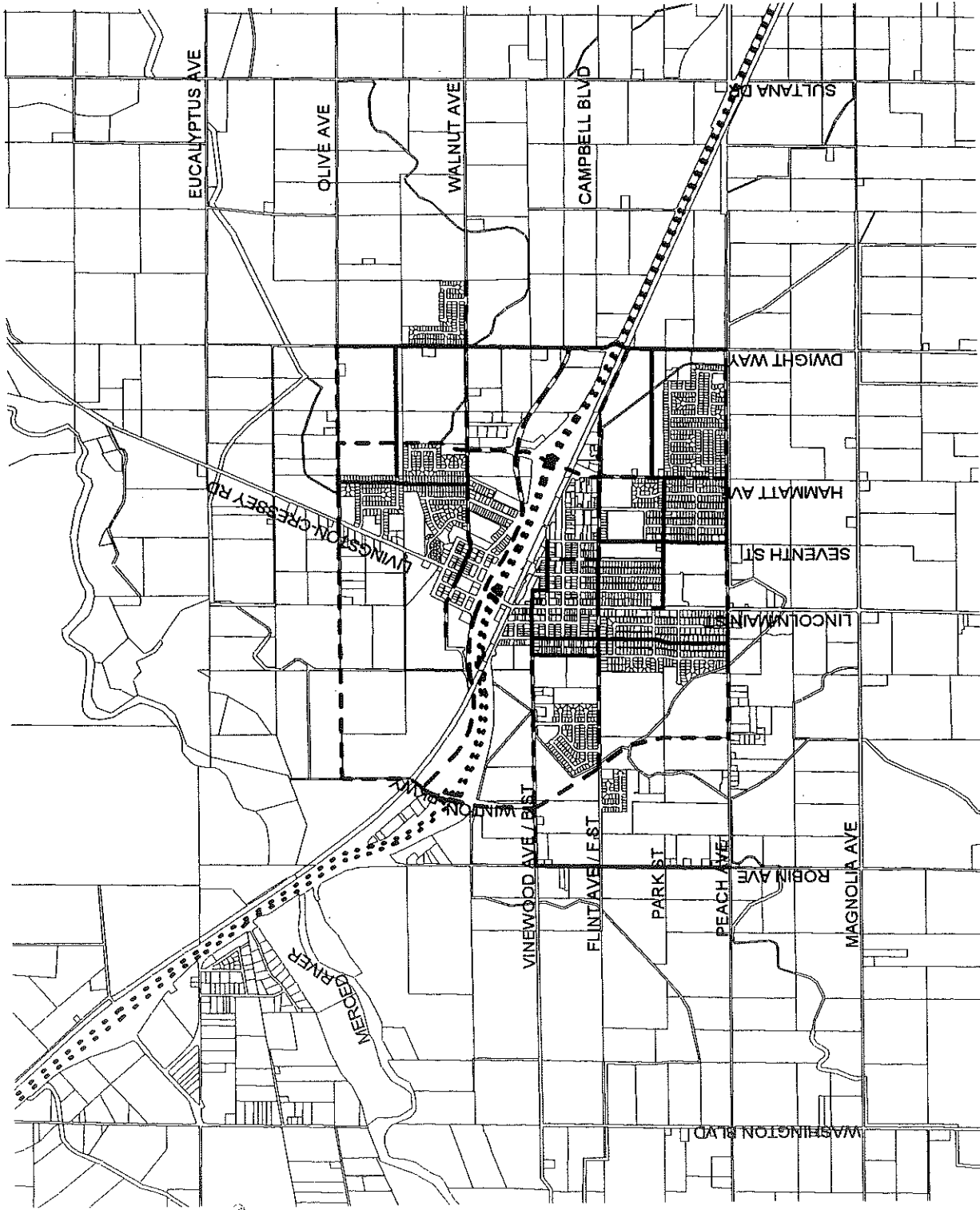
The City of Livingston adopted the current Circulation Element in 1988 as a part of the General Plan Update. It was amended in 1990, based on the routing of Highway 99 through the City of Livingston. Figure 2-2 depicts the existing circulation plan.

2.4.8 Existing Traffic Conditions

The existing traffic conditions were evaluated to develop a beginning point for understanding the City of Livingston's existing street network. This analysis was completed for selected arterial streets. The analysis focused on three specific issues, street capacity, classified system pattern and connectivity.

The evaluation of street capacity was the central focus of the analysis process. A street or highway's capacity is affected by a number of factors including the number of lanes, the location and spacing of intersections, the type of traffic control devices used (stop signs, traffic signs, etc.), the traffic signal timing plan, the use of on-street parking, the percentage of trucks, the level of transit activity, and the number and location of adjacent driveways.

For purpose of analyzing these street and highway network conditions in the City of Livingston, the following capacity table (Table 2-21) has been developed to define carrying capacities of the street facilities in the community. Each facility is presented with a different number of lanes and with different geometric characteristics. The capacity shown for each facility represents the theoretical capacity of the street at Level of Service E. The table delineates the capacities of the various street segments to be evaluated. The capacity is defined as the number of vehicles per lane per hour that pass a specific point.



LEGEND

- Circulation
- - - Arterial Streets
 - Collector Streets
 - Highway 99



1000 0 1000 2000 Feet



Quad Knopf

Existing Circulation Plan 1990 Amendments

Figure 2-2

TABLE 2-21
Merced County Association of Governments
Street Capacities

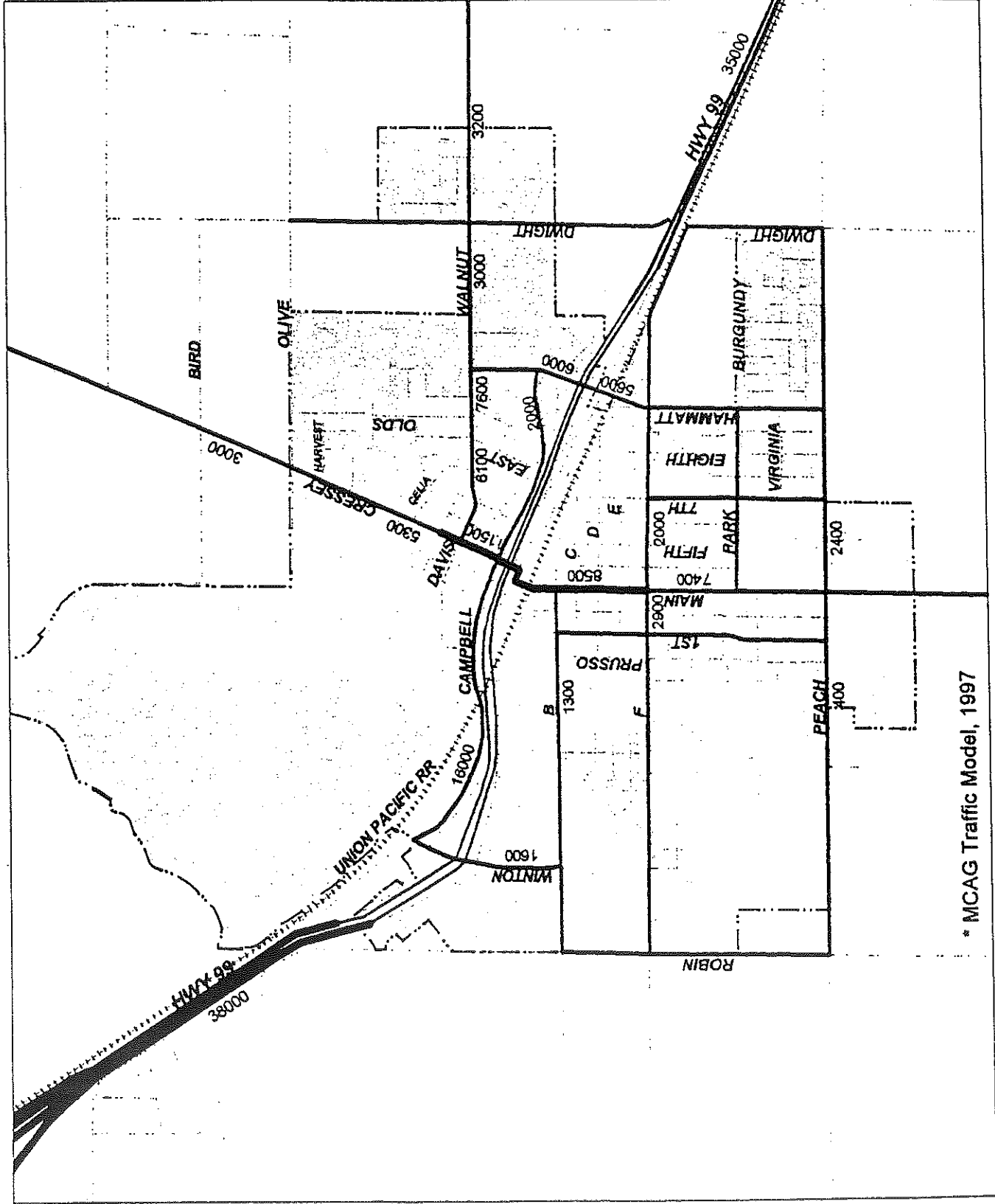
Facility	Geometric	Vehicles/Lane/Hr Capacity
Multi-lane Highway	Divided	2,000
Highway/Expressway	Divided	1,800
County Road	General-Divided	900
Urban Arterial	General Divided	750
Urban Collector	General Divided	500
Local	General Undivided	350

The primary means of transportation within the City of Livingston is by private vehicle. As stated in the 1988 General Plan, the grid network is still the main circulation component. Main Street is currently the primary activity center; however, with the completion of the Hammatt Avenue and Winton Parkway interchanges, it is anticipated that commercial activity will also be focused on the north side of Hammatt Avenue between Walnut and F Streets. It is also anticipated that commercial activity will be focused on the Winton Parkway between SH 99 and B Street.

The most intense traffic is on Highway 99, where traffic volume ranges between 35,000 to 38,000 vehicles per day, according to traffic count data generated from Merced County Association of Government 1997 Traffic Model. Figure 2-3 shows traffic generation numbers on all the major streets within the City of Livingston. Heavy traffic volumes are also concentrated on Livingston-Cressey Road between F and of Davis Street based on projections from the MCAG traffic model. These volumes are related to Foster Farms as well as trips to Yamato Colony Elementary School.

During peak periods, heavy traffic volumes are concentrated at the intersection of Main Street and F Street when traffic is entering and exiting Livingston High School.

Figure 2-3: Traffic Count Data & Level of Service



* MCAG Traffic Model, 1997

2.4.9 Level-of-Service

The evaluation of a street's capacity introduces the concept of level of service, which is defined as a qualitative measure describing operational conditions within a traffic stream, and the perception of these conditions by motorists. A specific level of service definition generally describes these conditions in terms of such factors of speed and travel time; freedom to maneuver; traffic interruptions; comfort and convenience; and safety. There are six level of service designations ranging from A to F, with A representing the best operating condition and F representing the worst.

For the purposes of assisting in the definition of level of service, volume-to-capacity ratios have been developed. Each level of service falls into a range of volume-to-capacity. Volume as used in this instance is the actual or projected p.m. peak hour traffic volume on a specific segment of street or highway. The capacity is defined by the type of facility (i.e., classification; arterial, collector, etc.) and the number and configuration of the travel lanes. By dividing the traffic volume by the street's capacity a volume-to-capacity ratio can be calculated. The corresponding ratio or percentage relates to the street's ability to carry that volume of traffic efficiently. The closer the volume gets to the capacity, the lower the operational efficiency of the street. For example, from 80% to 90% of capacity of the street begins to show the deterioration in operating efficiency, but continues to provide reasonable level of service. After 90% of capacity is reached, the street begins operating less efficiently and the driver is subject to excessive delays. Table 2-22 shows the level of service description.

2.4.10 Existing Traffic Volumes

To complete the assessment of existing 1997 traffic conditions in the City of Livingston, the MCAG traffic model was used. MCAG's model has the capabilities to estimate traffic counts for any given roadway based on actual counts taken in recent years. Traffic volumes shown on Figure 2-3, reflect average daily traffic in vehicles per day.

2.4.11 Existing Level of Service

The traffic volumes delineated on the preceding page were used to evaluate the operating conditions of the existing street and highway system. The analysis was based on the ratio of the existing traffic volume of the street to the current capacity of the street. The result of the existing level of service analysis shows that virtually all of the streets in the community are operating at high levels of service. The vast majority of the streets are operating at a level of service A with approximately ten segments operating at level of service C and one segment (Main Street/Livingston-Cressy Road between Walnut and F Street) operating at a level of service D. Figure 2-3 illustrates the existing levels of service for the identified roadways.

TABLE 2-22
Level of Service Description

Level of Service	Conditions	Description	Volume-to-Capacity Ratio
"A"	Free Flow	Users are unaffected by other traffic; freedom of speed and movement; level of comfort; convenience and safety is excellent	0.00-0.59
"B"	Stable Operation	Users begin to notice other traffic; freedom of speed continues; but freedom to maneuver declines slightly.	0.60-0.69
"C"	Stable Operation	Users are affected by other traffic; freedom of speed and maneuverability are greatly affected; traffic signals operate at maximum efficiency.	0.70-0.79
"D"	Approaching Unstable	Users are greatly affected by traffic; comfort, convenience and safety significantly affected; users wait more than one signal cycle to pass through an intersection.	0.80-0.89
"E"	Unstable Operations	Traffic volumes at or near capacity; users wait several signals to pass through intersection.	0.90-0.99
"F"	Forced Flow	Traffic volumes exceed the capacity of the street and traffic queues develop; stop and go traffic conditions.	1.00 plus

Source: 1985 Highway Capacity Manual, Special Report 209, Transportation Research Board.
1965 Highway Capacity Manual, Special Report 87, Highway Research Board

2.4.12 Existing Classified System Pattern

The pattern and spacing of a community's street system are as important as the proper designation of the functional classification of the streets. Arterial street spacing of approximately one mile with collector streets spaced one half-mile in between is ideal for communities like Livingston that have developed their circulation system based on the automobile.

This pattern accomplishes several goals. It balances the system by providing for mobility with arterial streets, thus not committing the community to an over expenditure of resources. It provides for movement within an area with collectors at half-mile intervals. It protects neighborhoods from through traffic by isolating local streets and promoting through movements on collectors and arterial streets which are designed to accommodate these trips. Finally, it complements the Land Use Element by providing locations along arterial streets and collectors for traffic generating activities. The following discusses the relationship of Livingston's existing street pattern to the pattern described above.

Regional access to the Livingston area is provided by a number of entrances to the City. As described before, Freeway 99 has two off ramps into Livingston, Lincoln Boulevard/Main Street, Livingston-Cressey Road, and Walnut Avenue all provide regional access to Livingston. The majority of regional access to Livingston are two-lane divided facilities, with Freeway 99, a four-lane facility.

2.4.13 Connectivity

The success of a community's street system is greatly affected by the concept of connectivity. Connectivity describes the continuity of a street system. Typically, street systems develop over a long period of time and can develop missing links in the network. These missing links can create both local and community wide problems as the traffic that would logically use the missing link must use another street to complete a trip. Livingston's street system has developed with several connectivity problems and several others that may cause problems in the future.

Generally, Livingston has developed its existing street system with fair connectivity. Most of the arterial streets are continuous within the community and the expansion of these facilities to provide for future development for the most part can be accommodated. However, care will need to be taken to ensure that Hammatt Avenue, Winton Parkway, F Street, and Olive Avenue are connected to other major elements of the circulation system.

2.4.14 Transit

The City of Livingston and the surrounding areas are served by a couple different public transportation organizations. The following provides a description of some of these transit services.

Public Transit

Merced County Transit, "The Bus-Merced County Transit," operates the Merced Region's transit system through the Transit Joint Powers Authority for Merced County. The fixed route system operates Monday through Friday.

There are a variety of transit options available within the Merced Region including buses, vanpools, and rail. Some of these modes are fixed routes, meaning they travel a set course, while others are demand responsive, usually referring to door-to-door service; some arrange the trip while others are oriented to serve the majority of the population; and some are open to general public while others serve specific clientele. However even with all of these services, gaps in the existing system appear because trips are often restricted by purpose and options may not be easily recognizable by the consumer.

Fixed route and demand response services are ADA compliant. Buses are equipped with wheelchair lifts.

Fixed Route Services

Fixed route bus service is regularly scheduled public transit service provided over a fixed route of travel adhering to a specific timetable of service. Service may be provided at fixed stops or on a flag down basis.

Two routes service for City of Livingston directly. Within Livingston, the Red Route, provides two-way service from Livingston, Atwater, Winton, Merced. The transfer point in Livingston is located at the public library.

The North County Shuttle provides service to Turlock which then transfers to the Turlock Dial-A-Ride service and the Stanislaus County Transit service.

Demand Response Service

Transit service is also provided on a door-to-door basis that requires a telephone call or other service request from a customer to the transit dispatch center. Transit service is then radio dispatched within a reasonable period of time to the customer within 30 minutes of the pickup request. Service provided on every route with a wheelchair lift-equipped bus.

Three buses provide demand responsive services (Dial-A-Ride), restricted for the use of senior citizens 60 years of age and the disabled. Seniors and the disabled pay half rate, and children five years of age and younger ride free when accompanied by a fare paying passenger. According to the Transit Service Plan, "disabled" is defined as "any individual who is unable, due to the result of any physical or mental disability, to board, ride, navigate or disembark the regularly scheduled fixed route services contained in the Transit Plan.

Transit drivers receive training with specific emphasis on handling/assisting the physically and mentally handicapped; sensitivity training in accommodating all handicapped service requests, and screening, registering and determining/certifying ADA disabled and senior citizen demand response service eligibility.

Bicycle and Pedestrian Facilities

Currently, there are no existing bicycle facilities within the City of Livingston. The City does have sidewalks; however improvements need to be made, as sidewalks do not run consistently throughout the City. Sidewalks do not extend entirely on Prusso Street, for example. Sidewalks in this area would enhance safety for children who walk to Selma Herndon School which is located on Prusso Street.

2.5 PUBLIC FACILITIES AND SERVICES

2.5.1 Water

The source of domestic water for the City of Livingston is groundwater, drawn from seven groundwater wells. In general, the groundwater quality of the City is good with the exception of the high levels of the pesticide Dibromochloropropane (DBCP) and nitrates (NO₃).

DBCP was used by farmers for about twenty years to control nematodes in soils. It has been outlawed in California since 1977 because evidence shows it to be a cancer-causing substance. DBCP concentrations are generally found in shallow wells less than 100 feet deep. Like many other San Joaquin Valley communities, Livingston has experienced DBCP contamination in City wells to the point that by 1990 four wells were closed due to DBCP levels that exceeded the maximum contaminant level. To date, well closure has addressed contamination. Current city wells are sealed to 120 feet to prevent contamination from shallower groundwater. High nitrates have not persisted in the vicinity of operating water wells.

Together, the existing seven potable wells and the one million gallon storage tank at Burgundy and Chardonnay Streets, produce approximately 9,100 gallons per minute (gpm).

Prior to agricultural and urban development, groundwater moved from areas of recharge along the eastern rim of the Valley to areas of discharge along the Valley's axis. Recharge was primarily by seepage from stream flows. Under present conditions, groundwater is recharged from several sources: the Merced River, percolation from the MID canals which pass through the area, from storm water detention basins, by percolation from treated wastewater disposal facilities and from percolation attributed to excess applied surface irrigation water. Groundwater depth in the Livingston area is approximately 25 feet below the ground surface. Figure 2-4 depicts current water infrastructure.

Reports completed for the 1988 General Plan Environmental Impact Report (SCH number 87063010) and the 1992 Water Distribution System Study and Master Plan have found that adequate long term groundwater supply exists for buildout of the City of Livingston's Sphere of Influence.

Improvement of the production, storage, distribution, and treatment systems will be needed to take advantage of this resource. However, the water system can be readily and incrementally expanded to serve newly developed areas. Fees can be developed on the basis of the proposed new wells and water mains needed for future development.

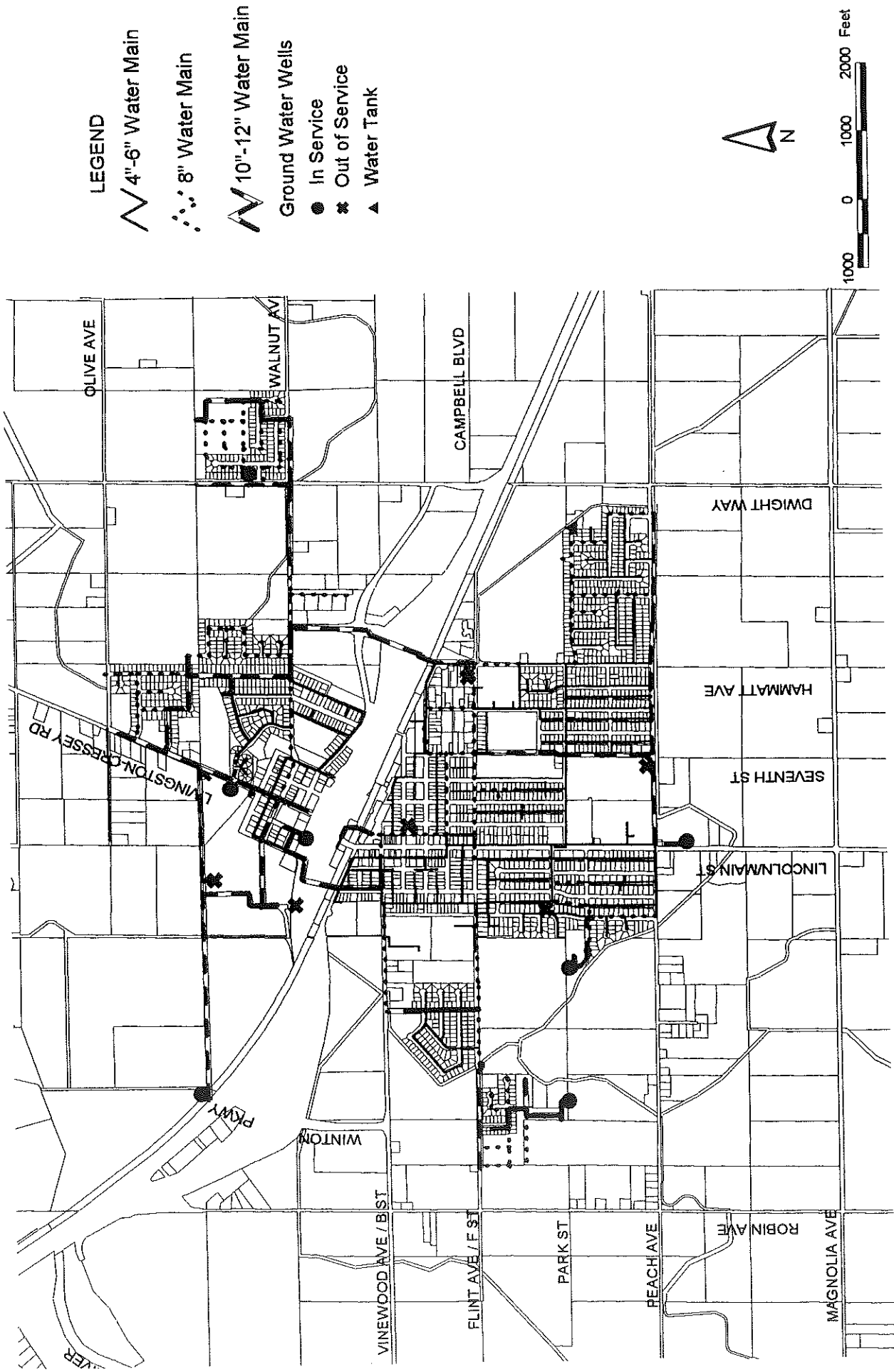
An issue for this General Plan update to consider is the maintenance of a groundwater budget, where extractions do not exceed natural or artificial recharge of the groundwater. As urban growth replaces agricultural land uses, a regional concern for groundwater recharge and overdraft will become an issue for both the City of Livingston and the surrounding farm land. As ditches become piped and irrigated agricultural lands are developed for urban use, the amount of groundwater recharge from these wells will be reduced while groundwater pumping will continue in the same area. Also, as the land converts from agricultural to urban use and groundwater replaces surface water as the source of supply, there may be impacts to groundwater levels.

2.5.2 Sanitary Sewer

Sanitary Sewer System - The City of Livingston's sanitary sewer system is comprised of two major components, the collection system including gravity collection mains, manholes, service laterals, pump stations and trunk sewer mains, and the Wastewater Treatment Plant including the headworks/pump station, primary clarification, trickling filters, secondary clarification, polishing ponds and evaporation/percolation ponds. As designed, the system has the capacity to serve up to 20,000 customers. There are, however, critical constraints to the treatment system that will be discussed. Figure 2-5 displays the major elements of the sanitary sewer infrastructure.

Sewer Collection System - *A Sewer Collection System Study and Master Plan* was completed in 1992 and amended in 1996 by to update the City's sewer collection system master plan based on the then-revised Sphere of Influence. The investigation into the City's Sewage Collection and Conveyance System and the preparation of a basic Master Plan led to the following conclusions, some of which have been advanced through the General Plan update process:

1. A new sewer main will have to be constructed in Robin Avenue and Flint Avenue to service the residential area in the southwest section of the City. The proposed sewer main discharges into the existing 27-inch trunk line in Vinewood Avenue. A new lift station will be required that will discharge into the proposed main in Robin Avenue



LEGEND

4"-6" Water Main

8" Water Main

10"-12" Water Main

Ground Water Wells

● In Service

* Out of Service

▲ Water Tank

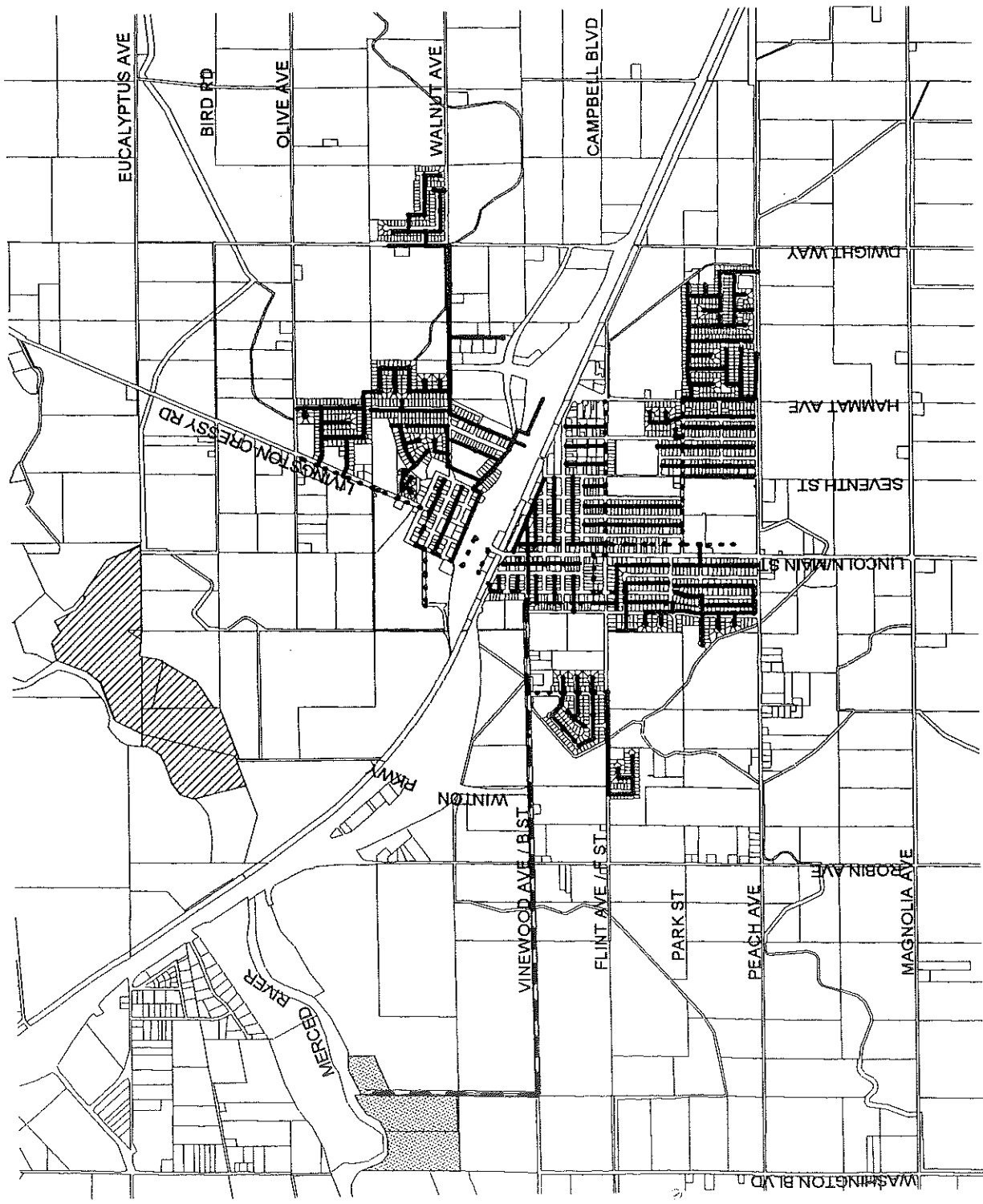


Quad Knopf

Existing Water Infrastructure

Figure 2-4

2. The existing 12-inch sewer main constructed in Briarwood Drive from Vinewood Avenue to F Street is adequate to service the residential area in the southeast section of the City. The existing sewer pump station will have to be reconstructed to serve the area. The reconstructed lift station will also handle the discharge from the proposed sewer main along Peach Avenue.
3. The existing trunk line and lift station along "T" Street will continue to service the southwest residential area. The existing sewer main discharges into the existing 27-inch trunk line in Vinewood Avenue.
4. A new sewer main will have to be constructed along Peach Avenue and Main Street to service the future residential area in the south section of the City. A new sewer lift station will be required along Peach Avenue to serve this area. In order for future development to occur in this area the proposed main and reconstructed lift station must first be constructed along Briarwood Avenue.
5. The existing lift station which discharges into the trunk line on Park Street will continue to do so on an interim basis until a new trunk line can be constructed along Hammatt Avenue.
6. A new trunk line and lift station will have to be constructed along "F" Street to service the residential area in the southeast section of the City. The proposed lift station will discharge into the existing 10-inch main in "F" Street on an interim basis until a new trunk line can be constructed along Hammatt Avenue.
7. A new trunk line and lift station will have to be constructed along the existing Highway 99 to service the industrial and residential area in the northeast section of the City. The proposed trunk line will discharge into the proposed 15-inch sewer main to be constructed as part of Highway 99 Reconstruction project. This proposed line would also intercept the existing 8-inch line in the alley East of Olds Avenue.
8. A new trunk line and lift station will have to be constructed along Grapevine Drive to service the residential area in the northeast section of the City. The proposed lift station will discharge into the existing 8-inch main in Grapevine Drive and 8-inch main in Olds Avenue.
9. The existing lift stations should be reconditioned to match the flow conditions for the area they serve. This would reduce the peak flow rate in the trunk lines.
10. The Highway 99 Reconstruction Project resulted in the construction of a force main and lift station. A 15-inch sewer main near Stefani Avenue will be required. The force main will discharge into the existing 27-inch sewer trunk line in Vinewood Avenue.



LEGEND

- 6"-8" Sewer Main
- 10"-15" Sewer Main
- 27" Sewer Main
- Private Industrial Waste Water Treatment Plant
- Municipal Waste Water Treatment Plant



Quad Knopf

Sanitary Sewer Map

Figure 2-5

11. The Highway 99 reconstruction resulted in a conduit for a sewer force main in the Winton Parkway overcrossing. A sewer line will need to be installed in the overcrossing to serve the area to the north.

The investigation into the City's Sewage Collection and Conveyance also led to a recommendation that the City have further detailed studies and design made on areas as individual developments are proposed, especially in areas where development can be served with alternate main extensions. It is also important to realize that the main sizes shown on the basic Master Plan are approximate only and is not to be used for construction purposes. A rigorous analysis will be required as the actual growth patterns; population density and flow requirements are determined.

Wastewater Treatment Plants - The plant west of SH-99 has a hydraulic design capacity of 1.8 million gallons per day (mgd) with monthly average inflow of 0.9 mgd. However, this capacity has been severely limited by a reduced water disposal capacity caused by the degradation of percolation rates in the evaporation/percolation ponds. In order to keep pace with influent rates, the City has had to discharge disinfected wastewater to the Merced River. Discharges to the river have exceeded state water quality standards for biological oxygen demand and total dissolved solids. Finding that the level of treatment prior to discharge did not meet state water quality regulations, the Regional Water Quality Control Board issued a Cease and Desist order in February, 1998 to prohibit this practice and have the city conduct an investigation into the causes of the pond failures and determine a remedy that will bring the plant's operation back into compliance.

The California Regional Water Quality Control Board has ordered the City of Livingston to submit technical reports recommending remedies to restore percolation and to complete short-term improvements. The state has also asked for a moratorium on new sewer connections until this issue can be resolved.

The plant west of SH 99 has a capacity of six mgd and has an average inflow of 4 mgd. This plant is limited to primary treatment. Additional users will be limited to those with an effluent that is compatible with this plant's treatment limitations.

2.5.3 Storm Drainage

The City of Livingston's storm drain collection system was last studied on a comprehensive basis in 1992 with the completion of the *City of Livingston Storm Drain Collection System Study and Master Plan*. The Master Plan presented data and information that would provide a guide for development, be readily available for future reference for more detailed studies as needed, and to provide preliminary opinion of costs for storm drainage facilities and an acreage assessment fee for development in individual watersheds.

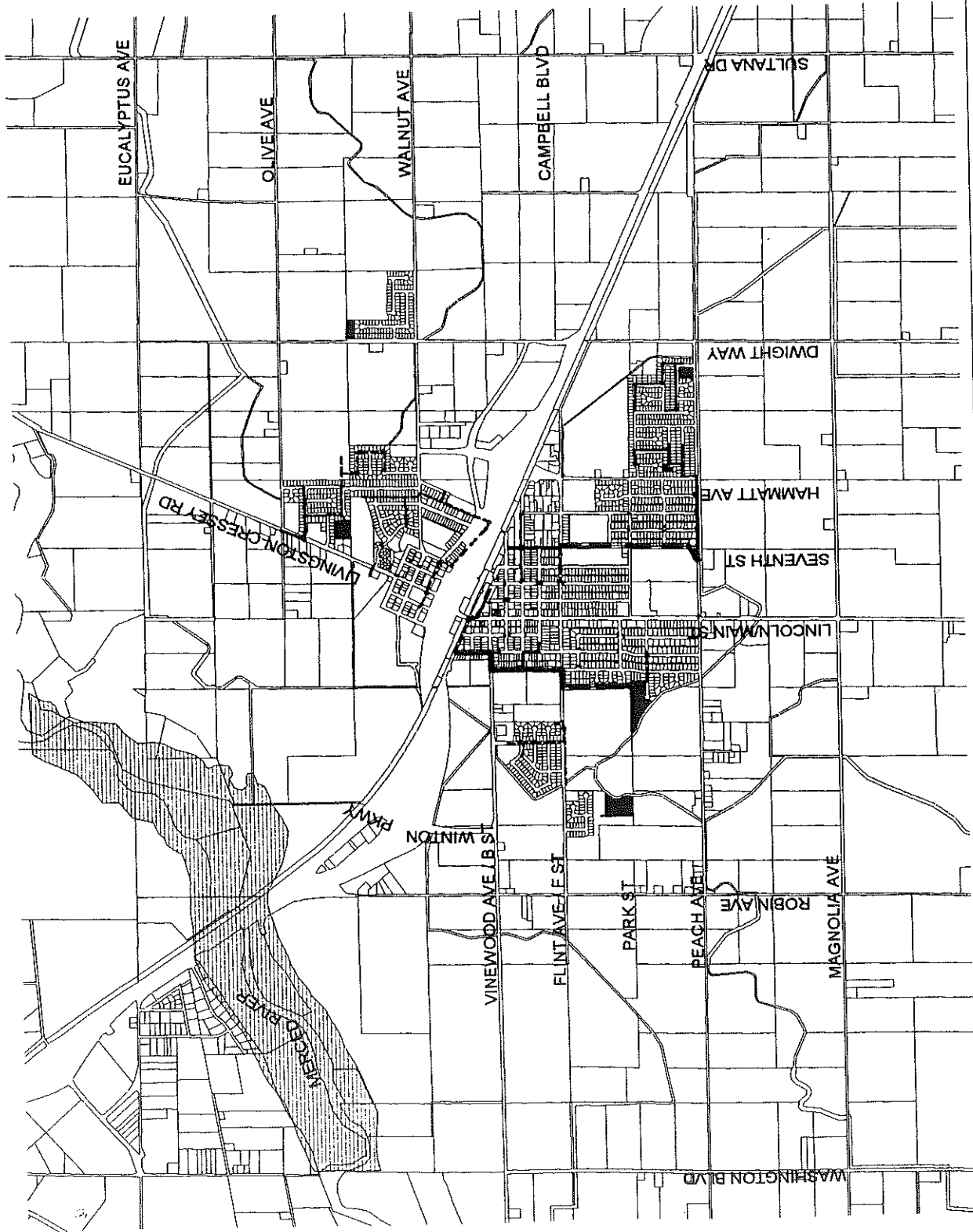
The scope of the study generally delineated the general boundaries for urban drainage areas (watersheds) of undeveloped areas. It determined basic drainage facility concepts for each drainage area for the design storm, estimated volume of runoff for each water shed and estimated a detention basin volume to contain the runoff. Finally, an opinion of costs and acreage assessment fees for each watershed was prepared.

The study concluded that the best apparent technical solution for handling storm drainage in the City would be by constructing a gravity line to directly convey the runoff to the Merced River. However, the cost to construct this drainage facility was prohibitive. As an alternative, storm water is temporarily stored in detention basins, each one serving a watershed in the urban area. Each watershed will require one lift station to drain the storm waters at a controlled rate to available Merced Irrigation District (MID) canals. The detention basins will store the City' storm runoff during peak periods, allowing the pump stations to discharge over a longer period of time to the Merced Irrigation District facilities. In the event that the Merced Irrigation District facilities are themselves temporarily unavailable, the basins will also accommodate, on a short-term basis, the potential temporary shut-off of these pump stations. Discharge to the canal is regulated by a float-operated pump switch which shuts off discharges when the safe canal carrying capacity has been reached. Responsibility for repairs of these facilities currently rests with the City of Livingston.

Figure 2-6 shows storm drain facilities as adopted in 1996.

The watershed boundaries originally depicted areas of similar land uses. The type of land use in a given watershed determined the suitability of discharge of detained storm waters to the Merced River. For example, because of the nature of industrial land uses, they were found to have higher potential for storm water runoff contamination, perhaps with volatile organics or petroleum products. For this reason, it was found that each industrial parcel will be required to have its own basin and will have to obtain permission from the Merced irrigation District to discharge run off into that agency's facilities. Run off from largely residential areas, on the other hand, will be permitted to drain the accumulated run off into MID facilities, presumably because of the lesser potential for contaminated run off.

The City's remaining undeveloped areas should be served by detention basins as they ultimately develop, due to continued indications from the Merced Irrigation District that additional transport capacity in their facilities is not available. These undeveloped areas should be divided into drainage areas that can be engineered to cost-effectively dispose of runoff flows into permanent retention/detention basins. The *1992 Master Plan* opinion of costs for recommenced new development area facilities estimated that the system development charges to facilitate storm drainage facilities in the undeveloped areas would range, in 1992 dollars, from \$4,400/acre to \$24,980/acre.



LEGEND

12" - 18" Storm Drain

21" - 30" Storm Drain

36" - 48" Storm Drain

Detention Basins

Flood Zone



Storm Drain Map

Figure 2-6



Quad Knopf

2.5.4 Schools

Elementary educational services are provided by the Livingston Union School District (LUSD) and secondary services by the Merced Union High School District.

Livingston Union School District -- The Livingston Union School District completely encompasses the Study Area and extends as far south as McSwain Road on the south, Youngstown Road on the west, the Livingston/Cressey Road on the north and Arena Way on the east. A *Facilities Master Plan/Development Fee Justification Study* was prepared in 1996 to assess school facility needs in the District through the year 2005, to provide a plan for meeting those needs, to determine costs, and whether the District can continue to justify the collection of developer fees in accordance with State law.

The District's three schools are all located in the city of Livingston. Campus Park Elementary is a neighborhood school serving grades K-4, and is located at 1845 H Street; Yamato Colony Elementary, serving grades K-5 from the neighborhood as well as students from unincorporated areas of the district is located at 800 Livingston-Cressey Road; and Livingston Middle School serves the 5-8 grades from throughout the District. The schools operate on a single-track, traditional school schedule.

LUSD student population has grown significantly between 1985 and 1995 with annual rates of growth varying from a high of 16.59 percent to a low of 1.16 percent. The average enrollment grew by an average of 5.35 percent per year. Enrollment projections for the year 2005 range from 3,117 to 3,380 students.

District student enrollment currently exceeds capacity by about 440 students. The *Study* noted that there is expansion potential at all three schools. The District also owns 9.1 acres of undeveloped land west of Campus Park Elementary School that could accommodate approximately 550 students in grades K-6 or 300 students in grades 7-8.

The District has a number of student-housing alternatives at its disposal. Its preferred plan is to:

- ▶ Construct a new middle school to be constructed as centrally located to the projected enrollment as is feasible, possible south of SH 99;
- ▶ Expand existing elementary school sites in lieu of a new elementary school;
- ▶ Continue to lease classrooms at the County-operated Shelby Center to accommodate un-housed students.

Merced Union High School District -- The District provides high school education services to ten elementary school districts. It has four attendance areas, each with a high school campus serving three to five elementary districts. The Study Area is located entirely within the District's Livingston High Attendance Area. The High School lies at the northeast corner of Main Street and Peach Avenue in the south central part of the Study Area. Livingston High School, the District's smallest comprehensive high school, has an enrollment of 930 students and is proposed to be enlarged to

approximately 1,800 students. Property has been acquired on the South side of Peach Avenue for the expansion/relocation of athletic fields. Relocation of the athletic fields combined with the opening of Delhi High School will provide adequate capacity for the District to accommodate new growth.

2.5.5 Police and Fire

The City of Livingston is patrolled on a 24-hour basis by the City-operated police force. The Police Department currently consists of one chief, one commander, two sergeants, three corporals, nine patrol officers, five police dispatchers/matrons, and one secretary. In 1997 the department responded to approximately 4,000 calls for service.

Based on the desired ratio of one police officer for every 1,000 persons, the Police Department has more than adequate staffing for the foreseeable future. The City operates under a mutual aid agreement with the Merced County Sheriff's Department.

The Merced County Fire Department provides fire, rescue and emergency medical response service to the City of Livingston. The Fire Department has paid firefighters and twenty-one volunteer firefighters. The Merced County Fire Department has a mutual aid agreement with the City of Atwater to provide assistance to Livingston in the event of an emergency. The City of Livingston has a Insurance Service Organization rating of 6.

2.5.6 Other Public Facilities: Library, Natural Gas, Telephone, Electricity, Cable

Library - Library service is provided by the County of Merced. The Livingston branch is located at "I" and Main Streets.

Electricity - The Merced Irrigation District and Pacific Gas and Electric Company provide electrical service to the City of Livingston. All electrical services for the City are provided by a combination of inter-ties and substations. There are currently no locally-produced power sources in Livingston.

Natural Gas - Natural gas is provided to urbanized areas of Livingston by the Pacific Gas & Electric Company. This service can be provided only where natural gas pipelines have been installed. The rural outskirts of the City would most likely not have this service. Residents living in such areas who run gas appliances would purchase bottled propane from one of several providers in the region.

Bottled Gas - The majority of the City of Livingston is served by natural gas lines. For those residents not directly served by such lines, bottled propane or butane would be necessary to run gas appliances. There are several providers who deliver bottled gas to residential users who own or lease tanks on their property. Several providers sell bottled gas from fixed storage tanks to consumers who bring small, portable tanks to the providers' premises.

Telephone - Local telephone service is provided by Evans Telephone Company. Long distance service is provided by a number of carriers such as Sprint, AT&T, GTE, & MCI.

Cellular Service - Cellular telephone service is provided for the City of Livingston by a number of companies including Airtouch, Cellular One, and AT&T Wireless. Calls are placed from cellular phones, which are simply wireless mobile or portable phones that have radio-frequency (RF) transmitters and receivers. The RF signals are received by "cell" sites (hence the name "cellular"), which are RF receiver/transmitter stations situated on towers that are strategically placed to be able to transmit over or around topographic barriers. Signals from cellular phones are transmitted from cell to cell until they reach a mobile telephone switching office (MTSO) in the local calling area that the caller wishes to reach. Here, the call is linked by MTSO from the cellular network to the local telephone office.

Cable Television – Charter Communications is the only cable provider currently serving the City of Livingston. Charter Communications does receive some competition though from wireless satellite services such as Primestar within the Livingston area.

2.5.7 Health Services

The Livingston Medical Group clinic provides primary care, acute care, and some internal medicine, laboratory and x-ray services to the community. It has a medical staff of four doctors, two Nurse-Practitioners and a Physician's Assistant. The clinic is open Monday through Thursday from 8:00 a.m. to 8:00 p.m., Friday 8:00 a.m. to 5:00 p.m., and Saturday 8:00 a.m. to 4:00 p.m.

2.5.9 Postal Services

The Livingston Post Office is located at 4th and B Streets.

2.5.10 Solid Waste Collection, Disposal, and Management

The City of Livingston has contracted with a private carrier, Gilton Solid Waste Management, Inc., to provide pickup of solid waste within the City limits. Residential waste is collected once per week and commercial/industrial waste is collected from one to five times a week depending on the customer's need. Waste is delivered to State approved and permitted solid waste facilities which include but are not limited to Gilton Resource Recovery/Transfer Facility, Inc., Modesto, Turlock Transfer Station, Turlock, or Highway 59 Landfill, Merced. In 1997, Merced County approved an expansion of the Highway 59 landfill, which upon completion will provide enough capacity to remain open for an additional 30-35 years.

2.6 RECREATION, ARCHEOLOGICAL, AND HISTORICAL RESOURCES

2.6.1 Existing Park and Recreation Facilities and Programs: Types, Conditions, Monetary Value and Location with Respect to Population

The City of Livingston Department of Public Works maintains a system of parks for its citizens. The Livingston Police Department provides recreation services. A *Parks and Recreation Master Plan* was adopted in 1993. *The Master Plan* noted the significance of recreation to Livingston and

provided a framework for orderly and consistent planning, acquisition, development, and administration of parks and recreation resources, programs and facilities. It continues to serve as a foundation and guide for assisting community leaders in future decisions and actions regarding recreation programs, park facilities, and open space within Livingston. In 1993 it was observed that the city was fortunate that its growth had not yet overcome its ability to provide sufficient recreation, parks, and open space for its residents. However, growth had created additional demand for recreation in a time when city operation and maintenance funds were diminishing. Livingston was faced in 1993 with important decisions regarding the allocation of these limited resources to meet the growing needs.

Livingston has nine existing parks within the City limits, totaling approximately 34 acres as well as the Livingston Museum and a recreation center. Arakelian Park (6.5 acres), Memorial Park (5.6 acres), Lucero Park (1.2 acres), Livingston Community park (13.9 acres), and East Avenue Park (2.5 acres). The parks offer recreational opportunities and/or host community events. The *Parks and Recreation Master Plan* identified locations for seven new City parks. Open space and recreation facilities at Livingston's schools are also considered part of these park inventory due to the cooperative agreement between the City and school district. A major soccer facility and park is planned for the Southwest corner of Walnut and Dwight.

Arakelian Park, located at the western terminus of J Street serves a dual purpose as a park and a flood control basin. This assists in flood control and also helps recharge the groundwater. All of the proposed parks would have areas designated for passive recreation and open space. The five proposed new parks will provide the City approximately 25 acres of additional park area. The new parks are planned for areas that are currently on or near the periphery of the now urbanized area.

2.6.2 Historical Cultural and Archeological Resources

Research to identify known and potential cultural resources in the Livingston area and to evaluate what constraints known resources might have on the development of a general plan was conducted in 1998. The background information collected in this phase will provide a basis for evaluation of the significance of individual resources, that is, an historic context will be identified that is important in the cultural history of the area. Research sources employed in this study included:

- ▶ Central California Information Center of the California Historical Resources Information System
- ▶ National Register of Historic Places, including listed and eligible properties
- ▶ California Inventory of Historic Resources
- ▶ California Historical Landmarks
- ▶ California Points of Historic Interest
- ▶ Other registers (through Information Center)
- ▶ Historic maps
- ▶ Published texts.

Previous Studies

There have been several previous cultural resources studies in the Livingston vicinity. None of these have recorded significant cultural resources in the vicinity of the city. It should be noted that there have been no surveys of the built environment in the city which focussed on architectural history or historical relationships with important persons or events. Some structures near the SH 99 route were evaluated by CalTrans in 1984 and 1985 as part of the studies on the freeway reconstruction. These structures were not considered historically or architecturally significant. Other than this, the previous studies have involved limited survey areas and, in some cases, an emphasis on archeological rather than historical resources.

The following studies, discussed in chronological order, have been conducted in the immediate vicinity of Livingston. It is interesting that the earliest of these only dates to 1984 and that no other study was reported to the Information Center until eight years later. (The CalTrans studies, noted above, apparently were not transmitted to the Information Center.) This reflects the small number of projects in the area that have required study under the National Environmental Protection Act or the California Environmental Quality Act, thus, the relatively limited state of our knowledge of the cultural resources of the area.

A survey conducted for a 2.6 acre proposed subdivision north of the downtown area (Napton 1984) produced negative results. A survey of a proposed cogeneration project (Napton 1992) involved examination of narrow corridors on proposed power lines and gas pipelines on the periphery of the city. The same can be said for two surveys of the proposed Merced-Turlock Intertie (Napton 1995a, 1995b) that were related to the cogeneration project. Another corridor survey, this time involving a proposed oil pipeline, followed, generally, the old route of SH 99 through Livingston (Woodward-Clyde Consultants 1995). This was followed by a fourth survey related to the cogeneration project (Napton 1996) that again skirted the downtown area. Finally, two surveys for the Merced Irrigation District involved a proposed 115 kV power line (Napton 1997a) and a revised alignment plus consideration of the Livingston Canal (Napton 1997b). The latter is the only case of where a potential historical resource was identified and evaluated in the Livingston vicinity, however, the canal was not considered eligible for the National Register of Historic Places.

Since the previous studies related directly to the Livingston vicinity have yielded virtually no specific information, consideration of the cultural resources potential in the General Plan area will have to depend on regional information from more general sources.

Prehistory

The project area lies within the historic territory of the Yokuts people. Members of the Penutian language family that held all of the Central Valley, San Francisco Bay, and the Pacific Coast from Marin County to Point Sur, the Yokuts were a distinct language grouping in California. Yokuts communities had true tribal division with group names, a trait absent among other California Indian people (Kroeber 1925). Each tribe spoke a particular dialect common to its members but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925). The territorial boundaries of the various Yokuts tribes and their neighbors have been delineated by Cook (1955). The Yokuts held the valley floor from the Tehachapis to Stockton, where they were bordered on the north by the Plains Miwok and on the west by the Saclan (Bay Miwok) and Costanoan, also members of the Penutian

family. The Miwok of the foothill linguistic division held the Sierra foothills along the eastern territorial boundary to the Fresno River (Barrett and Gifford 1933). From the Fresno River, south, to the Tehachapis, the Sierra Nevada was the home of members of the Shoshonean linguistic group, with southern territorial limits along the Tehachapis also controlled by Shoshonean people. The Coast Ranges on the west from Point Sur southward were held by the various peoples of the Hokan language family.

Although many of these neighboring peoples were members of separate language families, cultural traits appear to have been shaped more by environmental influences than by linguistic affinities. Thus, the Plains Miwok were more similar to nearby Yokuts than to foothill members of their own language group. Similarities in cultural inventory co-varies with distance from other groups and proximity to culturally-diverse people. The material cultural of the southern San Joaquin Yokuts was, therefore, more closely related to that of their non-Yokuts neighbors than to that of delta members of their own language group.

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and perhaps came also from Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among the many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the ubiquitous acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs that formed a maze within the valley provided abundant food resources, such as fish, shellfish, and turtles. Game, wildfowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In all, the eastern portions of the valley provided a lush environment of varied food sources, and the estimated large prehistoric population reflected this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented toward the water resource, with major villages situated near waterways that provided not only reliable water supplies, but substantial food sources. Houses varied in size and shape (Latta 1949; Kroeber 1925), with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. Housepit depressions, still extant in the protected areas of the San Joaquin valley, range in diameter from three to 18 meters. However, one communal structure found at a village site on Los Banos Creek measured 93 by 84 feet (Kroeber 1925:522-523; Latta 1949:87-97; Pritchard 1970; Wallace 1978a:450-451; 1978b:464-465). Arrangement of the buildings in a village was orderly, as Stephen Powers described:

(The Yokuts) display in their encampments a military precision and regularity which are remarkable. Every village consists of a single row of wigwams, conical or wedge-shaped, generally made of tule, and just enough hollowed out within so that the inmates may sleep with the head higher than the feet, all in perfect alignment, and with a continuous awning of brushwood stretching along in front. In one end-wigwam the village captain; in the other, the shaman or si-se'ro (Spanish, hechizero). In the mountains there is some approach to this martial array, but it is universal on the plains (Powers 1877:370-371).

Latta (1949:99) reported that a village of 200 to 300 Yokuts might have four or five large houses that were used for ten or twelve years or until a family member died, and which time the Indians burned the house in which the death had occurred. If a sick or aged person died outside the dwelling, the family did not burn the house. When a Northern Yokuts died, his body was cremated or buried in a flexed position. Southern tribes normally buried their dead, although they did cremate shamans, persons who died away from their village and, among the Tachi, persons of great importance (Wallace 1978b:468).

The most devastating impacts of the Spanish colonization effort were not the result of military conflicts, but came from Old World diseases newly-introduced to the native people. Three major epidemics swept through the missions: a respiratory virus at Mission Santa Clara in 1777, pneumonia and diphtheria that killed children from Mission San Carlos to San Luis Obispo, and the devastating measles epidemic that killed at least 1600 natives at missions from San Francisco to Santa Barbara (Castillo 1978:103). These epidemics at the missions were followed in 1833 by a severe malaria epidemic that claimed thousands of lives and virtually destroyed many villages and tribes. Up to three-quarters of the population in the San Joaquin Valley was killed by this contagious disease, which was brought to California by a party of Hudson's Bay Company fur trappers from the Oregon country. In 1834, the Mexican government de-secularized the missions and many of the Indian residents returned to their former territories, where they survived by a combination of strategies that included traditional hunting and gathering and livestock raiding (Wallace 1978a: 459-460; Wallace 1978b: 468-469).

History

Livingston has long been a shipping and supply center for surrounding farms and ranches. Originally called Cressey, after a major landowner in the area, the town was forced to change names in a rather odd fashion. When the Santa Fe Railroad was completed in this area a station was established on another part of Cressey's property and was also named Cressey. The postmaster at the original Cressey also owned property near the new station and did not wish to change his mailing address. He led a successful campaign to change the name of the original Cressey to Livingstone, presumably after the explorer David Livingstone. The "e" was eventually dropped from the name of the town (Clark 1973:52). This attribution of the source of the name is likely to be correct since the railroads were completed in this area in the early 1870s, immediately after the famous Stanley and Livingstone meeting in Central Africa in 1871.

Livingston was a prosperous town in those days. The first known plat of the town dates from 1872, when the newly renamed town made an effort to gain county seat status during the competition between Snelling and Merced City for that honor. Peaceful and prosperous communities do not often feature events that excite historians, and this appears to be the case with Livingston. A standard encyclopedic reference to historic persons and events in California (Hoover *et al.* 1990) does not even mention Livingston and the county history (Clark 1973) contains only the information given above.

In recent years the previous emphasis of historians on early pioneers, notorious outlaws and similar colorful characters and events has been replaced to an extent by an increasing study of less spectacular events that have had a lasting effect on the people of an area. This is particularly evident in ethnic studies that examine the history peculiar to a subset of the general population that is identifiable on the basis of race, religion, national origin, or other factors. This is reflected in the most recent state historic

landmark in Merced County, which commemorates the temporary camps where Japanese-Americans were interned while the major camps, such as Manzanar, were under construction. One of these was in Merced.

In this area of historical research the Livingston vicinity is historically important. The Yamato Colony, occupying most of the land between Livingston and Cressey, may be the most significant example of an ethnic agricultural cooperative in the state. The following information is from *A History of Japanese Americans in California* (Waugh, Yamato and Okamura 1980).

Kyutaro Abiko was worried about the status and image of Japanese-Americans at about the turn of the century. Financially downtrodden, in most cases, the urban population often led lives that Abiko considered dissolute and non-productive. He felt that the future of his countrymen in the U.S. was in agriculture, which most of them had practiced in Japan. In 1904 Abiko bought 3,000 acres near Livingston, divided it into 40 acre plots and began advertising in Japanese language newspapers for families interested in becoming part of the Yamato Colony.

Initial progress was slow. The first issei, Tajiro Kishi, did not settle on the land until late in 1906. By 1908 there were only 30 individuals in the colony and they were practically starving as they labored to clear the land, develop orchards and vineyards and control the rabbits that welcomed the new food sources. Still, progress was made. The first buying cooperative was established in 1910 and a marketing cooperative followed in 1914. The first packing shed dated to 1917.

It is sometimes asserted that the colony was set up as a Christian colony from the start. Although Abiko and many of the early colonists were Christians, this was not a requirement for participation in the colony. Still, Livingston may be the only California community with a large Japanese population that has never had a Buddhist church. The Japanese Methodist church erected on land donated by Abiko has since merged with the general Methodist church of Livingston.

Another unusual feature of the colony is that the farmers stuck strictly to farming and did not set up grocery stores, laundries, etc. in the city, as was common in most other Japanese-American population centers. This seems to have derived from a tacit understanding that the less direct competition with Euro-Americans the less chance of racial hostility.

The colony managed to survive the internments of the World War II era by continuing the communal approach that was the original basis of the colony. Fifty-four families combined to hire an overseer to take care of their properties while they were incarcerated. After the war, many of the Issei pioneers, embittered by the whole experience, turned over farming operations to the Nisei generation. Another result of disillusionment with the government and with the hardship of farming is that over 60% of the residents in 1980 had college degrees and most of the younger generation had left the colony to work in other occupations. Both sons and daughters were encouraged by their parents to follow this course. The colony, though still active, is not exclusively Japanese-American anymore. The members in the late 1970s included a Chinese-American, a Mexican-American and six Euro-Americans, as well as 57 Nisei.

Conclusions

There is no information on specific archeological resources in the immediate vicinity of Livingston. From the negative results of the several surveys that have been conducted in the area, we can infer that this area was probably never a prehistoric population center (it is far enough from the river to be an unlikely site for a major village) and the relatively minor sites that probably existed in the area at one time have been largely destroyed by the extensive agricultural operations of the historic era.

Turning to historic resources, the CalTrans studies hold out little probability of architecturally important historic structures. In addition, the gap that is the current SH 99 divides the older section of town in two, limiting the possibility of defining a coherent district with historical character. The Yamato Colony is certainly the most important historical theme for this area, but except for a packing shed and an office, the physical features related to the colony are outside of town. To date, no significant historical resources have been recorded in the City of Livingston.

The absence of known cultural resources in the area leaves the process of developing a general plan free from prior restraints in this regard. This provides the citizens of Livingston with an opportunity to decide for themselves what, if anything, should be preserved, commemorated or enhanced to reflect their common history. The degree of local interest and the focus of the interest should be identified during the public participation phases of this project. There may be interest in retaining the current appearance of a section of the city, there may be interest in commemorating the Yamato colony in some manner or there may be concerns that cannot be anticipated from the sparse available information.

2.7 NATURAL AND AGRICULTURAL RESOURCES

2.7.1 Water Resources in the Study Area

The primary surface waters in the vicinity of Livingston area include the Merced River and numerous canal branches that service local croplands. The Merced River flows to the southwest north of the Livingston urban area.

2.7.2 Water Quality Conditions in Major Water Courses in Study Area.

The only natural water way in the planning area is the Merced River. Headwaters of the Merced river are in the upper reaches of Yosemite National Park, and it flows into the San Joaquin River about 15 miles west of the study area.

The stream flows vary considerably in the Merced river in the study area. This variation of flow is due to both seasonal runoff and diversion for irrigation. The quantity is controlled to a large extent by Exchequer Dam which is located about 35 miles upstream.

Water quality of the Merced River is influenced primarily by land uses in the watershed especially agricultural tail water discharges and the seasonal variation in river flow which influences turbidity,

and electrical conductivity. Quality is also influenced by discharges of the wastewater treatment plant, which contributes to increases of biological loading and turbidity.

2.7.3 Summary of Existing Descriptions of Soils in Study Area

As described by the U.S. Soil Conservation Service, most of the soils in the Livingston area fall primarily into the Delhi series. Soils of the Delhi are on a broad alluvial of the Merced River. The fan is comprised of sand and silt that re-derived almost entirely from granitic alluvium. The Delhi soils are deep and are excessively drained to somewhat excessively drained.

Agricultural soil capacity is classified according to a number of criteria including prime farmland, farmland of statewide importance and unique farmlands. The U.S. Department of Agriculture Soil Conservation Service defines these farmlands as:

Prime farmland is land best suited for producing seed, feed, forage, fiber and oilseed crops and also available for these uses (the land could be cropland, pasture land, rangeland, forest land or other land but not urban built-up land or water). It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Farmland of statewide importance is land other than prime farmland that has a good combination of physical and chemical characteristics for production of food, feed, forage, fiber and oilseed crops available for these uses (the land could be cropland, pasture range land forest land or other land, but not urban built-up land or water).

Unique farmland is land other than prime and farmlands of statewide importance that is used for the production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. Examples of such crops are citrus, olives, cranberries, fruit and vegetables.

Delhi soils are considered prime soils or land of statewide importance for agricultural purposes. Figure 2-7 depicts the distribution of soil types in the project area. The Delhi soils do not have any major limitation for normal building activities.

There are no significant mineral resources or mining operations in Livingston.

The Livingston area is depicted in the *State Geologic Report* as located near an area of generally high subsidence and expansive soils. The nearest known subsidence occurred about twelve miles northeast of the City.

Surface ruptures from faulting, slope stability, landslides, mudslides and seismically induced waves such as tsunamis and seiches are not considered serious threats to life or property within the planning area.

Ground failure in the form of landslides is not a major concern because of the lack of steep slopes in the area. Liquefaction or subsidence may occur in water-saturated or poorly consolidated soils. The lack of fault traces in the area eliminates ground displacement as a seismic concern. The only potentially disastrous result of a major seismic event would occur if a dam upstream of Livingston failed due to ground shaking, displacement or immense seiches. Livingston is designated as being within the inundation area of the Exchequer and McSwain Dams.

2.7.4 Identification of Location and Amount of Ag Land Within the Study Area

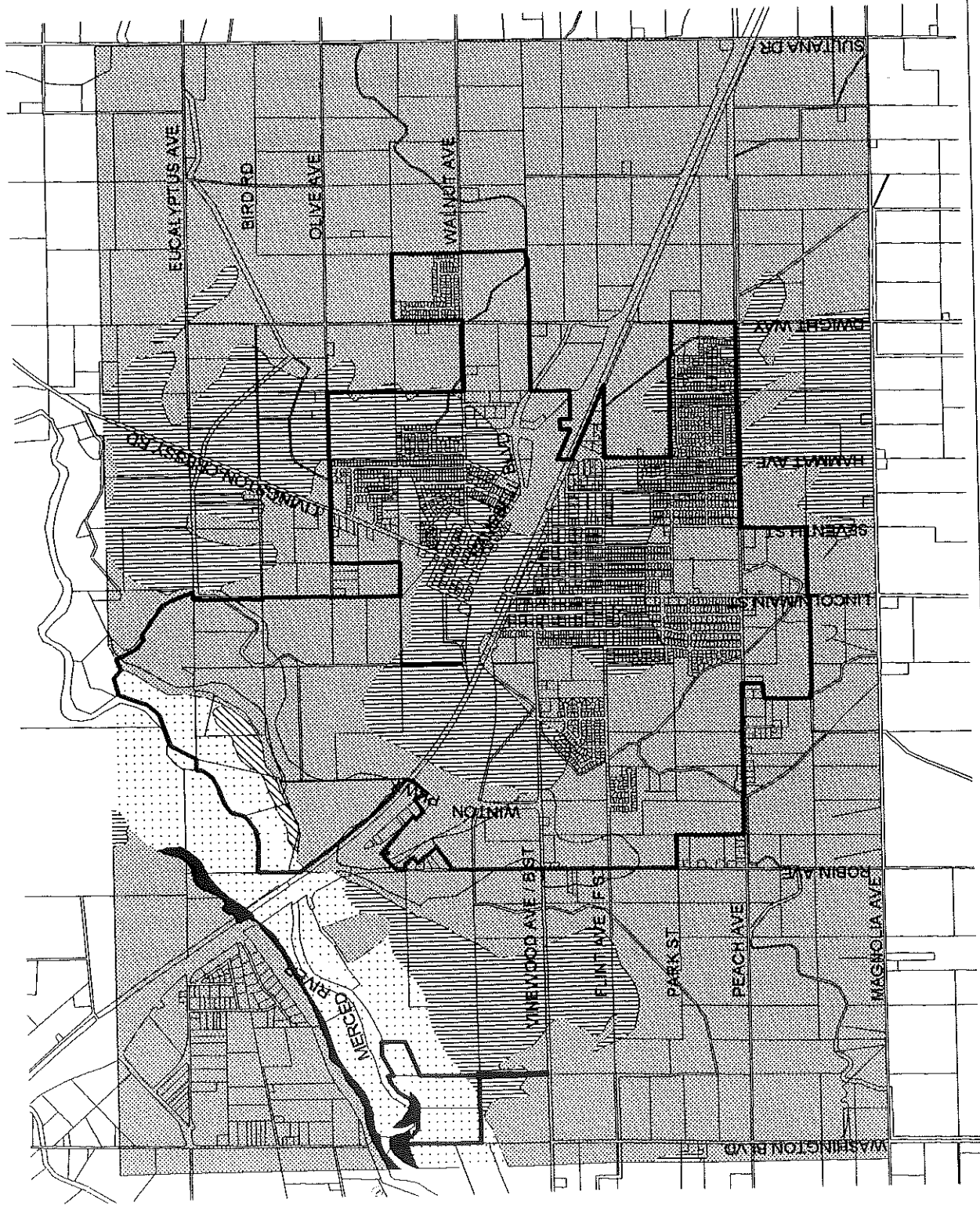
The dominant land use around the city limits is agricultural. Single family homes occupy many parcels at rural densities. Farm sheds and other appurtenant structures are also present. Ag surface waters are conveyed via Merced Irrigation District canals.

2.7.5 Description of General Wildlife Habitat Within The Study Area

Historically, the natural vegetation of the Livingston area was characterized by vast stretches of savanna traversed by the riparian stands of the Merced River its tributaries. The range of natural vegetation communities has been significantly reduced from historic levels as a result of conversion of these lands to urban and agricultural uses. Only scant disturbed remnants of these natural communities remain in the Livingston area. Agricultural and suburban development have all but eliminated most historic natural communities.

The agricultural community surrounding the City of Livingston consists of both large and small farms. Orchards and row crops dominate the ag land uses with some pasture or open land.

Although there is no prime habitat in the Study Area, croplands in the area can provide a source of food, water, and shelter to both native and introduced wildlife species. The lack of hedgerows, shelter-belts, wind breaks, and natural vegetation buffers severely limits the habitat value of these man-made environs. In addition, agricultural practices such as herbicide and pesticide application, monocultural cropping, and intensive tillage further reduces the habitat value of these lands.



LEGEND

- City Limits
- Prime Farmland Soils
- Soils Well Suited to General Intensive Agriculture
- Soils Moderately Well Suited to General Intensive Agriculture
- Farmland of Statewide Importance
- Soils Only Fairly Well Suited to General Intensive Agriculture
- Other
- Soils Poorly Suited to General Intensive Agriculture
- Non-Agriculture Soils and Miscellaneous Land Types



Quad Knopf

Soil Types

Figure 2-7

2.7.6 Description of State-protected and Federally-protected Special Status Species That Inhabit the Study Area

The local vegetation associations support a variety of wildlife and plant species and subspecies indigenous to California. However, the conversion of native and naturalized plant communities in the State to urban land uses, agriculture, and industrial facilities has significantly reduced available wildlife habitat. As a result of this conversion, several species of both plants and animals have been displaced from California, or their populations have declined significantly. As a result, the California Department of Fish and Game (CDFG) and the United States Fish and Wildlife Service (USFWS) have listed some species as threatened or endangered. In addition, several species which are currently considered candidates for State or federal listing have been included.

With the exception of the Merced River environs, the Livingston area is almost entirely developed with urban or agricultural uses. Some migratory birds do pass through the surrounding area, however, Livingston is not a year-round or seasonal habitat for migratory birds. Within the Study Area, the following rare and endangered vascular plants and animals have been identified through the Natural Diversity Data Base/California Native Plant Society's Inventory:

Common Name	Federal/
Scientific Name	State Status
Succulent Owl's-Clover <i>Castilleja campestris</i> spp. <i>succulenta</i>	Threatened/ Endangered
Valley Elderberry Longhorn Beetle <i>Demoscerus californicus dimorphus</i>	Threatened/ None
San Joaquin Valley Orcutt Grass <i>Orcuttia inaequalis</i>	Threatened/ Endangered
Merced monardella <i>Monardella leucocephala</i>	Threatened/ Endangered

2.7.7 Climate and Air Quality

Climate

The City of Livingston is located within the north-central portion of Merced County. Merced County is characterized by an "inland Mediterranean" type climate; the winters are cool and moist and the summers are dry and warm. Approximately 85% of the precipitation occurs during November to April. Temperatures average in the low 90s in the summer. Average high temperatures in the winter are in the 50s, but highs in the 30s and 40s can occur on days with

persistent fog and low cloudiness. The average winter daily low is 45 degrees. Rainfall averages 10.29 inches per year.

Merced County experiences foggy conditions during the winter. The formation of natural fog is caused by local cooling of the atmosphere until it is saturated (dew point temperature). This type of fog, known as radiation fog is more likely to occur inland. These fogs are more severe and persist longer in the lower elevations of the Valley.

During the summer months, the Pacific high pressure cell is positioned over the ocean to the west of the northern California coast. The clockwise flow of air around the high-pressure cell results in persistent northwest winds over most offshore areas. This northwesterly flow is enhanced by the thermal trough through the interior valleys of California. The orientation of this trough and the pressure gradient between coastal and inland stations determines the variability in the summer weather pattern. Strong onshore pressure gradients occur with deep penetrations of marine air through the Carquinez Strait area (the only sea level channel through the coast). Cooler temperatures and stronger up-valley winds result from this distribution.

Federal Air Quality Regulations

The Federal Clean Air Act of 1970 (FCAA) was the first major piece of federal air quality regulation. Amended in 1977 and 1990, the Clear Air Act required the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for several pollutants. These standards are set by law at levels that protect public health and welfare, with an adequate margin of safety. Areas exceeding the federal standard more than two times per year are designated "non-attainment" areas under the Clean Air Act, and as such are subject to more stringent planning and pollution control requirements.

Under the 1990 amendment to the Clear Air Act, non-attainment areas are divided into five categories depending on future dates identified for meeting the standards. "Marginal" or "moderate" violators only slightly exceed the NAAQS, whereas "serious," "severe," or "extreme" violators exceed the standards by a much higher margin. Marginal areas are required to do little beyond what they are already doing to attain clean air, but areas designated "moderate" through "extreme" must adopt gradually tighter regulations. States with areas designated "moderate" or worse for ozone non-attainment area required to show a three percent per year reduction in emissions of volatile organic compounds.

Areas close to meeting Carbon Monoxide (CO) standards are required to start a wintertime oxygenated fuels program and to correct problems with existing vehicle inspection programs. Areas with higher levels of CO must also start an enhanced vehicle inspection program, and those areas with the highest CO levels must adopt transportation measures.

The FCAA requires an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measure California will use to attain the NAAQS. The Federal Clean Air Act Amendments of 1990 require states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is to

be periodically modified to reflect the latest emissions inventories, planning documents, rule and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA reviews SIPs to determine if they conform to the mandates of the FCAA and will achieve air quality goals when implemented. If the EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the non-attainment area and may impose additional control measures.

State Regulations

In 1988, the California Clean Air Act (CCAA) (AB 2595) was passed. The act contains more stringent guidelines for the attainment of air quality goals than the FCAA. The California Air Resource Board (ARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA. The CCAA classifies non-attainment areas as moderate, serious, severe, and extreme based on severity of violation of state ambient air quality standards. Both the State of California and the federal government have established a variety of ambient air quality standards. The state 1-hour ozone standard is 0.09 ppm (parts per million, by volume), not to be equaled or exceeded. The federal 1-hour ozone standard is 0.12 ppm, not to be exceeded more than 3 times in any 3-year period.

San Joaquin Valley Unified Air Pollution Control District

The City of Livingston lies within the Merced County portion of the San Joaquin Valley Air Basin (SJVAB). The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) was organized in 1991 by a Joint Powers Agreement of eight Valley counties. The District is the local lead agency for formulating Federal and State Air Quality plans, promulgating rules that affect a variety of air pollution sources, and reviewing local governments' land use plans and development proposals in order to estimate projected air quality impacts and suggest methods reducing those impacts. Headquartered in Fresno with regional offices located in Bakersfield and Modesto, the San Joaquin Valley Unified Air Pollution Control District has jurisdiction over air quality matters in the San Joaquin Valley Air Basin.

The SJVUAPCD has adopted several attainment plans in an attempt to achieve state and federal air quality standards; the *1991 California Clean Air Act Quality Attainment Plan* (AQAP) for ozone and carbon monoxide, the *1992 Federal Attainment Plan for Carbon Monoxide*, the *Ozone Attainment Demonstration Plan*, and the *PM₁₀ Attainment Demonstration Plan*. The *Ozone Plan* demonstrates that the federal ozone standard will be met by 1999. The *Carbon Monoxide Plan* demonstrates that CO attainment has already been reached. The *PM-10 Attainment Plan* sets forth the approach the SJVUAPCD will use to attain the NAAQS for PM-10 by the end of 2006 as prescribed by the EPA.

2.7.8 Air Quality Monitoring Data

The San Joaquin Valley's air quality has been designated nonattainment by the EPA and by the Air Resources Board (ARB) for ozone and PM-10. The urbanized areas of Fresno, Bakersfield, Stockton, and Modesto are classified attainment and all the non-urbanized area of the SJVAB are classified as "unclassified" for federal carbon monoxide standards. Air quality in the project area is best represented by air monitoring data collected by the State of California Air Resources Board

at two monitoring stations located in Merced on Coffee Street and at the County Health Department in Merced County where PM-10, O₃, and NO₂ are monitored.

Oxides of Nitrogen (NO_x) and Nitrogen Dioxide (NO₂)

NO_x is a family of gaseous nitrogen compounds and are precursors to ozone formation. The major component of NO_x, nitrogen dioxide (NO₂), is a reddish-brown gas that is toxic at high concentrations. NO_x results primarily from the combustion of fossil fuels under high temperature and pressure.

Health effects associated with NO_x are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NO_x can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates.

Ozone (O₃)

Ozone is highly reactive secondary gas pollutant which is toxic, colorless and has a pungent odor. Ozone is photochemically produced through complex chemical reactions of certain hydrocarbons and oxides of nitrogen (primary pollutants) in the presence of sunlight and temperatures above 59°F. In high concentrations, ozone and other photochemical oxidants are directly detrimental to humans causing respiratory irritation and possible alterations in the functioning of the lungs and inhibits vegetation growth.

Ozone is a regional air pollutant. It is generated over a large area and is transported and spread by wind. The worst ozone concentrations tend to be found downwind from emission sources in Valley metropolitan areas. Ozone has been the San Joaquin Valley's most obstinate air quality problem.

Particulate Matter (PM₁₀)

PM₁₀ refers to particulate matter equal to or less than 10 microns in diameter. This material, as opposed to dust, cannot be adequately filtered by the human respiratory system. Inhaled atmospheric particulates can, therefore, be harmful to humans by directly causing injuries to the respiratory tract and lungs or by the reactive gases which were absorbed by the inhaled particulates. Suspended particulates scatter and absorb sunlight, producing haze and reducing visibility. In areas close to major sources including industrial and agriculture operations, PM₁₀ are generally higher in the winter when more fuel is burned and meteorological conditions favor buildup of directly emitted contaminants.

The actual composition of PM₁₀ varies greatly with time and location. It depends on the sources of the material and meteorological conditions. Primary man-made sources of PM₁₀ in the San Joaquin Valley are agricultural operations, agricultural burning, demolition and construction activities, entrainment of dust by motor vehicles on paved and unpaved roads, and residential wood burning. Wind erosion of agricultural land also represents a significant source of air borne dust in the Valley.

Based on air quality data for 1996, ozone pollutants exceeded federal standards 1 day and state standards 44 days. PM-10 pollutants exceeded state standards 4 out of 46 days and federal standards were not at exceeded. Note however, because PM-10 is monitored only once every six days rather than continuously, actual exceedances of the standards on a daily basis may be up to six times higher than the numbers shown. No standard violations were observed in Merced County for nitrogen dioxide.

2.8 SAFETY

2.8.1 Identification of Geologic and Seismic Hazards

The San Joaquin Valley is a structural trough, whose main axis trends northwest-southeast. The San Joaquin Valley is bordered on the east by the granitic complex of the Sierra Nevada and on the west by the folded and faulted sedimentary, volcanic, and metamorphic rocks of the Coast Range. The relatively flat floor of the San Joaquin Valley overlies thousands of feet of alluvial, lacustrine and marine deposits that have accumulated in the valley as the trough has been lowered and the adjacent mountains have been elevated.

Throughout Late Cretaceous and much of Tertiary time, the San Joaquin Valley was the site of marine deposition, and thousands of feet of shallow-water marine sediments were deposited in this geosyncline. Presently overlying these marine sedimentary deposits are continental deposits of late Tertiary and Quaternary age. In aggregate, these marine and continental deposits form an immense wedge that thickens from east to west and from north to south. The continental deposits have been tilted to the west and down warped, and their base is now several hundred to many thousand feet below sea level.

The low alluvial plains and fans in the Valley floor are relatively flat and featureless, occupying most of the floor's area. The extensive fans along the eastern margin of the Valley contain high proportions of well-sorted gravel and sand, while the interstream areas between the fans are underlain by poorly sorted, fine-grained fluvial sediment deposited by intermittent streams.

Livingston is situated near the center of the San Joaquin Valley. The topography of this portion of Merced County is typical of the relatively flat gradient encountered throughout the San Joaquin Valley, with uniform northeast to southwest trending slopes. The average elevation of Livingston is 125 feet above sea level. The only significant topographic features within the immediate vicinity of the City are the numerous irrigation canals and sloughs traversing the area from the northeast branching outward to the southwest.

There is no record of seismic activity in the Livingston area and no faults have been mapped near Livingston. The maximum expectable earthquake intensity of the area is listed as "Low" in the *Urban Geology Master Plan* prepared by the California Division of Mines and Geology. Minor faulting has occurred along the eastern margin of the San Joaquin Valley. These minor faults are considered to have had movement prior to Pleistocene time; however, surface expression may have been obliterated by Recent Age deposits of shifting stream courses and by agricultural development. The City's mild topography and low elevation negate threats of landslides, liquefaction, settlement

or other seismically related hazards. Numerous canals, levees and other earthen water-containment structures within and near the City may pose potential flooding hazards to property and residents of Livingston.

The City is located between the two major fault systems in Central California – the San Andreas Fault System and the Mother Lode Fault System. The San Andreas, along with its associated Calaveras and Hayward Faults, is located 59 miles west of Livingston, and the Mother Lode Fault System is located 42 miles to the east.

Seismic Hazards - The most serious direct earthquake hazard is the damage or collapse of buildings and other structures by ground shaking. Ground shaking is the vibration which radiates from the epicenter of an earthquake. Damage to structures from ground shaking is caused by the transmission of earthquake vibrations from the ground into the structure. The intensity of the vibration or shaking and its potential impact on building and other urban development is determined by several factors:

- ▶ The nature of the underlying materials, including rock and soil;
- ▶ The structural characteristics of a building;
- ▶ The quality of workmanship and materials used in its construction;
- ▶ The location of the epicenter and the magnitude of the earthquake; and
- ▶ The duration and character of the ground motion.

Older buildings constructed before building codes were in effect, and even newer buildings constructed before earthquake resistance provisions were included in building codes, are the most likely to suffer damage in an earthquake. Most of Livingston's buildings are one or two stories high and are of wood frame construction, which is considered the most structurally resistant to earthquake damage.

Older masonry buildings without earthquake-resistant reinforcement are the most susceptible to the sort of structural failure which causes the greatest loss of lives. The susceptibility of a structure to damage from earthquake ground shaking is also related to the foundation material underlying the structure. A foundation of rock or very firm material intensifies short period motions which affect low-ridged building more than tall, flexible ones. A deep layer of soft alluvium may cushion low-ridged buildings, but accentuate the motion in tall buildings. The amplified motion resulting from softer alluvium soils can also severely damage older masonry buildings. Some unreinforced masonry buildings are located in downtown Livingston. No assessment of these buildings has been made.

Other potentially dangerous conditions include building projections which are not firmly anchored, such as parapets and cornices. These projections could collapse during periods of strong and/or sustained ground shaking.

Fire is often a major form of damage resulting from ground shaking effects. Most earthquake-induced fires start because of ruptured gas lines, damage to wood, gas or electric stoves and damage to other gas or electric equipment.

2.8.2 Identification of Structural Hazards and Critical Facilities

Crossings of SH 99 have been constructed pursuant to seismic standards. Critical facilities include underground utilities. However, because there are no local faults the likelihood of damage to critical facilities during an earthquake are minimal.

2.8.3 Wildland and Urban Fire Hazards

Both structural and wildland fire hazards threaten life and property within the Livingston vicinity. Wildland fires resulting from both man-made and natural causes can occur in brush, or grasslands, primarily in sparsely developed or existing open space lands. Structures and urban development may also be threatened or destroyed in the area of wildland fires. Structural fires usually result from man-made causes and threaten industrial, residential and commercial structures, especially those built before building and fire codes were established. These substandard structures represent the highest potential for injury, death, or loss of property.

Under optimum conditions, the average response time to a fire in the city is about seven minutes. If a train blocks Main Street this response time can be increased ten to fifteen minutes.

Hazardous cargoes are regularly transported through Livingston via truck on SH 99 and via rail. The types of cargoes transported by road or railroad include flammable liquids, corrosive materials, compressed and/or poisonous gases, explosives, flammable solids, irritating materials, radioactive materials, etc. The transportation of such cargo creates some obvious potential hazards for existing and proposed land use adjacent to those transportation routes.

2.8.4 Areas Subject to Flooding and Dam Failure Inundation

According to the 1990 Merced County General Plan, areas subject to inundation during a 100-year flood are restricted to the flood plain of the Merced River. Facilities in this area include portions of the two public wastewater treatment facilities (Figure 2-6). Excluding these areas City staff notes that seasonal flooding of the urban area due to rainfall is minimal due to the development of storm water collection, detention and removal facilities.

The Merced County General Plan notes that the area subject to inundation from the failure of the dam at McClure reservoir includes the entire General Plan study area.

2.9 NOISE

The principal noise source in the City of Livingston is traffic on Highway 99 and local roads. Other sources are the Union Pacific Railroad and industries. The existing noise environment in the City of Livingston was determined by a combination of noise level measurements and noise modeling. Following is a discussion of the background noise level survey results in residential areas of the City, and a description of the studied noise sources in the City.

2.9.1 Background Noise Level Survey

The purpose of the background noise level survey was to determine the base-line noise environment in those parts of the City that are removed from obvious noise sources, such as busy roadways. Three residences were selected for the survey. Their locations are shown in Figure 2-8. Noise measurements were conducted continuously for 24 hours using unattended sound level analyzers situated in the backyards of the residences. The results of the monitoring are shown in Figures 2-9, 2-10 and 2-11.

The background noise levels in terms of the Day/Night Average Level (L_{dn}) at the three residences ranged from about 50 to 55 dB. These are typical noise levels in suburban residential neighborhoods. The highest hourly noise levels occurred in the early evening. The lowest levels were in mid-afternoon and in the early morning.

In Figures 2-9, 2-10 and 2-11 the L_{max} represents the highest (maximum) instantaneous noise level occurring during an hour. The L_{min} is the minimum instantaneous noise level during an hour, and the L_{eq} is the energy equivalent or average noise level during the hour.

2.9.2 Major Stationary Noise Sources

The production of noise is an inherent part of many industrial, commercial and agricultural processes, even when the best available noise control technology applied. Noise production within industrial or commercial facilities is controlled indirectly by Federal and State employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise emissions from such operations have the potential to exceed locally acceptable standards at nearby noise-sensitive land uses.

Stationary noise sources that were studied were selected by the City Planning Department. Noise exposure information was developed from operational data obtained from source operators (when available), noise level measurements conducted at reference locations around the noise source, and BBA file information. Only existing noise levels are described since there are too many variables and unknown conditions to predict future noise exposure.

The following discussions provide generalized information concerning the relative noise impacts of each source, and identify specific noise sources which should be considered in the review of development proposals where potential noise conflicts could result. Not all industrial noise sources in the City are discussed. Unidentified industries or other major noise sources may exist, which could generate significant noise levels and result in noise-related land use conflicts. Generalized 50 and 55 dBA hourly L_{eq} noise contours were prepared for major stationary noise sources where it was determined that such contours would be located off the property occupied by the source. These contours are included in Figure 2-8 of this document. The generalized contours contained within Figure 2-8 should be used as a screening device to determine when potential noise-related land use conflicts may occur, and when site-specific studies may be required to properly evaluate noise at a given noise-sensitive receiver location.

LEGEND
 Industrial Site Location
 Noise Measurement Location

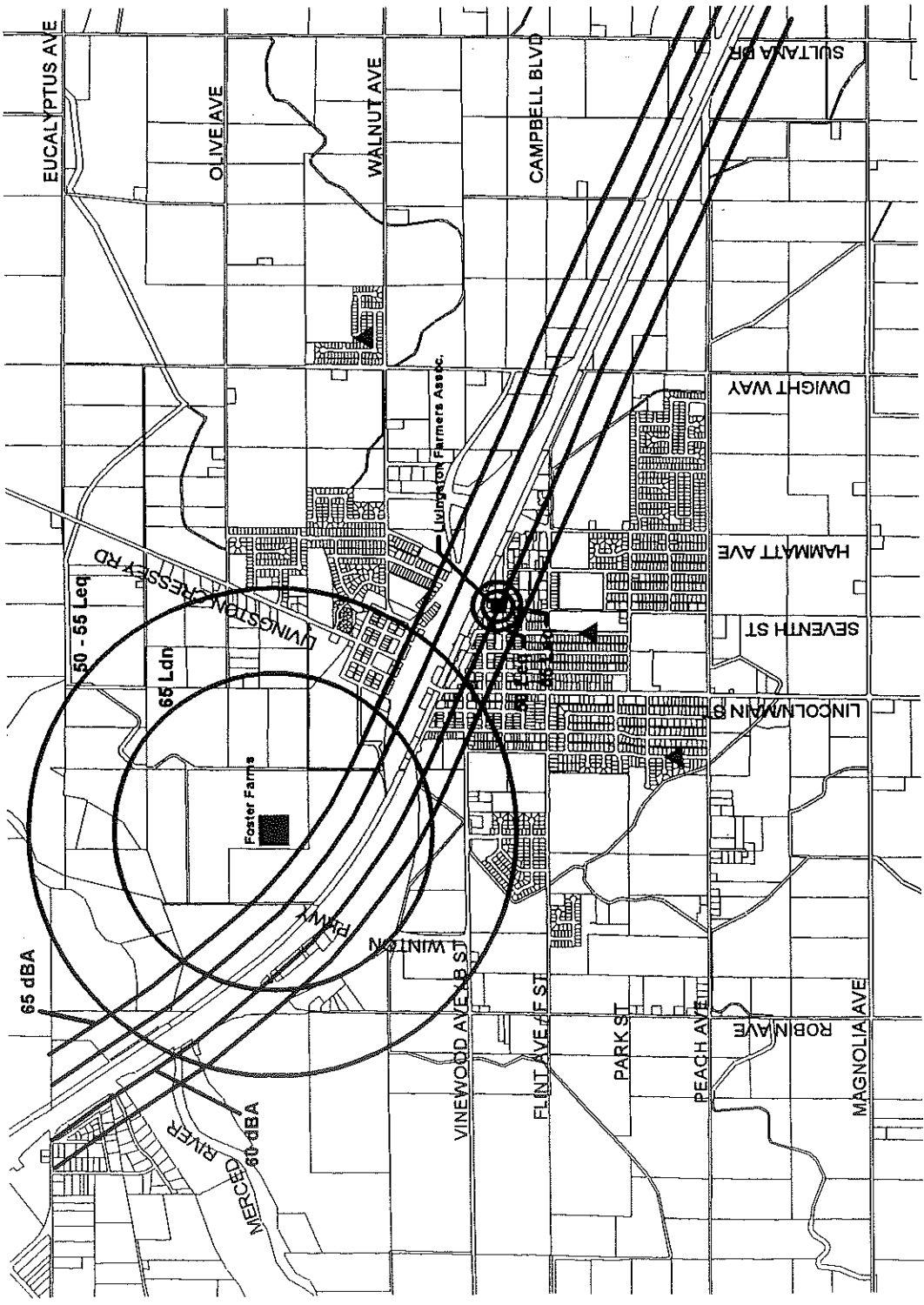
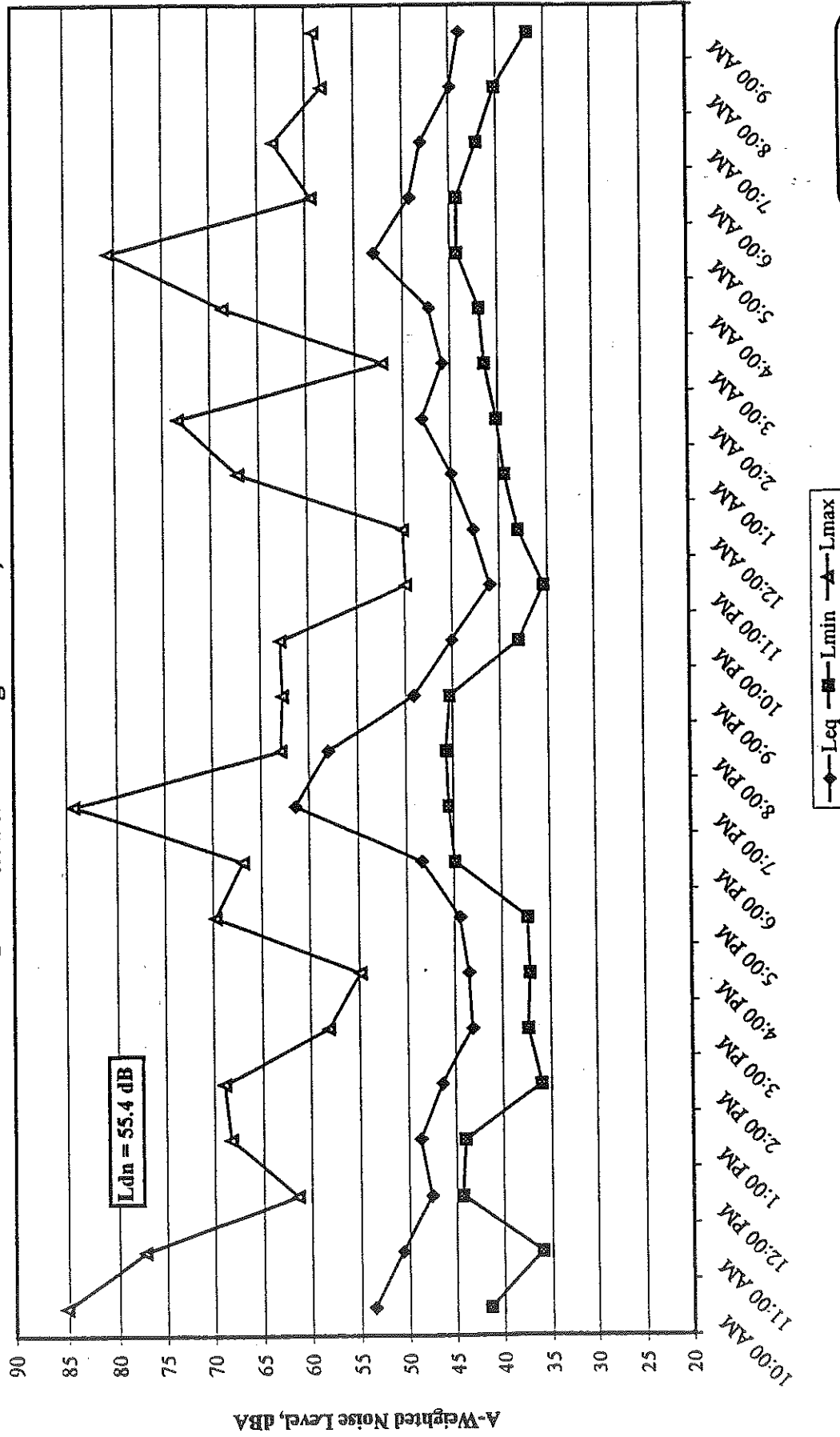


Figure 2-8
 Noise Measurement Locations
 and Existing Noise Contours

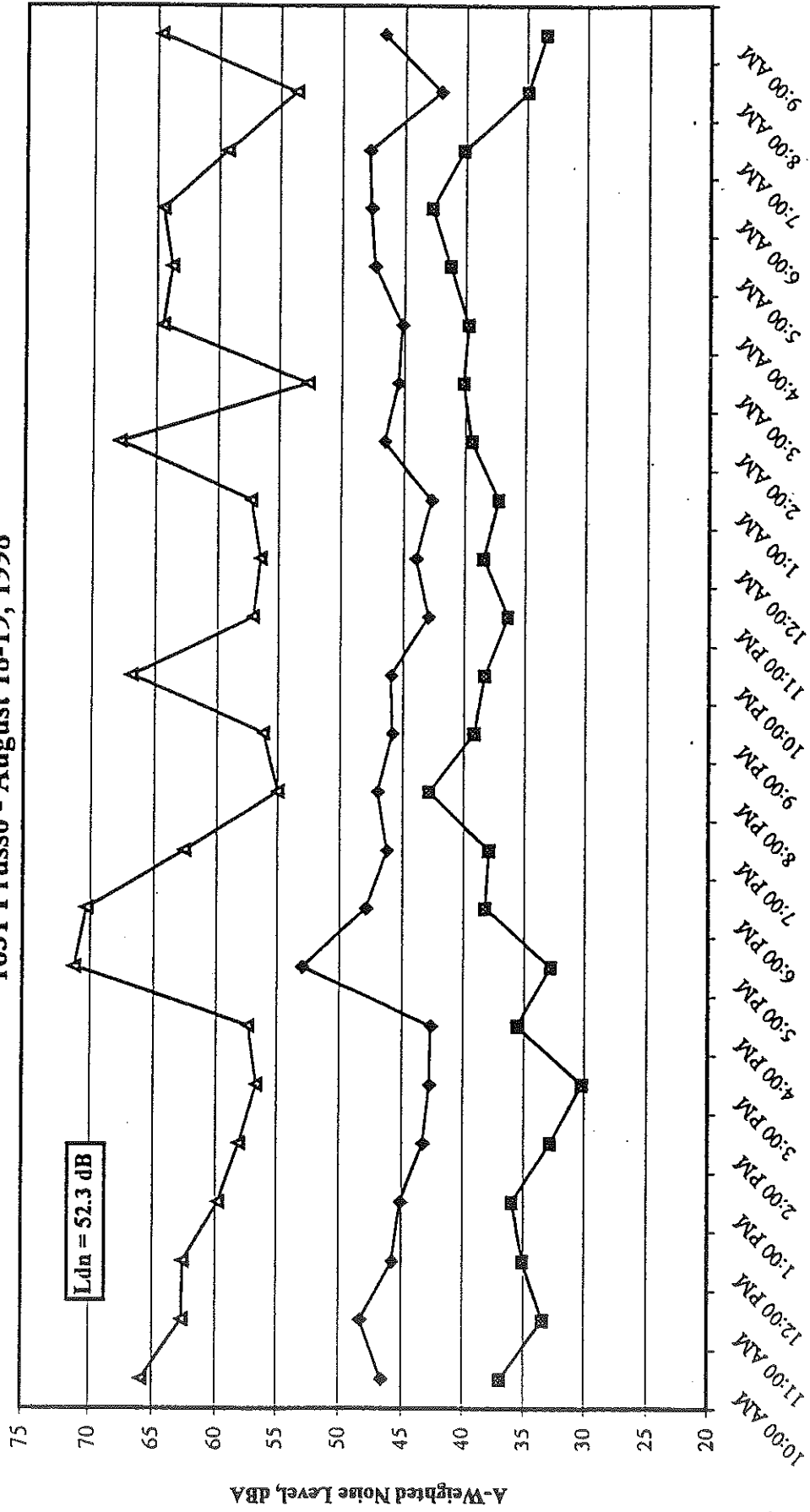
Figure 2-9
 Background Noise Levels
 1006 5th Street - August 18-19, 1998



BBA

Figure 2-10

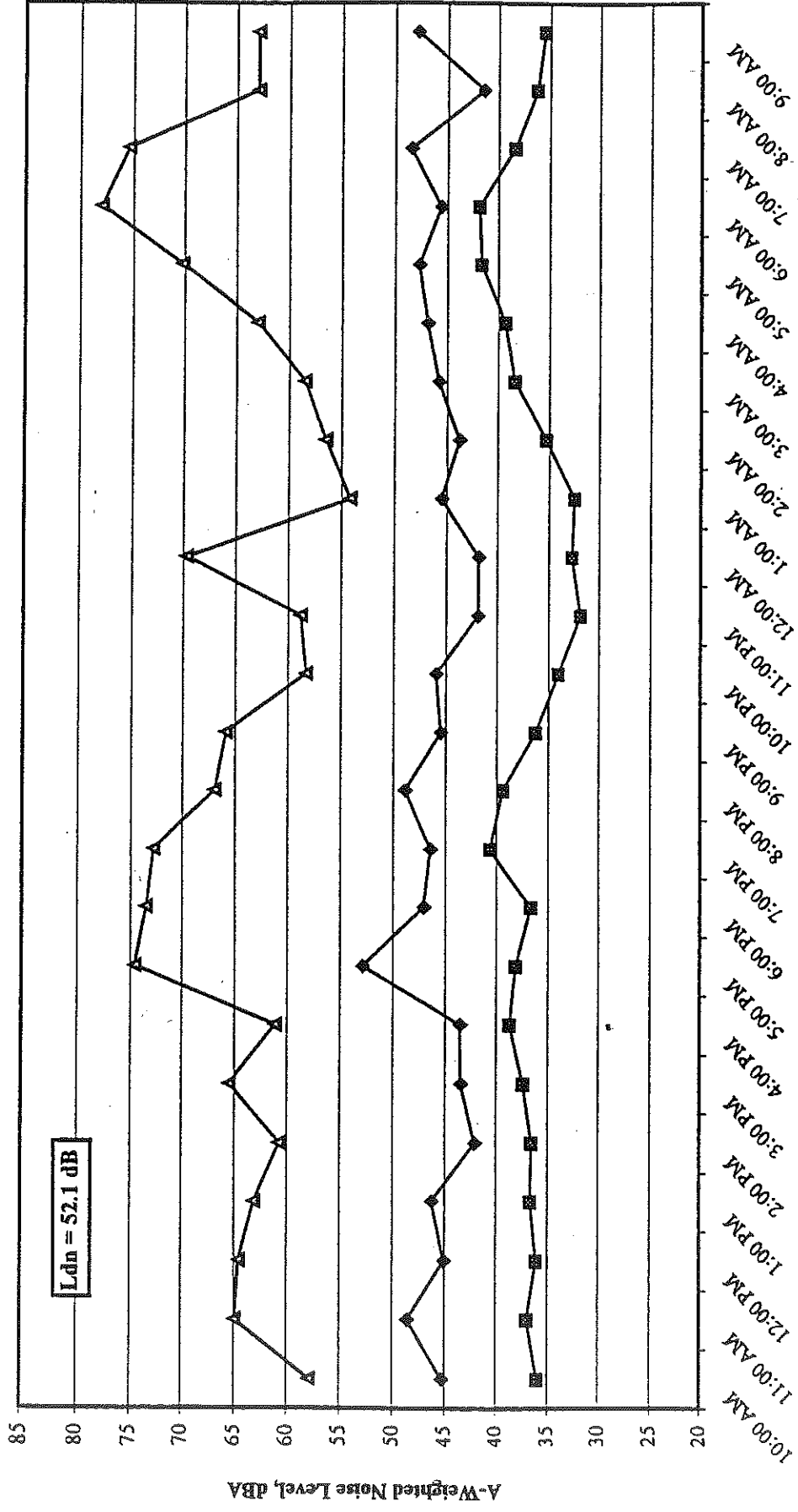
Background Noise Levels 1631 Prusso - August 18-19, 1998



BBA

Figure 2-11

Background Noise Levels
Near Harvest & Olds - August 18-19, 1998



BBA

Foster Farms

Foster Farms poultry processing plant is located west of Stefani Avenue and south of Olive Avenue. The facility operates 24 hours a day. The important noise sources at the plant are air conditioning equipment, compressors, and refrigerated trailers (reefers). Nighttime and early morning noise levels are often higher than daytime noise at identical locations due to atmospheric conditions. At the corner of Swan and Stefani, the measured level from the plant on August 19, 1998 at about 7:30 a.m. was about 59 dBA. At the north side of the plant along the access road north of the canal bordering the plant, the noise level ranged from about 62-66 dBA. The approximate distance from the center of the plant to the 65 dB L_{dn} contour is about 2,600 feet. The 50-55 dBA hourly L_{eq} is about 4,000 feet from the center of the plant. (Figure 2-9).

Packing Sheds

The Livingston Farmers Association Fruit Plant sheds are located at 6th and D and 7th and D. These plants were not operating on the morning of August 19, 1998, and noise was not audible from the plants. Probably, the most important noise sources at these plants are truck movements, including trucks with refrigerator trailers. Based on BBA file data, the typical L_{eq} (average noise level) of an idling reefer truck is about 63 dBA at 100 feet. In terms of the L_{dn} , the noise level from reefers would be minor; however, the hourly 55 dBA L_{eq} would be about 230 feet from the truck and the hourly 50 dBA L_{eq} would be about 400 feet from the truck. (Figure 2-8.) Residential housing is located east and west of the sheds.

The Yagi Brothers shed is located at Main and Magnolia, and the Doreva Produce Company shed is located along Magnolia south of Main. It is expected that noise levels from these sheds would be similar to those described above when they operate. These two sheds are currently surrounded by agricultural property.

Railroad Noise Sources

The mainline of the Union Pacific Railroad (formerly Southern Pacific) runs through Livingston in a north-south direction. Mostly commercial and industrial uses are located next to the track. These uses are insensitive to noise. There are approximately 20 freight train operations per day, uniformly distributed through a 24-hour day. The mean Sound Exposure Level (SEL) of Union Pacific freight trains is about 95 dB at 125 feet. The Day/Night Average (L_{dn}) of trains was calculated using train operation numbers and mean SEL values. At 125 feet, the L_{dn} is about 65 dB. Near grade crossings where the horn is blown, the L_{dn} would be about 69 dB. The distance to the 60 and 65 dB L_{dn} contours is about 269 and 125 feet, respectively.

Traffic Noise Sources

Traffic noise exposure was calculated using the Federal Highway Administration Highway Traffic Noise Model (FHWA Model). The FHWA Model is the analytical method currently favored by most state and local agencies, including Caltrans, for highway traffic noise prediction. The Model is based upon reference energy emission levels for automobiles, medium trucks, (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was

developed to predict hourly leg values for free-flowing traffic conditions, and is generally considered to be accurate with ± 1.5 dB. The Model assumes a clear view of traffic with no shielding at the receiver location. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The Calveno traffic noise emission curves were used as recommended by Caltrans to more accurately calculate noise levels generated by California traffic.

Traffic conditions for existing conditions (1997) that were used in FHWA Model were provided by the Merced County Association of Governments (MCAG). Appendix A lists traffic modeling input data, existing traffic noise levels calculated at locations representing the assumed distance to the nearest residences, and the distance to noise contours. (Figure 2-8)

In general, existing traffic noise levels on major roadways through Livingston range from about 62-68 dB L_{dn} at the nearest receivers on most roadways. Along Highway 99, existing noise levels are about 71 dB L_{dn} at the nearest receivers. Traffic noise levels that are 60-65 dB L_{dn} usually are considered to be fully compatible with noise-sensitive uses, which include residences, schools, churches and hospitals. Levels between 65 and 75 dB L_{dn} are marginally acceptable, and usually can be mitigated to acceptable levels. Levels over 75 dB L_{dn} are usually unacceptable, and it may not be feasible to reduce such levels to acceptable values.

CHAPTER 3
LAND USE ELEMENT

3.0

LAND USE ELEMENT

3.1 GENERAL PLAN, ZONING CONSISTENCY AND PLAN ADMINISTRATION

Objective

- A. A well-balanced mix of residential, commercial, industrial, and open space/public land uses which create and maintain a high quality environment and a fiscally sound community.

Policies, Standards

1. No development shall be approved unless it is found to be consistent with the adopted land use map and policies of the General Plan.
2. Land-use density and intensity standards are shown in the Plan Consistency Table, Table 3-1.
3. Changes to zoning shall be consistent with the General Plan. A zone district shall be deemed consistent with a land use designation when it is specified as consistent in the Plan Consistency Table. In no case, however, shall the overall maximum density of the plan designation be exceeded.
 - a. Residential density on part of a site may exceed the maximum if the entire project site density conforms with the Plan Consistency Table. Mixed residential uses and density incentives should be provided to most fully utilize properties. Such projects shall be at least two acres in size and will require a Conditional Use Permit.
4. General Plan amendments shall be processed concurrently with the appropriate rezoning and/or other appropriate special permit application.

**Table 3-1
Plan Consistency Table**

Plan Designation	Consistent Zone District	Consistent Density (In dwelling units/ gross acre)	Maximum Intensity Of Persons Per Acre
Unclassified/Reserve	Within the city limits: no consistent zone districts. Between the city limits and the Sphere of Influence: zone districts are limited to exclusive agricultural districts of Merced County		
Residential			
Low/Estate Density	R-1-8, R-1-6, R-1-5.5 R-M, P-D	1.0 – 7.5	38
Medium Density	R-2, R-M, P-D	7.6 – 11.9	41.5
High Density	R-2, R-3, R-M, P-D	12 - 29	101.5
Downtown Commercial Professional Office	C-1, DTC, PO		
Community Commercial/ Neighborhood Commercial	C-2		
Service Commercial/Highway Commercial	C-3		
Limited Industrial	M-1		
General Industrial	M-2		
Open Space/Park	O		
Public	P-F		

5. The City will update the Zoning Ordinance as appropriate to implement the General Plan.

6. The Conditional Use Permit process shall be used where site conditions or project location will affect land use compatibility. Findings required for approval shall include:
 - a. The site for the proposed use is adequate in size and shape to accommodate said use and all yards, spaces, walls and fences, parking, loading, landscaping, and other features required by the applicable zone district.
 - b. The site for the proposed use is served by streets and highways adequate to carry the quantity and kind of traffic generated by the proposed use.
 - c. Public facilities are currently adequate to serve the proposed use or improvements are included in an approved Capital Improvement Plan or otherwise will be complete prior to the issuance of building permits.
 - d. The proposed development is consistent with the General Plan land use map and policies.

7. The Reserve classifications (Urban, Commercial, Industrial, Park and Public Facility) denote the following:
 - a. Lands not anticipated to develop within the 2020 time frame of the General Plan, but which bear relation to Livingston's long range planning;
 - b. Lands that possess urban service constraints within the 2020 urban growth boundary; or
 - c. Park Reserve indicates a general area, typically bounded by major streets, for which a park is planned, but a specific location has not yet been determined. Until a site has been selected, the land use designation underlying Park Reserve shall prevail.Lands designated as Reserve may not be developed without first amending the General Plan, demonstrating a need for development in these areas, and demonstrating that urban services can be provided without adversely affecting the development feasibility of lands currently planned and zoned for urban uses.

8. When an annexation is requested any necessary plan amendments and zoning applications for the subject property shall be processed concurrently.

9. Funding for the development and maintenance of private and public improvements shall be established to ensure that necessary infrastructure and public facilities are provided when needed.

10. Exterior area lighting for non-residential land uses, shall be shielded to prevent line of sight visibility of the light source from abutting property planned for single-family residential.

11. In order to ensure orderly and logical urban growth, to maintain the integrity of surrounding agricultural activities, and provide for urban growth in areas with proper services, the Reserve classifications are designated on the General Plan map. Activities within this designation are limited to those uses permitted by the exclusive agricultural zone districts of Merced County.

12. Project descriptions for Site or Plot Plans shall identify:

- a. **Building Materials:** All potentially reflective exterior building materials, location of the materials in relation to the position of the sun, and to location of motorists and other persons within sight of the project.
- b. **Activities:** Type of activities to be performed, what hours they will be performed, where on the property they will be performed, and what types of shielding/screening will be employed.
- c. **Lighting:** Each exterior light source according to type, location, wattage (measured at 110 volts or the equivalent), height, direction of lighting patterns, type of shielding, when in use, and whether the light is steady or pulsating. For a lighting system, an outline of directly illuminated areas, including points of overlap) between lighting patterns, all streets within the lighting system, and all adjacent property lines must also be submitted.
- d. The following conditions will normally be considered significant and subject to additional review to determine level of significance and whether mitigation measures will be needed:
 1. Any light source in excess of 150 watts which directly illuminates adjacent properties.
 2. Additional indirect illumination of adjacent properties in excess of 0.5 foot candles.
 3. For pedestrian lighting systems, a point of overlap between light patterns greater than seven feet.
 4. Intensity of lighting within the physical limits of an area required to be lighted that is greater than seven foot candles.

3.2 RESIDENTIAL LAND USE

Objective

- A. Designate and allow for the development of a wide range of residential housing types in the City including housing for middle and upper income families to meet the needs of all Livingston residents.

Policies, Standards

1. The following residential density designations shall be used:
 - a. Low/Estate Density Residential (0 - 7.5 dwelling units/gross acre). The low density residential category provides for a land use pattern of predominantly single-family development as permitted in the R-1 district. This designation also provides for

innovative designs, which utilize clustering, duplexes or half-plexes on corner lots, zero lot line, or planned development features. Lot sizes generally range from 6,000-8,000 square feet.

The Estate sub-category is characterized by single-family residential development with large lot sizes. The usual development pattern found in such areas is composed of lot sizes generally between 8,500-12,500 square feet. All residential development herein shall be served by City sewer and water services and shall have full urban improvements. This land use is also appropriately used when Residential Estate developments are desired to promote larger lot homes and where the overall density of an area should be limited because of public facility, safety or aesthetic concerns.

- b. Medium Density Residential (7.6 – 11.9 dwelling units/gross acre). This land use category provides for a land use pattern characterized predominantly by small scale multiple-family residential developments. The typical residential pattern includes duplexes and larger scale, high-amenity apartments. Areas designated medium-high density residential are to be integrated throughout the community adjacent to transportation, community services and commercial developments. To avoid inappropriate concentration of these facilities, such developments shall be limited to 25 contiguous units when integrated into a single-family neighborhood and to 50 contiguous units when developed as a free standing development. New development shall conform to the Community Design Element of the General Plan.
 - c. High Density Residential (12 - 29 dwelling units/gross acre). The high-density residential land use category provides for the highest residential densities permitted in the City. It is intended that this category utilize innovative site planning, provide on-site recreational amenities, and be located near major community facilities, business centers, and streets of at least collector capacity. Projects in excess of 25 units or with a density in excess of 24 units per gross acre shall require a Conditional Use Permit. Such developments shall use high quality architectural design features, intensified landscaping, adequate open space, adequate parking, and adequate on-site recreational facilities. High-density residential developments should be limited in size to no more than 100 units on one site to reduce the impact of such facilities on any one neighborhood in the community.
2. Each residential category indicates a range of density deemed reasonable and desirable for areas within the Planning Area. The maximum density indicated defines the number of units per gross acre within a given area. Residential development must provide at least the minimum number of units per gross acre indicated in the General Plan. This requirement is intended to encourage the location of certain residential product types and densities consistent with adjacent land uses, access, public services, and environmental concerns.
 3. The City may use the planned development zoning to provide density increases of up to 30%. Granting of all or part of the bonus will depend upon the developer's demonstration of the

quality of design in such areas as access, circulation, building placement, parking, provision of adjacent open space, and architectural compatibility with the surrounding area.

4. Manufactured and modular housing developments shall be permitted subject to design regulations and existing ordinances.

Objective

- B. Promote stable, high quality residential neighborhoods.

Policies, Standards

1. Multi-family residential developments with more than 25 units shall have direct access to a collector or arterial street.
2. Development standards for the interface between multi-family residential and single-family residential shall be as follows:
 - a. Outdoor recreational areas, game courts, pools, and solid waste collection areas on multi-family properties shall be oriented away from adjacent properties planned for single family residential.
 - b. Multi-family parking areas, garages, other structures, and access drives shall be separated from adjacent properties planned for single family residential with 10-foot landscaped setback containing deciduous and evergreen trees.
 - c. Multi-family buildings greater than 15 feet in height shall be prohibited within 25 feet of abutting property planned for single-family residential. An additional 10 feet of setback shall be required for each additional story.
3. Where new residential development is proposed that adjoins existing commercial/agricultural or industrial development, the residential developer shall be required to provide an architectural transition. This transition may include such provisions as building setbacks, landscaping and masonry wall requirements to benefit future residents.
4. Site development techniques should be encouraged which ensure a mix of housing types throughout the Community.
5. In order to encourage infill development, flexible design standards should be developed which meet the intent of the General Plan.
6. Where feasible, multi-family developments should be located near commercial and community services.
7. Multi-family developments shall use more intensive landscaping. Block walls adjacent to the public right of way shall be discouraged unless they are found to be necessary for public health and safety.

3.3 COMMERCIAL LAND USE

Objective

- A. Ensure the provision of adequate commercial shopping opportunities and office space locations to meet anticipated needs.

Policies, Standards

1. Establish the following commercial land use designations:
 - a. Neighborhood Commercial. The neighborhood commercial land use designation provides for a maximum of 10 acre grouping of commercial establishments serving the everyday convenience goods and personal service needs of a defined neighborhood. The service radius of a neighborhood commercial use is generally 1/2 mile.
 - b. Community Retail Commercial. The community commercial land use designation provides for no less than a 10-acre or larger grouping of commercial establishments serving needs similar to the neighborhood commercial centers, but serves a market area within ten miles. Such facilities should be located in each residential quadrant of the community to minimize cross-town traffic.
 - c. Downtown Commercial. This designation provides the City with a mixed-use activity in the downtown area. It is intended to provide for a wide range of uses and to promote feasibility and vitality of downtown. Professional office land uses are permitted to allow construction of new office unified centers, and the redevelopment of existing areas to office use.

This designation also provides for office development, which includes medical, dental, law, or other professional offices. Commercial uses contemplated as part of this category include business support services and support restaurant and medical services.
 - d. Service Commercial designates land for commercial activities in which the function performed is of equal or greater importance than the product traded. The Highway Commercial subcategory allows Service Commercial uses which, due to space requirements, the proximity to the highway, or the distinctive nature of their operation, are not compatible with or not usually located in other commercial designations.
2. Neighborhood Commercial sites should be located at or near the intersection of collector and/or arterial streets with a minimum of overlap with other existing or planned neighborhood commercial uses. Only one neighborhood commercial development may be

permitted at any one intersection. Such developments should also be directly accessible from adjacent residential developments.

3. Community Commercial uses should be located along major traffic ways in consolidated centers that utilize common access and parking for commercial uses. Strip commercial uses are to be discouraged. Adequate pedestrian links to residential areas shall be required.
4. The Downtown Commercial designation is used in the downtown area in order to attract and accommodate growth, which includes commercial, financial, office, and governmental uses.
5. Conversion of existing residential units is discouraged adjacent to the downtown.
6. Commercial and office site planning shall be compatible with the surrounding neighborhood, signage, and landscaping.

Objective

- B. Provide for the compatible integration of residential and commercial uses.

Policies, Standards

1. Development standards for the interface between commercial or office uses and residential uses shall be as follows:
 - a. A landscaped setback of at least ten feet wide containing deciduous and evergreen trees shall be planted and maintained along the property line between commercial and office uses and residential properties that have a common property line.
 - b. A masonry wall six feet in height, shall be erected along the property line where commercial and office uses have a common property line with residentially designated properties.
 - c. A masonry wall three and one-half feet in height, shall be erected along the setback line ten feet from the parallel with local streets abutting planned residential uses.
 - d. All commercial loading and storage areas shall be screened from view of adjoining residential property by a combination of landscape planting and a masonry wall. Loading areas shall be enclosed and be located so that there are no noise impacts to adjacent residential properties. All storage shall be within an enclosed structure.
 - e. Roof-mounted and detached mechanical equipment shall be acoustically baffled to prevent noise from the equipment from exceeding 55 dB (A) measured at the nearest residential property line.

- f. Exterior area lighting for non-residential land uses, shall be shielded to prevent line of sight visibility of the light source from abutting property planned for single-family residential.
2. In order to encourage the integration of neighborhood and community commercial uses into neighborhoods, designs should de-emphasize the usage of walls as buffers where they create barriers to pedestrian access. Continuous block walls shall be discouraged and offsets, landscaping pockets and openings shall be encouraged.
3. In order to ensure continued viability of the downtown as the civil center of the city, urban development shall be directed so that the downtown remains the approximate geographic center of the community.

3.4 INDUSTRIAL LAND USE

Objective

- A. Promote industrial sites which are functional, have adequate public services, and have access to major streets and railroads.

Policies, Standards

1. Establish the following industrial land use designations:
 - a. Limited Industrial. This category establishes light industrial areas where uses such as fabricating, assembly, research and development, electronics, low intensity warehousing and other such similar industrial uses are appropriate. All work, materials, and equipment storage is generally conducted indoors. Light industrial is appropriate as a buffer between heavy industrial and non-industrial uses and where the site is visible from residential areas or major streets. Special landscaping, enclosures and other site development standards should be used. Industrial park development is intended on larger parcels to create distinct districts of industrial, office, and support uses. The industrial park area shall have high quality landscaping, architectural designs, and general site development requirements.
 - b. General Industrial. Heavy industrial allows for a range of activities including manufacturing, wholesale distribution, large storage areas and other non-hazardous industrial uses. Areas developed under this designation should be located with direct access to major streets or railroads.
2. Promote a mix of industrial uses that provide the City with a sound, diverse industrial base, and which is consistent with the City's infrastructure constraints.
3. Locate industry with access to major streets, truck routes, and rail service.

4. Industrial development should not create significant off-site circulation, noise, dust, odor, visual, and hazardous materials impacts that cannot be adequately mitigated.
5. Major streets, which serve as entrances to the City, shall receive special design treatment to reduce aesthetic impacts and traffic concerns. Design standards for these parcels shall be as follows:
 - a. The minimum building setback from the right-of-way line shall be 40 feet.
 - b. There shall be a minimum 15-foot landscaped area adjacent to the right-of-way.
 - c. The number of driveway approaches shall not be greater than two (1 per 200 lineal feet) for individual parcels; efforts should be made to consolidate driveways along common property boundaries, where possible.
 - d. Signs shall be low profile and non-rotating.
6. The industrial designated property located on the Merced River east of SH 99 is limited to the existing private wastewater treatment plant. No other industrial uses are permitted.

Objective

- B. Provide for the compatible integration of industrial uses in the Community.

Policies, Standards

1. Industrial land shall be accessible by residential areas in the community.
2. Development standards between industrial properties and residential uses shall be as follows:
 - a. Where properties planned for industry abut properties planned for residential uses, the minimum setback for any new industrial building shall be 75 feet.
 - b. On properties planned for industry, a landscaped setback 20 feet wide containing deciduous and evergreen trees shall be planted and maintained along the property line with abutting property planned for residential uses and along abutting local streets.
 - c. A masonry wall shall be erected along the property line between properties planned for industry and properties planned for residential uses. Where this wall is in the front yard setback it shall be 3-1/2 feet; otherwise it shall be six feet or such greater distance as may be necessary to mitigate impacts.

- d. A masonry wall three and one-half feet in height, an earth berm three and one-half feet in height, or any combination of wall and berm shall be erected along the setback line 20 feet from and parallel with local streets abutting residential uses.
- e. Roof-mounted and detached mechanical equipment shall be acoustically buffered to prevent noise from the equipment from exceeding 55 dBA measured at the nearest residential property line.
- f. Exterior area lighting for industrial buildings, parking areas, garages, access drives, and loading areas, shall be low profile, hooded, and directed away from abutting property planned for residential use.

3.5 PUBLIC AND INSTITUTIONAL LAND USE

Objective

- A. Provide sites for adequate public facilities to serve projected growth.

Policies, Standards

1. Establish the following public facility land uses:
 - a. Public Facilities. This designation indicates areas owned and maintained by public or institutional agencies such as the city, schools, hospitals, other special districts.
 - b. Parks and Open Space. This designation determines areas of permanent open spaces, parks and/or areas precluded from major development.
2. Sites depicting planned Public Facilities or Parks and Open Space are conceptual and may be located anywhere in the same general vicinity.

Objective

- B. Provide for adequate school sites and school site expansion to meet school facility needs in a timely manner as provided by law.

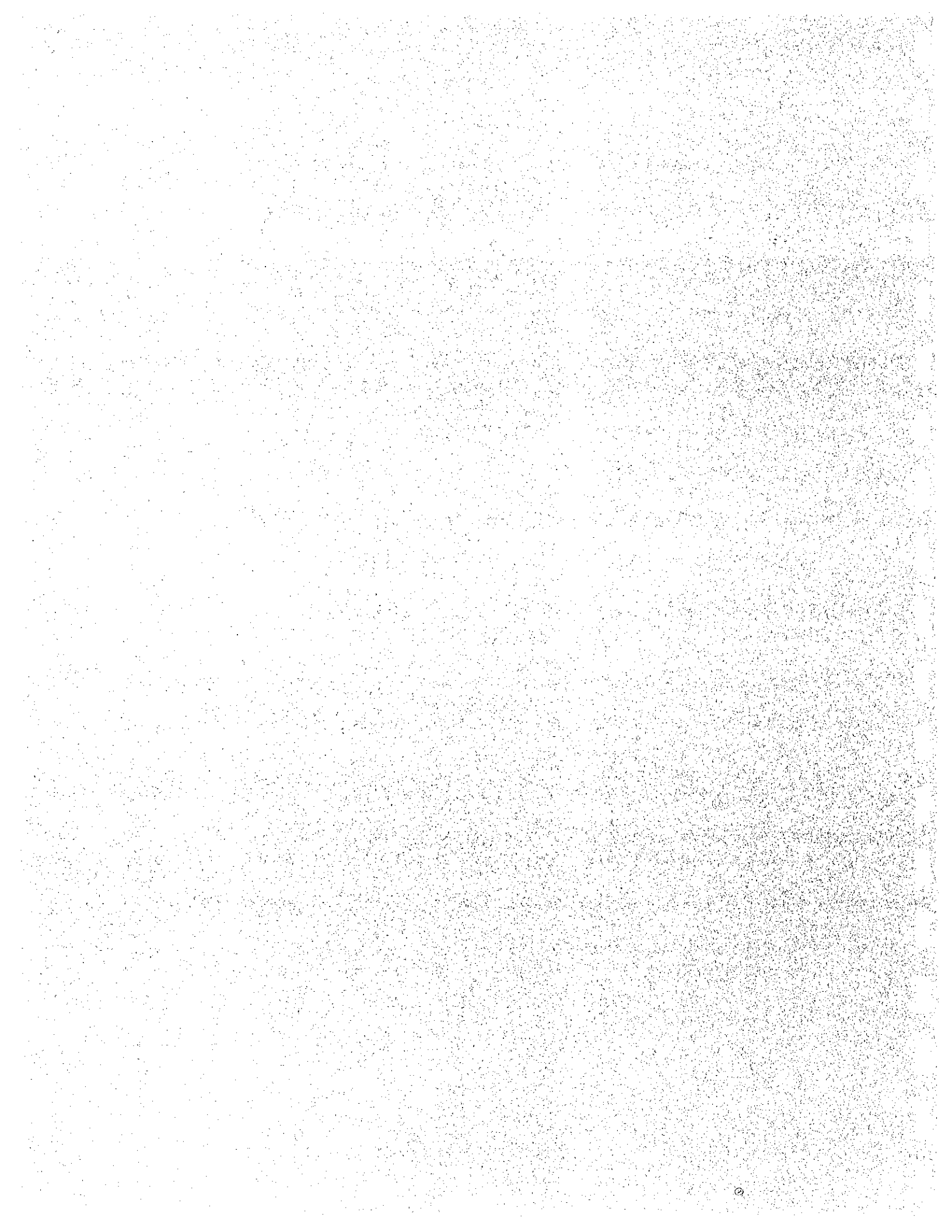
Policies, Standards

1. Coordinate requests for development with the school districts.
2. Coordinate school location and site design with the school districts to ensure that adequate facilities are available.
3. Livingston will support school site identification and acquisition activities that are consistent with California Government Code Sections 66479-66482.

4. Elementary schools should be located on interior residential areas at collector/local street intersections. Additional street frontage is desirable to provide a transition area to adjacent residences. Schools should abut neighborhood parks with adjacent development backing or siding onto the school. Pedestrian and bicycle access should be provided.
5. Intermediate or Junior High Schools should be located in residential areas with a central location for surrounding area elementary schools at collector/collector or collector/local street intersections. Additional local street frontage is desired for transition to adjacent residential areas. Maximize pedestrian and bicycle access and on/off-site circulation. These schools should be located so that there are future expansion opportunities.
6. High Schools should be located at arterial-collector intersections with additional frontage on at least one other street. These sites should be located to provide for future expansion.
7. New commercial development should be discouraged within a minimum of 1/4-mile of school sites.
8. High-Density Residential complexes abutting school sites are discouraged.
9. The City and school districts shall continue to encourage joint use of school multi-purpose facilities and open space.
10. The school districts shall be encouraged to coordinate their school location, facility construction and phasing with the City's development guidelines contained in the Land Use Element and the City's Capital Improvement Plan to ensure that school facilities are located in areas where there are planned and programmed streets, sewer and storm drainage systems and other necessary infrastructure.

CHAPTER 4

CIRCULATION ELEMENT



4.0

CIRCULATION ELEMENT

Goal

- 4.1 ESTABLISH A SAFE AND EFFICIENT TRANSPORTATION SYSTEM THAT PROVIDES ADEQUATE ACCESS THROUGHOUT THE CITY.**

Objective

- A. Implement a public street system as depicted on the Circulation Plan (Figure 4-1).

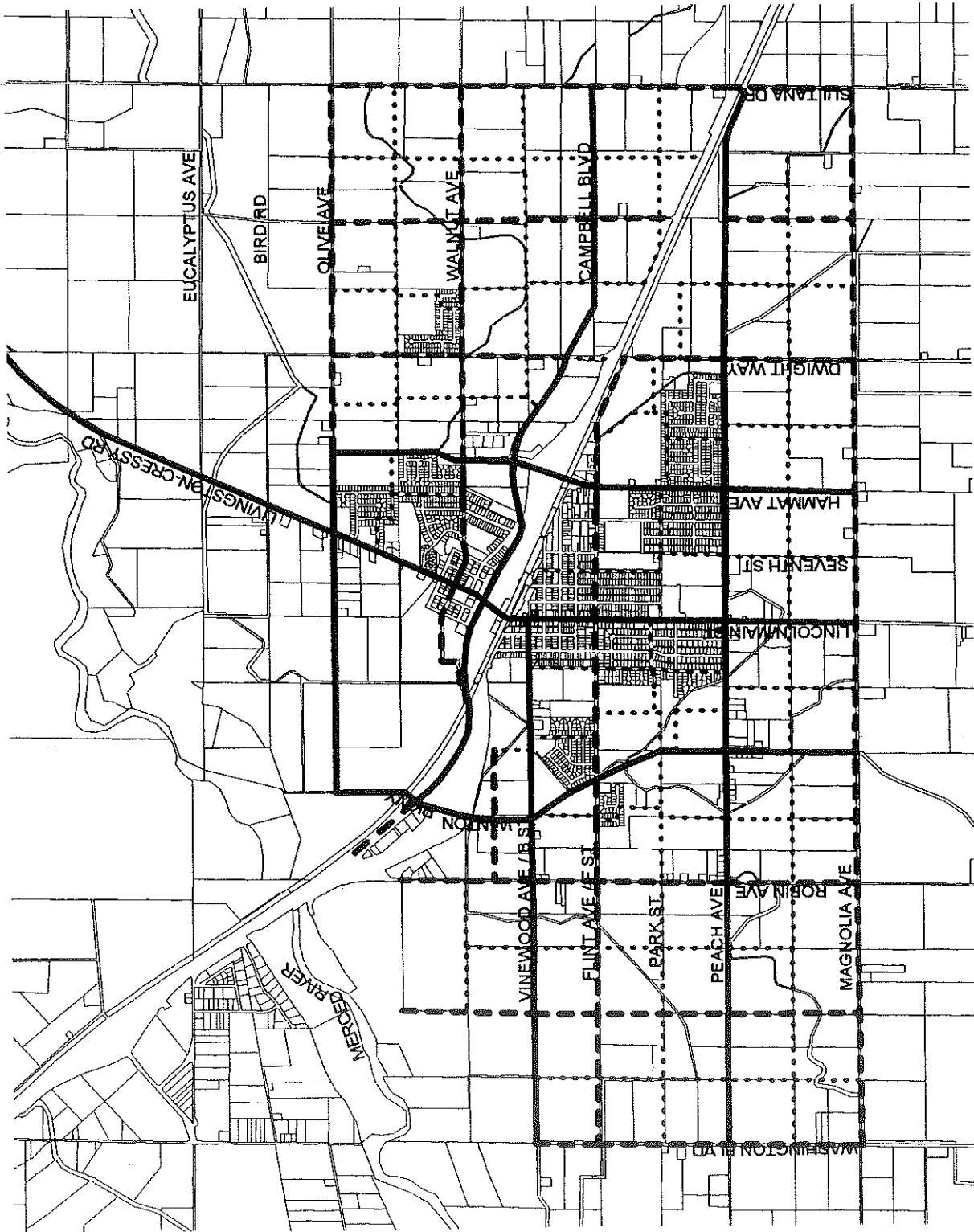
4.2 ROADWAY CLASSIFICATION, STANDARDS

Objective

- A. Develop a circulation network of local roads, minor collectors, collectors, and arterials that will meet projected traffic needs.

Policy, Standards

1. All street and roadway improvements shall be consistent with the Circulation Element of the General Plan.
2. The Circulation Element shall be consistent with the Land Use Element.
3. The Circulation Element shall determine the function of major streets. The City's functional street classification system shall include arterials, collectors, minor collectors and local streets.
4. Designate streets according to the following functional classifications:
 - a. Arterials streets serve as the principal network for cross-town traffic flow. They connect areas of major traffic generation within the urban areas and connect with important county roads and state highways. They also provide for the distribution and collection of through traffic to and from collector and local streets serving residential, commercial, and industrial areas.



LEGEND

- Circulation System
- Arterial Streets
 - - - Collector Streets
 - Minor Collector Streets



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Circulation Plan

Figure 4-1

- b. Collector streets provide for traffic movement between arterial and local streets, traffic movement within and between neighborhoods and major activity centers, and limited direct access to abutting properties.
 - c. Local streets provide for direct access to abutting properties and for very localized traffic movements within residential, commercial and industrial areas.
 - d. Minor collectors are local streets designated to connect neighborhoods and designed to discourage through traffic.
4. Standards for new street development shall be consistent with the General Plan.
5. Arterial, collector and local street standards shall be developed which provide adequate capacity for their appropriate function, and these shall be incorporated into the Subdivision Standards for the City of Livingston.
6. Actual design and improvement to ultimate standards shall be achieved through inclusion of facilities as part of the City-wide Capital Improvements Program, or by new developers as areas adjoining the designated circulation system are developed, with allowance for bicycle lanes, where planned.
7. Standards for new street development can be altered or refined through the specific plan or planned unit development process when it can be demonstrated that projected traffic flows can be accommodated.
8. New street developments in areas of urban expansion should not be limited to a "grid system." More efficient and varied street layouts should be encouraged, wherever possible.
9. The City designates Service Level "C" as defined in the Highway Capacity Manual (published by the Transportation Research Board of the National Research Council) as the minimum desirable service level at which arterial streets and collector streets should operate. All new facilities in these categories shall be designed to operate at this level or better for a period of at least 20 years following their construction.
10. The right-of-way widths and construction widths of all classes of streets from local to arterial shall be updated as necessary to reflect the street classifications in the Circulation Element.
11. Right-of-way essential to the circulation system should be dedicated and/or developed to the appropriate extent and width when a zone change to a greater density, division of property or development occurs. The City shall have Merced County apply the same requirements within the Livingston Sphere of Influence.
12. City circulation system street alignments shall be coordinated with Merced County circulation system street alignments.

13. Merced County should incorporate Livingston's Circulation Element into its Countywide General Plan.
14. No development shall be approved unless it is found to be consistent with the adopted Circulation Element and policies of the General Plan with the Circulation Element.

Arterials

15. The following streets are proposed to be arterial streets within Livingston's urban area:

<u>East-West Arterials</u>	<u>North-South Arterials</u>
Olive Avenue west of Livingston-Cressey Road Campbell Boulevard Peach Avenue B Street	Winton Parkway Main Street/Livingston-Cressey Road Hammatt Avenue

16. Arterials shall typically be developed within an 84-foot right-of-way. This will accommodate either four travel lanes and bike lanes or two travel lanes, bike lanes, and a continuous left turn lane or median island (Figure 4-2).
17. The primary purpose of arterials is to carry traffic. Parking is prohibited on such streets and should be eliminated where it now exists along existing arterials as traffic safety conditions warrant.
18. Arterials shall be built in areas where traffic demand warrants the development of this facility to meet the adopted level of service standard.
19. Arterial streets should be built at a typical separation of one mile.

Collectors

20. The following streets are proposed to be collectors within Livingston's urban area:

<u>East-West Collectors</u>	<u>North-South Collectors</u>
Olive Avenue east of Hammat Avenue Walnut Avenue/Davis Street F Street Magnolia Avenue	Washington Boulevard Future ½ mile street between Robin and Washington Robin Avenue north of B Street Dwight Way Future ½ mile street between Dwight and Sultana Sultana Avenue

21. Collectors shall typically have an 84-foot right-of-way width which allows four lanes with bike lanes, or permits two lanes, bike lanes, and a continuous left turn lane or median island (Figure 4-2)
22. Collector are typically separated at approximately one-mile intervals centered between arterial streets and planned to intersect with other streets so as to maximize traffic safety and discourage fast flowing traffic through residential areas.
23. Intersections of and by arterials and collectors shall form four-leg, right angle intersections. Offset or skewed intersections of streets shall be avoided where possible.

Local Streets

24. Local street right-of-way shall be a minimum of 55 feet which allows two travel lanes and parking. Minor collectors may be developed with a 60-foot right-of-way to include two travel lanes, and parking.
25. Local streets shall serve residential neighborhoods, and shall not be used to carry through traffic or high traffic volumes.
26. Local streets shall not carry an unreasonable level of through traffic. Should it be determined that a local street is carrying an unacceptable level of through traffic, the City may use appropriate means to reduce traffic through creation of one-way traffic flow, installation of traffic diversion devices, and/or any other means deemed to be acceptable under the Vehicle Code of the State of California.
27. Permit design standards for local streets to reduce right-of-way width and paving where innovative approaches to street design are proposed within a planned development.
28. A minimum of 125 feet shall separate intersections of local streets with collectors or arterials.

Median Breaks/Driveway Standards

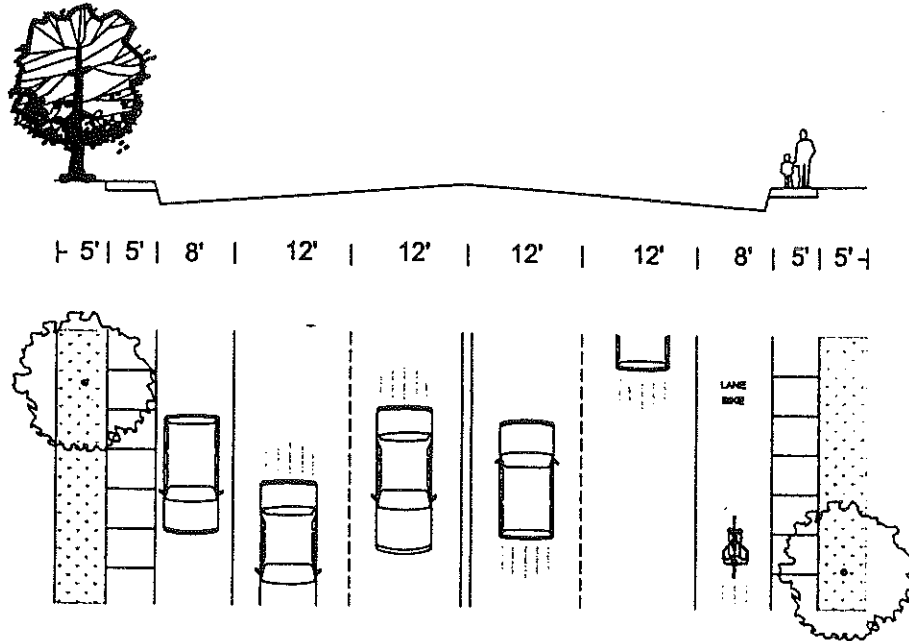
29. Median breaks and driveway standards for arterial, collector and local streets directly affect the performance of these roadways, and the following minimum standards have been developed to facilitate the proper operation of these roadways:

Arterial Street Standards

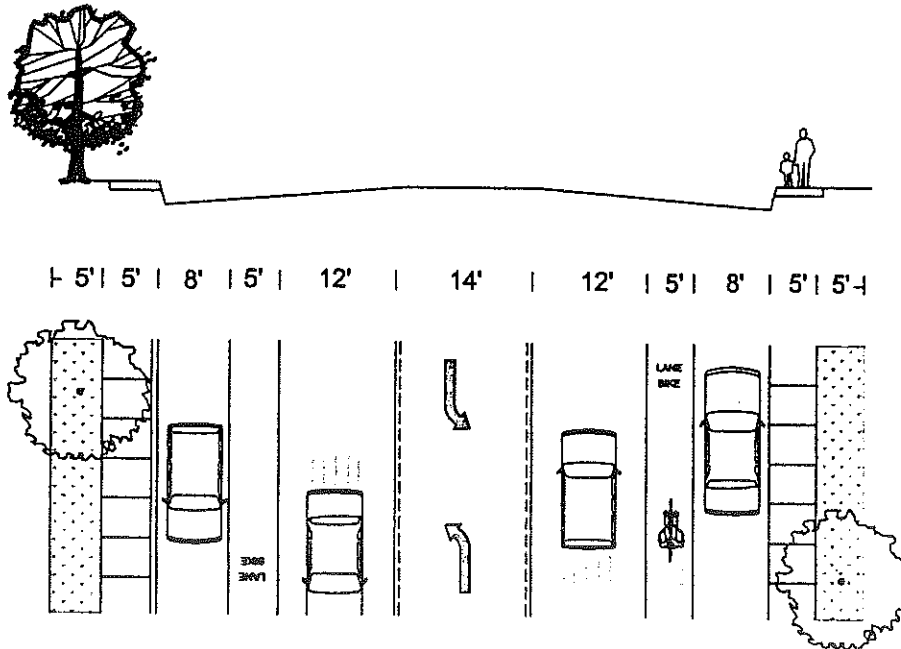
30. Driveway access to major activity centers should be located no closer than 200 feet to the adjacent intersection of a collector or arterial street, measured from the curb return to the nearest edge of the driveway. If driveways must be provided near intersections for facilities (such as service stations) these driveways shall not be serviced by median breaks and shall be located no less than 50 feet from the intersection measured from the curb return to the nearest

Street Configurations for 84 Foot Right of Way

TYPICAL ARTERIAL FOUR TRAVEL LANES, ON-STREET PARKING OR BIKE LANE



TYPICAL COLLECTOR TWO TRAVEL LANES, CONTINUOUS LEFT TURN LANE, ON-STREET PARKING, BIKE LANES



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Street Development

Figure 4-2

edge of the driveway. If more than one is required to serve a property, the driveways shall be separated by 50 feet measured edge-to-edge, not centerline to centerline.

31. The distance between driveways along commercially developed arterials should not be less than 400 feet measured from centerline to centerline. Where this spacing is not practical, the development shall provide acceptable traffic mitigation measures in addition to those already required.
32. Where practical and desirable, driveways should be located on adjacent collector streets rather than on arterial streets.
33. Driveway consolidation shall be encouraged through joint access agreements along arterials.
34. Full median breaks, where there is no adopted design, should provide access to collector streets and to major activity centers and should parallel the standards for driveways: not less than 200 feet from an adjacent intersection of an arterial or collector street, and not less than 1,000 feet between full median breaks.

Collector Street Standards

35. Driveway access to major activity centers should be located no closer than 150 feet to the adjacent intersection of a collector or arterial street as measured from the curb return to the nearest edge of the driveway. If driveways must be provided near intersections for facilities (such as service stations), these driveways shall not be serviced by median breaks and shall be located no less than 50 feet from the intersection, measured from the curb return to the edge of the driveway. If more than one is requested to serve a property, the driveways shall be separated by 50-feet, measured edge-to-edge, not centerline to centerline.
36. The distance between driveways and intersecting local streets should not be less than 300 feet measured from the curb return to the nearest edge of the driveway. Where this spacing is not practical, the development shall provide acceptable traffic mitigation measures in addition to those already required.
37. Driveways to residential property along collectors should be consolidated whenever possible.
38. Medians on collectors shall be provided by concrete where left turn control is needed and by painted medians on two-way left turn pockets where appropriate. Where concrete medians are provided, median breaks should be spaced not less than 300 feet apart.
39. The City shall require the use of street-type driveway approaches on collector and arterial streets for any development containing 20 or more parking spaces.

4.3 GOODS MOVEMENT

Objective

- A. Provide for the safe transport and delivery of goods in and out of the City.

Policies, Standards

1. Truck routes to efficiently move heavy traffic through the City are designated on Figure 4-3.
2. Route heavy traffic to designated arterial and collector streets only and away from local residential streets.
3. Provide adequate access to busy destination points such as shopping centers, recreational sites, and employment centers.

Objective

- B. Assure the continuation of railroad freight service to the City of Livingston.

Policies, Standards

1. Pursue expansion of industrial facilities that will use railroad freight services.
2. Support and participate in MCAG rail transportation activities.

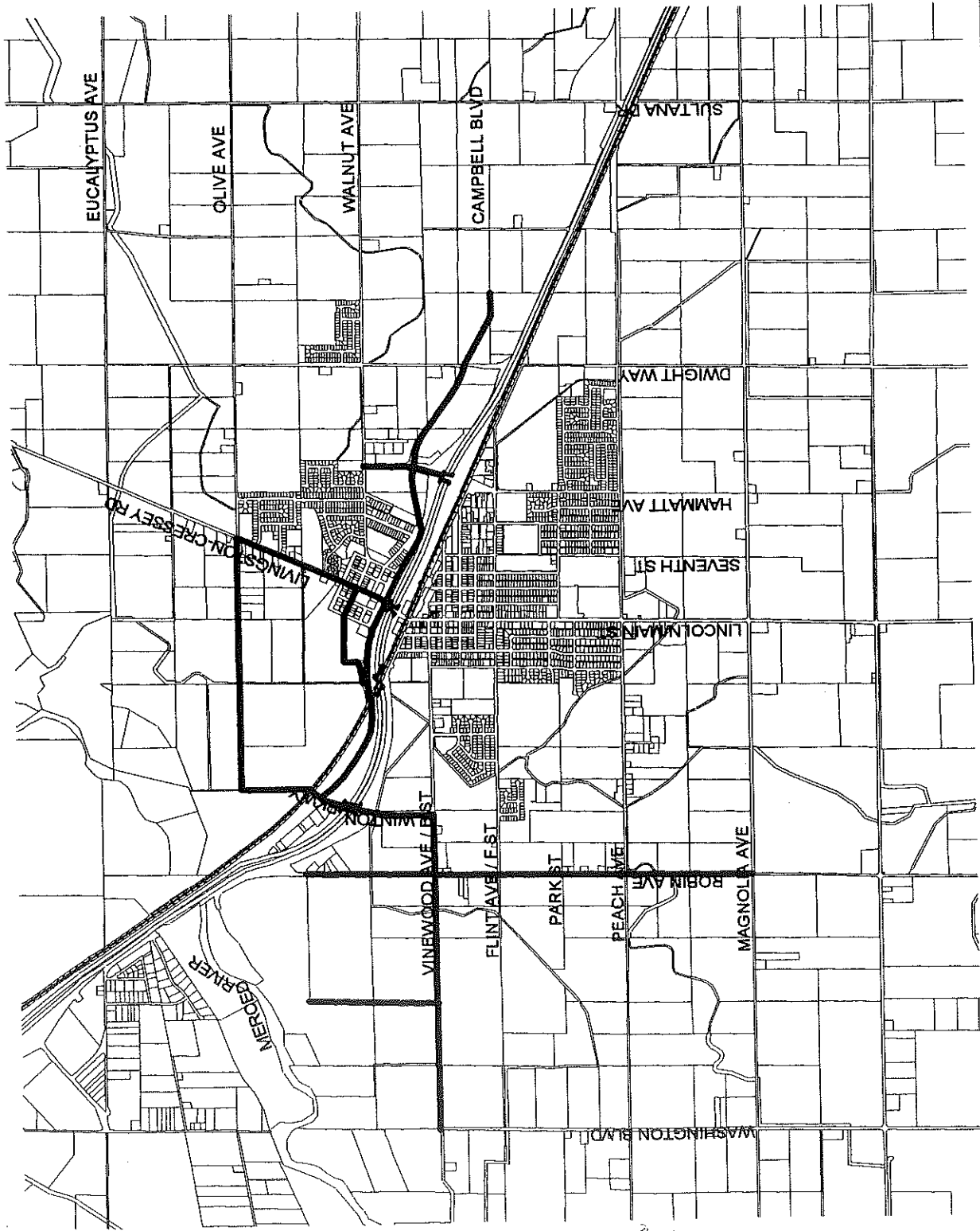
4.4 SAFETY STANDARDS

Objective

- A. Maintain safe and efficient circulation routes for safety and emergency purposes.

Policies & Standards

1. Establish adequate plans to insure effective police and fire protection to all parts of the City.
2. The street network shall provide a quick and efficient route for emergency vehicles, including police, fire and other vehicles, when responding to calls for service. The length of single-entry access routes shall be restricted.
3. SH 99, Livingston-Cressey Road, Main Street, B Street and Walnut Avenues are designated as vehicular evacuation routes out of the City (Figure 4-4).
4. Coordinate the City's evacuation routes with state and county government plans.



LEGEND

-  Truck Routes
-  Southern Pacific Railroad
-  Highway 99

Upon its completion, the southern extension of Winton Parkway shall replace the Robin Avenue truck route.



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Truck Routes

Figure 4-3

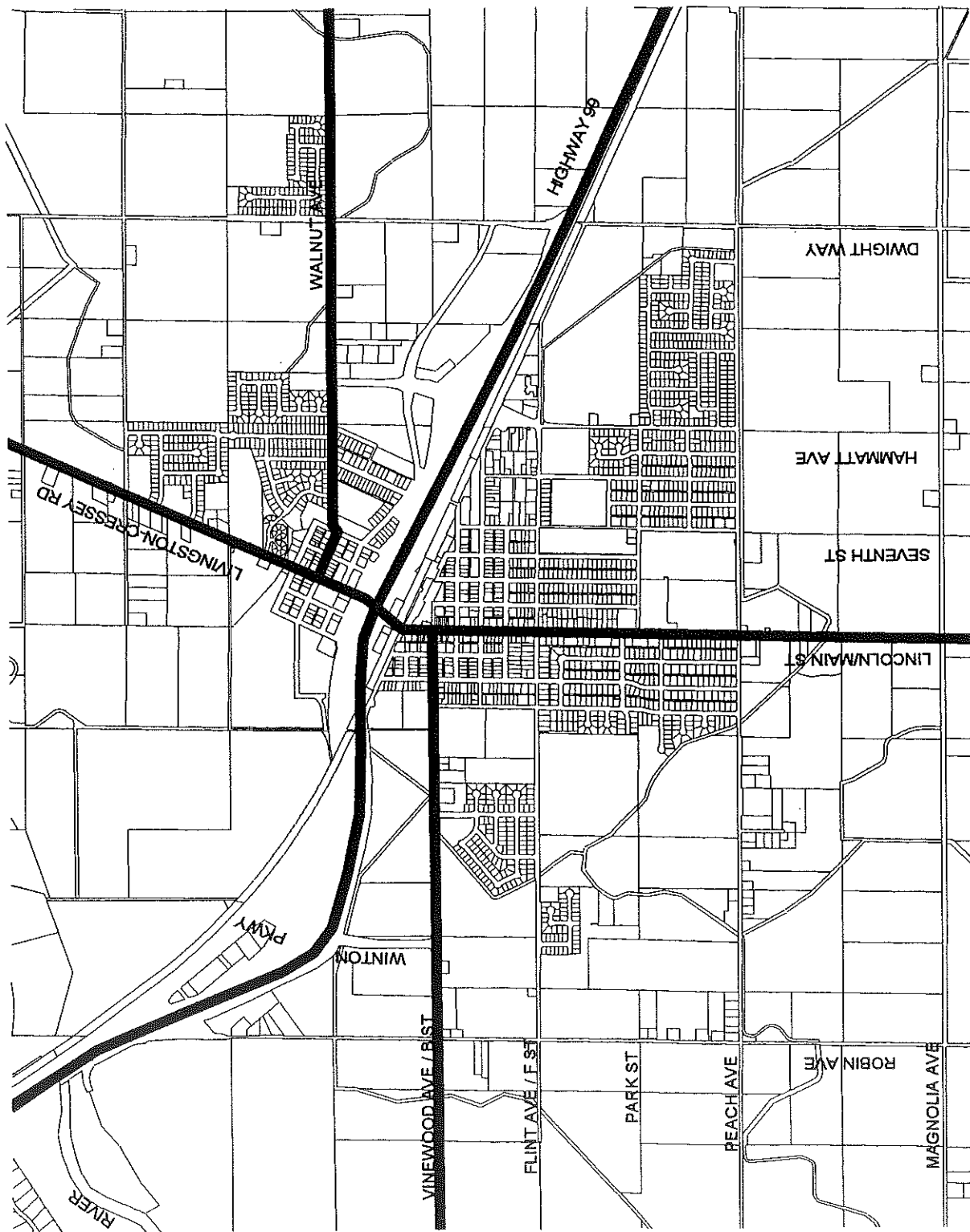


Figure 4-4

Vehicular Evacuation Routes



Objective

- B. Promote traffic safety throughout the City.

Policies, Standards

1. Minimize hazardous encounters among all transportation modes by utilizing special safety techniques and precautions at intersecting points.
2. Prepare and maintain a comprehensive circulation plan to insure traffic safety and travel efficiency.
3. Encourage bicycle routes along less intensive vehicular paths.
4. Provide programs that will educate the public on bicycle, pedestrian, and vehicular safety.
5. Carefully design ingress and egress to shopping centers and employment centers to minimize traffic hazards.
6. In order to promote safe and efficient traffic flow throughout the City, traffic signals shall be spaced no closer than 1/4 mile on arterials except in unusual circumstances. The intersections of arterial and collector streets and the access driveways to major traffic generators shall be located so as to maintain this minimum spacing.

Objective

- C. Maximize the use of site planning techniques to improve traffic safety.

Policies, Standards

1. Direct access to collector streets from residential areas shall be prohibited except where physical circumstances do not allow other design solutions.
2. Left hand-turn lanes shall be provided where necessary for access from arterials into high traffic commercial or multi-family developments.
3. A development's streets shall be designed in a manner that reduces through traffic on local streets and reduces the number of intersections with collectors and arterials.
4. New subdivisions shall contain non-continuous street patterns for interior local streets to protect neighborhoods from the intrusion of through traffic from collectors and arterial streets.
5. Residential subdivisions shall be designed to encourage access from collector streets. Designated streets shall be designed to perform their role as minor collectors.

6. Promote design standards that allow for safe and efficient transport, delivery, loading and unloading of goods from service vehicles within commercial and industrial areas.
7. Where major new activity centers are proposed along arterial streets, designs shall be encouraged which minimize construction along the property line or along the adopted set-back line, whichever is appropriate.
8. Developers shall mitigate traffic impacts associated with their projects.
9. Promote a policy of consolidating driveways, access points and curb cuts along existing major arterials, or arterials when development or change in intensity of development or land use occurs or when traffic operation or safety warrants.
10. Where arterials and collector streets are required, residential development shall be oriented away (side-on or rear-on) from such streets, and properly buffered so that the traffic carrying capacity on the street will be preserved and the residential environment protected from the adverse characteristics of the street.
11. Due to the traffic congestion which results from numerous points of ingress and egress along commercial streets, future commercial developments or modifications to existing developments shall be master planned with limited points of ingress and egress onto a major street. Ingress and egress to shopping centers should be carefully designed in order to promote traffic safety. Left-hand movements into and out of commercial areas should be minimized and existing points of ingress and egress shall be consolidated whenever possible.

Objective

- D. Upgrade and maintain existing transportation corridors to meet urban safety standards.

Policies, Standards

1. Encourage the development of improved signalization and intersection design.
2. Use traffic control devices such as center medians and/or left turn pockets where appropriate.
3. Provide adequate street lighting and traffic control devices throughout the City to ensure safe and efficient mobility.

4.5 TRANSPORTATION SYSTEM AND CONGESTION MANAGEMENT

Objective

- A. Maximize the efficiency of the existing street system.
- B. Encourage the proximity of compatible land uses to reduce unnecessary automobile travel.

Policies, Standards

1. The City encourages the use of energy efficient and non-polluting modes of transportation.
2. Transportation System Management and Transportation Demand Management are the applicable strategies for the mitigation of traffic and parking congestion. Public transit, traffic management, ridesharing and parking management are to be used to the greatest extent practical to implement transportation management strategies.
3. Promote the long term shifting of peak hour commute trips from the single occupant automobile to ridesharing, buses, pedestrian, and bicycles.
4. The use of alternative fueled vehicles is encouraged.
5. Large development shall be encouraged to incorporate transit passenger facilities, bicycle racks or lockers, shower facilities, as well as on site services (eating, mail, banking, etc.) as ways to encourage alternative modes for commute trips.
6. Livingston shall participate in a joint SH 99 Corridor Study with CalTrans and MCAG to determine the solution and funding options for the improvements needed to maintain an acceptable LOS on SH 99 through Livingston. The solutions to the segment problems will result in an operating LOS C.

4.6 STREET IMPROVEMENTS

Objective

- A. Protect rights-of-way for future street development.

Policies, Standards

1. The City shall adopt official plan lines to protect rights-of-way for future arterial and collector street improvements.
2. Establish street dedication requirements as conditions of approval of development entitlements.

4.7 MAINTENANCE/CONSTRUCTION

Objective

- A. Efficiently manage the construction and maintenance of the street system.

Policies, Standards

1. The maintenance of the investment in the existing and future infrastructure is a high priority for the community.
2. The City shall maintain a high level of intergovernmental coordination and citizen participation in the circulation and transportation planning process and work with other agencies to assure that regional transportation plans are consistent with the City's General Plan.
3. Develop, maintain and update as appropriate a 5-year Capital improvement Program that identifies and provides adequate sources of funding for both maintenance and improvement of the street and highway system.
4. Develop a traffic monitoring system to assist in establishing a priority system for expending street and highway funds.

4.8 PARKING AND ALTERNATIVE TRANSPORTATION MODES

Objective

- A. Promote a parking program that meets the needs of each land use type.

Policies, Standards

1. Adequate off-street parking shall be required of all commercial and industrial land uses to accommodate parking demand. Off-street parking shall also be required of multi-family residential land uses to accommodate tenants.
2. Parking standards shall be evaluated for new downtown development to ensure that parking requirements are satisfied within walking distance of development.
3. Parking standards shall be evaluated to assess the potential for offering reduced parking requirements to development that incorporate measures proven to reduce commute or customer trips.
4. Provide adequate parking areas at activity centers along major arterials.
5. Provide adequate parking facilities in the Downtown to accommodate the needs of the public.

6. Parking of commercial vehicles, gross vehicle weight rating 10,000 pounds or more, shall be prohibited on streets or building sites in residentially zoned districts except for pickup or delivery of persons or goods.
7. Encourage the development of truck terminals within the City to reduce truck parking in residential areas.

Objective

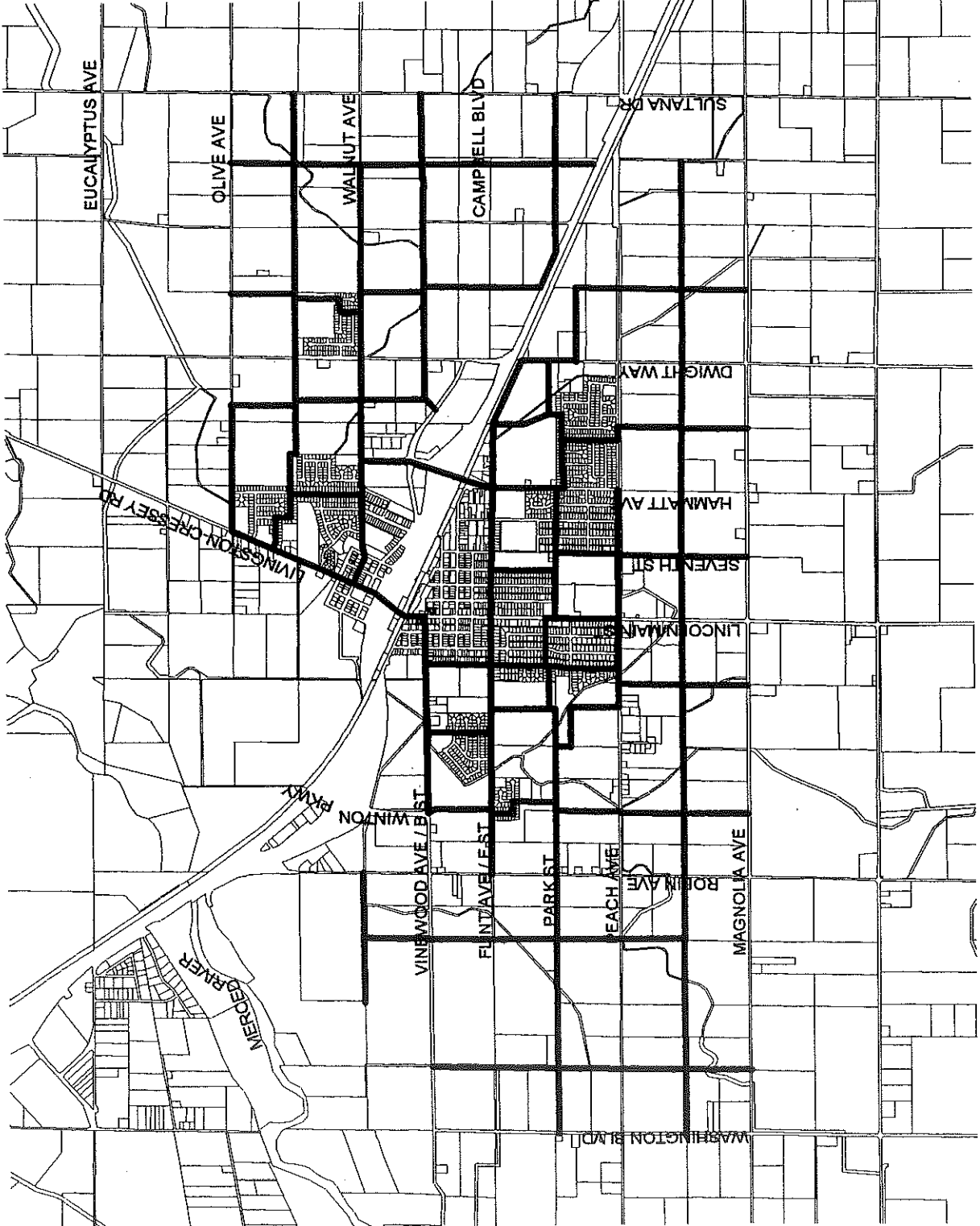
- B. Provide various types of transportation modes throughout the City.

Policies, Standards

1. Maintain and encourage safe and interesting pedestrian and bicycle circulation routes throughout the City.

Bicycle Facilities

2. Rights-of-way considered for abandonment will be evaluated for use as bikeways and pedestrian paths and obtained when feasible.
3. In order to provide a continuous and well-integrated bikeway system linking public and private uses, the Bike Plan of the Circulation Element designates streets intended for bikeways. This plan is shown in Figure 4-5.
 - a. *Bike lanes* are an on-street bikeway in which separate automobile and bicycle travel lanes are designed visually by signs and street markings. Bike lanes shall be implemented on new improved street or segments.
 - b. *Bike routes* are a system of streets with signs denoting them as a bike route, warning motorists to anticipate bicycles on these streets and to indicating to bicyclists a desirable routing because of low traffic volumes or continuity to activity centers. Bike routes will be implemented on existing street segments.
 - c. *Bike paths* have their own right-of-way and are developed exclusively for bicycle travel and are entirely separate from streets and highways.



LEGEND

— Bikeways

The final location of future minor collector streets as bikeways to be determined.



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Bikeways Plan

Figure 4-5

4. On-street parking is prohibited on all new or improved sections of major streets planned for bike lanes where adequate street width is not available to accommodate both on street parking and a bike lane.
5. Secure bicycle parking facilities shall be required as conditions of approval for all new major activity centers, public and private places of assembly, and commercial or industrial developments which must provide at least twenty parking spaces.

Pedestrian Facilities

6. Sidewalks, paths, and appropriate crosswalks should be located to facilitate access to all schools and other areas with significant pedestrian traffic. Whenever feasible, pedestrian paths should be developed to allow for unobstructed pedestrian flow from within a neighborhood.
7. The City shall require curb, gutter, and sidewalks in all areas of the community to accommodate pedestrian traffic, especially along routes with high pedestrian traffic such as schools, parks, and the Downtown area. Installation of these improvements shall be encouraged to the extent feasible in existing neighborhoods where they do not currently exist.
8. The City shall promote safe, convenient, and accessible pedestrian ways within the community.
9. Where walls or fences are proposed for residential developments along major arterials, arterials, or collector streets, pedestrian access will be provided between the major arterial, arterial, or collector, and the development to allow access to transit vehicles operating on the street.
10. Require street lighting within the rights-of-way of all public streets.
11. Include pedestrian signal indications as an integral part of the installation of traffic signals.
12. Assure adequate sidewalk maintenance.

4.9 PROVIDE A TRANSPORTATION SYSTEM THAT IS COST-EFFECTIVE, ENERGY-EFFICIENT, AND ENVIRONMENTALLY SENSITIVE.

Objective

- A. Insure that the air pollution generated by transportation modes does not exceed required standards.

Policies, Standards

1. Maintain an automobile circulation system that promotes reduced vehicle travel.

2. The circulation system shall be designed and developed to minimize excessive traffic congestion, which would increase the rate of vehicle emissions. Development shall mitigate emission impacts primarily by implementing the standards of the San Joaquin Valley Unified Air Pollution Control District for a project's construction and operation/use.
3. A multi-modal transportation system shall be planned that meets the needs of the community and improves air quality.
4. State and federal funds earmarked for bicycle and transit improvements will be vigorously pursued and used.

Objective

- B. Insure that noise emissions generated by transportation modes do not exceed acceptable noise standards in various land use areas.

Policies, Standards

1. The circulation system shall be designed and developed to minimize excessive noise impacts on sensitive land uses. Development shall mitigate noise its associated circulation related noise impacts.
2. Develop standards to screen various noise-sensitive land uses from the effects of heavy vehicular traffic.
3. Identify the heaviest transportation-related noise pollutants on the Noise Contour Map of the Noise Element.
4. Insure that heavy vehicles utilize Livingston's Truck Route as a guide for maintaining an efficient circulation system.
5. Regulate the types of land uses in proximity to railroad facilities.

Objective

- C. A safe and convenient public transit system that meets the needs of all the economic segments of the community.

Policies, Standards

1. Support the range of fixed-route and demand-responsive public transit services provided by Merced County Transit and Stanislaus County Transit, which offer residents safe and affordable transportation.

2. Continue to search for new and innovative alternatives that will provide a more efficient public transit system for the residents from all segments of the social and economic community.
3. Require transit improvements at all sites deemed appropriate and necessary by the MCAG and CalTrans and the transit provider which are consistent with long range transit plans.
4. Provide benches, telephones and shaded areas at major transit destinations so people can utilize the transit system safely and comfortably. The City shall determine such need based on site plan review procedure and other planning implementation methods.
5. Long-range provision of transit services should be coordinated by the County of Merced and Stanislaus Counties.
6. Arterial and collector streets will be designed to allow transit vehicles to pull out of traffic. This policy may be implemented with either a continuous parking lane with bus stops, or with special bus pullout lanes.
7. Transit centers/stops shall be established to encourage the interface between commercial centers, high-density residential uses and the transit system.
8. Encourage transit alternatives to meet the basic transportation needs of the young, the elderly, the handicapped, and the person without access to an automobile.
9. Where alternative transit modes would connect, explore opportunities for a transit center within the City.
10. Encourage and provide for ride sharing, park and ride, and other similar commuter energy savings programs.

CHAPTER 5
OPEN SPACE, CONSERVATION AND RECREATIONAL
ELEMENT

5.0

OPEN SPACE, CONSERVATION AND RECREATION ELEMENT

5.1 AGRICULTURE

Objectives

- A. Preserve prime farmland, farmland of statewide importance, and important agricultural operations within the Livingston Sphere of Influence until logical and orderly urban growth is appropriate.
- B. Planning boundaries are established around the City's perimeter to maintain the physical separation between the City and nearby agriculture operations and to maintain the scenic beauty surrounding the City.
- C. Edges such as roadways, railroad rights-of-way, irrigation ditches, shall be used as growth phasing boundaries to ensure that agricultural operations are not eliminated prematurely.

Policies, Standards

- 1. Maintain a 20-acre minimum parcel size for Reserve designated parcels to encourage viable agricultural operation and to prevent parcelization into rural residential or "ranchette" developments.
- 2. Increase residential densities through integration of small-scale duplexes into areas designated for single-family development, thereby reducing the need for conversion of prime agriculture land.

5.2 NATURAL RESOURCES

Objectives

- A. Protect natural resources including groundwater, soils, and air quality, to meet the needs of present and future generations.

- B. Ensure that environmental hazards including potential flooding and impacts from agricultural practices are adequately addressed in the development process within the City and the Livingston Sphere of Influence.

Policies, Standards

1. Protect areas of natural groundwater recharge from land uses and disposal method, which would degrade groundwater quality. Promote activities, which combine stormwater control, and water recharges.
2. Expand programs that enhance groundwater recharge in order to maintain the groundwater supply, including the installation of detention ponds in new growth areas.
3. No urban level development shall be approved in the City unless the development is, or can be served by the City sewer system.
4. Water conservation methods shall be continued.
5. To assist the City in meeting the clean air quality requirements of the federal and state Clean Air Acts, the San Joaquin Valley Unified Air Pollution Control District will be consulted to provide community planning guidance to help reduce potential air quality impacts.
6. Promote biological diversity and the use of plant species compatible with the bio-region.
7. If street trees are removed, they shall be replaced with tree species specified on the City's Street Tree Master Plan.
8. New construction activities shall comply with the PM-10 control measures as set forth by the San Joaquin Valley Unified Air Pollution Control District's *Guide for Assessing and Mitigating Air Quality Impacts*.
9. The *Guide for Assessing and Mitigating Air Quality Impacts* will be used to evaluate and mitigate the effects of new developments to the extent feasible.
10. Properties which have the potential to support listed plant and animal species will be required to have a biological investigation as a condition of development. Surveys for species shall follow both Federal and State protocols.

5.3 RECREATION

Objective

- A. To provide recreational opportunities including local parks for the existing community, and projected population in future growth areas.

Policies, Standards

1. Distribute adequate parks facilities throughout the City to provide organized and informal recreation opportunities and open space for City residents.
2. Provide recreation programs that meet the needs of children, adults and senior citizens in the City.
3. Provide an appropriate ratio of passive and active uses for each park type. Ensure that all parks provide the potential for passive, restful relaxation. A major portion of some parks shall be for passive activity while a portion of other parks may be for active recreation.
4. Improvements to existing parks shall be primarily in the form of upgrading the quality of existing facilities and improvements to accommodate new residents. This shall be achieved by either remodel or redevelopment. Facilities shall be constructed which are durable and require low maintenance, wherever possible.
5. Other improvements to existing parks shall be for the purpose of reducing maintenance cost, water use, improving safety and aesthetics.
6. The standard park acreage for residents is 5.0 acres per 1000 people. This acreage may include school district property which is made available through cooperative agreements, park-ponds (to the extent that they are accessible and usable recreational areas), neighborhood parks, pocket parks, community parks and community recreational facilities. Priority should be given to development of active recreation and sports areas in conjunction with existing and new school facilities. Recreational facilities should be provided in accordance with the standards in Table 5-1.

**Table 5-1
Park Recreation Community Standards**

Facility	Acreage	Population Served
Park Acreage	5 acres	Per 1,000 persons
Swimming Pool	1 pool	Per 15,000 persons
Golf Course	18 holes	Per 30,000 persons
Tennis Courts	Set of 4 courts	Per 8,000 persons
Basketball Courts	1 court	Per 1,000 persons
Baseball Field	1 field	Per 5,000 persons
Soccer Field	1 field	Per 3,000 persons
Neighborhood Recreation Center	1 center (under 3,000 square feet)	Per 3,000 persons
Community Center	1 center	Per 15,000 persons

7. Parks shall be located along collector roads wherever possible.

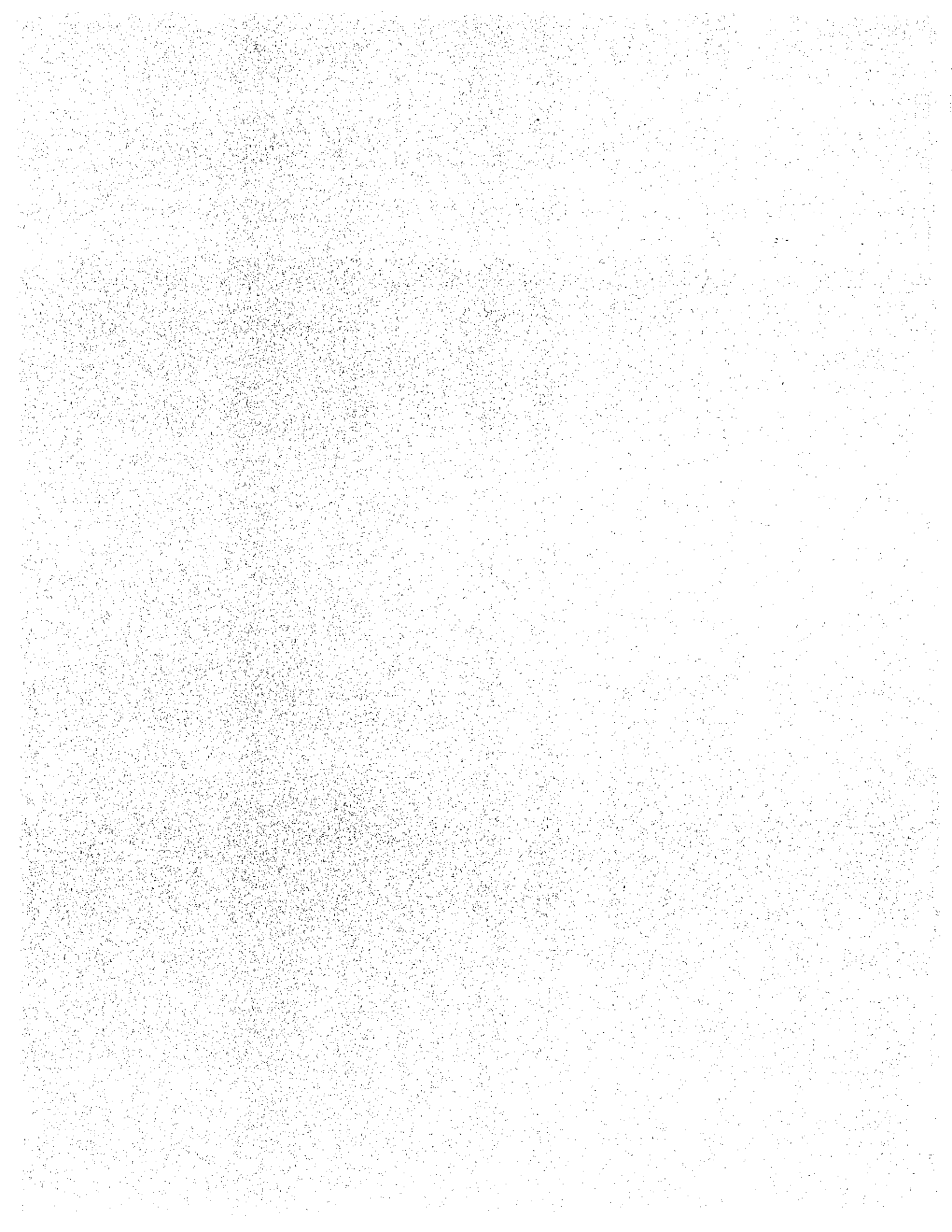
8. Where possible, parks should be developed in conjunction with school property to create a larger combined open space and recreation facility for the community and to reduce the costs for parks and recreation facilities.
9. Where possible, parks should be developed in conjunction with existing and future drainage basins to create a larger combined open space along with additional space for active and passive recreation. Existing ponds should be adapted for park use where possible. Safety concerns must be addressed and adequate space at or above street level should be provided.
10. Park facilities should be distributed throughout the City as evenly as possible.
11. Neighborhood park facilities may be contained within community parks.
12. Provide active recreation facilities in several locations in the City to accommodate community needs.
13. Community facilities of a specialized nature may be developed to service the particular interest of the community.
14. Not all community facilities should occur at each community park; they should be based on need, and should occur at various City parks.
15. The active community sports facilities should be lighted for extended hours of use when it does not conflict with adjacent land uses.
16. The majority of City parks should have some active recreational facilities. These facilities may be a single ballfield, a pair of tennis courts, a group of horseshoe pits or a group picnic area. At the maximum level, these facilities may include a complex of ballfields, a sports center, or a swimming pool.
17. Parks shall be protected from intrusion by other uses. Areas designated for park sites shall be preserved through zoning or the specific plan process. Alternative sites to those shown on the Land Use map may be permitted through a General Plan Amendment.
18. The City will review the Parks and Recreation Master Plan at least every five years to consider changing priorities and schedules for acquisition and development to implement the General Plan.
19. The City will coordinate with public schools, private industry and commercial developers to attain maximum use and minimum duplication in the cost of park and recreation facilities.
20. Where a county-wide recreation need is demonstrated in an area adjacent to the City, cooperative park development programs shall be encouraged on a cost-sharing basis. Joint

power agreements between the City and County agencies may be developed to implement such parks with financial aid management obligations in proportion to each agency's responsibilities.

21. If a subdivision, site plan, general plan amendment or rezoning is proposed on land which is designated for potential park use, prior to entitlements, permits or other approvals, the City Council shall determine the feasibility of accelerating public acquisition of the property, or redesignate alternative areas.
22. When a site designated for a park is part of a subdivision map, the City may require the subdivider to dedicate the park area and prepare plans for its phased development. Development of the park proposal shall be consistent with this element and the Parks and Recreation Master Plan.
23. Seek State, Federal, and local grants to improve City recreation services and facilities.
24. Maintenance costs should be within the City's financial ability. Where necessary, the City may require the developer to establish financing mechanisms.
25. Support the establishment of public non-profit corporations with the purpose of promoting and supporting City park and recreation services and facilities for the general public.
26. Promote the use of volunteers and community groups for the provision of recreation programs, services, operation and maintenance and development of parks.
27. Efforts should be made to reuse abandoned railroad right of ways for regional recreational bike trails.
28. Park land acreage dedication obtained through the provisions of California Government Code Section 66477 shall be consistent with the Livingston Municipal Code.
29. Parks Department shall encourage economically self-sufficient recreation activities by implementing user fees, facility fees, and registration fees in its program.
30. Commercial recreational sites can be considered as viable alternatives to the dedication provided no more than ten percent of the planned park acreage is comprised of commercial recreation.

CHAPTER 6

URBAN BOUNDARY ELEMENT



6.0

URBAN BOUNDARY ELEMENT

6.1 URBAN BOUNDARIES

Objectives

- A. Livingston's orderly and logical urban growth as depicted on the General Plan map.
- B. Urban growth shall occur where urban services are available or can be extended.

Policies, Standards

1. Growth past the Phased Growth Boundaries shall be subject to a finding by the City Council that:
 - a. There is a clear, timely and demonstrable need for this action;
 - b. Urban services are available to the site; and
 - c. There is insufficient vacant land within the current phase boundary to accommodate growth.
2. Additional "unclassified" zoning is prohibited as detrimental to the planning process.
3. Priority shall be given to development of vacant, underdeveloped, and/or redevelopable land where urban services are or can be made available. Parcels should be substantially contiguous to existing development.
4. Identify and use natural and man-made edges such as local roadways and waterways, as urban development limits for growth phasing lines.
5. Where residential land is used as a buffer and transition between long-term agricultural uses portions of the city that adjoin the Sphere of Influence it shall be low density
6. Encourage the use of parks and open space to enhance gateways to the City.

6.2 GROWTH POLICIES

Objective

- A. Growth policies keep guide the timing, type, and location of urbanization, preserve resource lands, protect natural features and open space, and encourage energy conservation.

Policies, Standards

1. Sequential urban growth boundaries are hereby established to provide a 20 year planning boundary, and subsequent ten year program boundaries.
2. Each sequential urban growth boundaries is established as the area within which a full-range of urban services will need to be extended to accommodate urban development. This boundary shall be established based on the following factors:
 - a. Adequate residential, commercial and industrial capacity for the planning period.
 - b. Inclusion of a 30 percent vacancy factor ("flexibility factor") for residential and commercial development.
 - c. Provision of adequate industrial land.
 - d. Adequacy of infrastructure including existing and planned capacity of sewerage system, treatment plant, water system, schools, roadways, and other urban services and facilities.
3. New residential development shall be substantially contiguous to existing development. Development shall not occur unless at least 35% of a parcel is contiguous to existing urban development. This measure is intended to help reduce the unnecessary removal of finite natural resources, such as prime soil, to reduce the cost of community services provided to residents, and to eliminate "leap frog" development.
4. Extension of urban improvements and services, including water, sewer lines and storm drain facilities, into agricultural areas shall be managed as a means to direct the location and timing of new urban development.

6.3 GROWTH MANAGEMENT COORDINATION

Objective

- A. Coordinate growth management planning and implementation with Merced County.

Policies, Standards

1. Encourage Merced County to strictly limit urban development in the unincorporated portion of Livingston's Sphere of Influence in conformance with Livingston's General Plan.

2. Future development of lands within and adjacent to the City's Sphere of Influence, including the Sultana Drive/SH 99 interchange and its surrounding area, will have an effect on the implementation of the City's General Plan. The City of Livingston therefore reserves the right to review and comment on circulation and land use issues in this area as they arise.

CHAPTER 7

COMMUNITY DESIGN ELEMENT

7.0

COMMUNITY DESIGN ELEMENT

7.1 GATEWAYS/STREETSCAPE DESIGN

Objective

- A. Improve the appearance of city streets and reduce visual clutter along the City's main thoroughfares/corridors.

Policies, Standards

1. Promote a city-wide street tree planting program which enhances the appearance of the street and is scaled in relationship to the function of the roadway. Tree wells should be located and designed to maintain views for traffic and pedestrian safety.
2. The undergrounding of utilities along the City's main corridors is a priority. In developing areas, new development projects shall place all utility lines underground. The City will also explore a range of options for undergrounding utilities in existing developed areas.
3. Ensure all signs are compatible with the overall streetscape design including the redesign/removal of signs, which are disruptive elements.
4. No new outdoor advertising billboards shall be allowed within the Sphere of Influence.
5. Establish coordinated and distinctive signage, accent plantings and paving materials for entries into the City. Locations for this treatment are Winton Parkway, Hammett Avenue, Main Street at Magnolia and Olive. As primary entrances to the City, these streets should reflect higher standards of development. Standards should contain provisions for minimum building setbacks, landscaping, sidewalk pattern and street furniture, with distinctions made between upgrade of existing uses and new development. Proper orientation, design and architectural features shall be regulated through zoning and the site plan review process.
6. City shall implement its Redevelopment Plan.
7. Development standards shall be adopted for the gateways to the city to improve the practical function and aesthetic quality of those areas. Policy 3.4.A.5 shall be used as an interim standard until other standards are adopted.

7.2 RESIDENTIAL DEVELOPMENT

Objective

- A. Improve the appearance and condition of existing residential areas.

Policies, Standards

1. Pursue grant funding for housing conservation and rehabilitation of existing dwellings and to provide support for low- and moderate-income housing programs.
2. Existing City codes pertaining to abandoned and disabled vehicles on private property shall be enforced.
3. Review the adequacy of existing Zoning Code enforcement procedures pertaining to alley maintenance. Expand the program as necessary to prohibit all use of public alleys for storage.
4. Encourage the planting of street trees in existing residential neighborhoods. specific policies will also be included for street trees in new residential, commercial and industrial development.

Objective

- B. Promote high quality new residential neighborhoods.

Policies, Standards

1. Encourage site planning and housing design to include landscaped parkways and sidewalks.
2. Site plan review shall be required for all multi-family residential development, including provisions for building setbacks, lot coverage, parking, access and circulation, outdoor lighting, signage, architecture and landscaping.
3. Encourage the planting of street trees in new single-family and multi-family residential subdivisions.
4. The following techniques should be used in the design of multi-family residential development:
 - a. Varying front yard setbacks within the same structure;
 - b. Staggered and/or reversed unit plans to provide variability in the outward appearance of the building(s);
 - c. Building materials and design that ensure consistency with adjacent land uses and structures;
 - d. Adequate open space and landscaping;

- e. Dense landscaping adjacent to buildings;
 - f. Variety of orientations to the buildings to avoid monotony; and,
 - g. Limitation on second story views to adjacent property.
5. Parking areas in multi-family residential projects should be visible from the units they serve and be located behind the building where possible. Long rows of garages or parking spaces should be avoided.
 6. Landscaped-finger planters should be provided after an average of every ten spaces and should, where possible, align with building entrances.
 7. Second story views to adjacent residential uses land should be prohibited.
 8. All new residential development shall include a landscaped parkway adjacent to the street curb.

7.3 COMMERCIAL AND INDUSTRIAL DEVELOPMENT

Objective

- A. Ensure that all commercial development is attractive, of high-quality design, and enhances the image of the city.

Policies, Standards

1. Establish site plan review procedures for all commercial and industrial development, including provisions for building setbacks, lot coverage, parking, access and circulation, outdoor lighting, signage, and landscaping.
2. Promote rehabilitation of appropriate commercial sites and investigate funding opportunities for rehabilitation/remodeling of small businesses.
3. Strengthen the City's sense of history by identifying and preserving historic structures throughout the community.
4. When more than one structure is on a site, they should be linked visually through architectural style, colors and materials, signage, landscaping, design details such as light fixtures, and the use of arcades, trellis' or other open structures.
5. The height and scale of new development should be compatible with that of surrounding buildings where an established pattern or character is apparent. New development should provide a transition from the height of adjacent structures to the maximum height of new development.

6. Tall dominating structures should be broken up by creating horizontal emphasis through the use of trim, awnings, eaves or other ornamentation, and by using a combination of complementary colors.
7. All roof equipment shall be screened from a horizontal line of sight. Screening should be an integral part of the roof design and not appear as a “tacked on” afterthought. For flat roofs, a screen enclosure behind the parapet wall may be used if it is made to appear as an integral part of the structure’s design. Ground or interior-mounted mechanical equipment (with appropriate screening) is encouraged as an alternative to roof-mounting.
8. Structures in pedestrian-oriented areas should provide continuous storefronts at the ground level front elevation.
9. Entries should be protected from the elements and should create a focus or sense of entry for the building. Wall recesses, roof overhangs, canopies, arches, signs, and similar architectural features should be integral elements of the building’s design calling attention to the importance of the entry.
10. Vertical mixed use projects, where residential uses are located above commercial or office uses, or office uses located above commercial uses, are encouraged.
11. Building signs shall be integrated into the design of buildings and should compliment the architecture. All signs should be compatible with the building and site design relative to colors, materials and placement, and should respect established architectural and/or historical character.
12. Monument-type signs are preferred over tall pole signs for business identification, wherever possible. Where several tenants occupy the same site, individual wall mounted signs are appropriate in combination with a monument sign identifying the development. Custom signs, which are unique and creative, are encouraged, provided that the style of the sign complements the style and design of the building. Historic signs that are in themselves architectural features should be retained.
13. The planting of street trees is encouraged for all existing and new commercial and industrial development.
14. Buildings, landscaping, parking and other development features should be arranged in a manner that is compatible with the size, scale and appearance of nearby development.
15. Landscaped areas should be clustered on a site to maximize their effect on the public view.
16. Landscaping should be used to define areas such as entrances to buildings and parking lots, define edges of various land uses, provide transition between neighboring properties (buffering), and provide screening for outdoor storage, loading and equipment areas.

17. Landscaping should be in scale with adjacent buildings and be of appropriate size at maturity to accomplish its intended purpose.
18. Portions of a site not utilized for parking, circulation, storage or other uses, shall be landscaped.
19. Parking should be screened and visually subordinate to the development. Parking lots should not overwhelm views of a site and should incorporate landscaping for all areas not used for vehicle storage, access or circulation.
20. Site planning should emphasize a strong relationship to the adjoining street(s) and encourage pedestrian circulation and access. Pedestrian access should be separate from vehicular access, where feasible.
21. Site plans should provide safe and well-defined pedestrian connections from buildings to parking areas, from buildings to the adjoining street(s), and among buildings on the same site. Pedestrian connections between commercial development and surrounding residential neighborhoods should also be provided.
22. Buildings, sidewalks, and parking lots should be located to minimize conflicts between pedestrian and vehicular circulation on a site.
23. Loading and trash facilities should be located where they may be adequately screened from view, generally at the rear of the structures, away from the street.
24. Long expanses of fence should be offset and architecturally designed to prevent monotony. Landscaped pockets and limited openings should be provided along this wall.

Objective

- B. Ensure that industrial development is attractive and of high-quality design, to enhance the image of the city.

Policies, Standards

1. Establish site plan review procedures for all new industrial development, including provisions for building setbacks, lot coverage, parking, access and circulation, outdoor lighting, signage, and landscaping.
2. Promote rehabilitation of appropriate industrial sites and investigate funding opportunities for rehabilitation/remodeling of small businesses.
3. Encourage the planting of street trees for existing and new industrial development.
4. Site design for new industrial development should consider the following:
 - a. Controlled site access;
 - b. Service, storage, and loading areas located at the rear or side of buildings;

- c. Screening of storage and outdoor work areas and equipment;
 - d. Landscaping, signage and other features to emphasize the main entrance;
 - e. Landscaping for all areas not developed for parking, storage, buildings, etc.
5. Design elements which are undesirable and should be avoided include:
- a. Large, blank, flat wall surfaces;
 - b. Exposed, untreated precision block walls;
 - c. Chain link fence and barbed wire;
 - d. False fronts;
 - e. "Stuck on" mansard roofs;
 - f. Materials with high maintenance (such as stained wood, shingles or light gauge metal siding)
 - g. Mirror window glazing
 - h. Loading doors facing the street; and
 - i. Exposed roof drains.
6. Where industrial development abuts non-industrial uses, appropriate buffering techniques should be employed such as setbacks, screening landscaping, or some combination of these.
7. An industrial site should accommodate all of its required parking on-site without the use of on-street parking.
8. On-site circulation should be designed to provide safe and efficient access for delivery vehicles, visitors and employees, and pedestrians.
9. Loading and delivery areas should be clearly marked with directional signage where multiple access points are provided.
10. Loading areas should be designed to accommodate trucks without having to back onto or otherwise use the adjoining street.
11. When security fencing is required, it should be a combination of solid pillars, or short solid wall segments, and wrought iron grillwork.

7.4 GENERAL COMMUNITY REDEVELOPMENT

- 1. Design the community so that there is interaction between neighborhoods and a strong emphasis on neighborhood conservation.
- 2. Priority should be given to development in the downtown area.

CHAPTER 8

NOISE ELEMENT

8.0

NOISE ELEMENT

8.1 PROJECT EVALUATION

Objectives

- A. To protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise.
- B. To protect the economic base of the City by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.
- C. To preserve the tranquility of residential areas by preventing noise producing uses from encroaching upon existing or planned noise-sensitive uses.
- D. To educate the citizens of the City concerning the effects of exposure to excessive noise and the methods available for minimizing such exposure.
- E. To emphasize the reduction of noise impacts through careful site planning and project design, giving second preference to the use of noise barriers and/or structural features to buildings containing noise-sensitive land uses.

Policies

- 1. Table 8-1 depicts the ranges of noise exposure from transportation noise sources which are considered to be acceptable, conditionally acceptable, or conditionally unacceptable for the development of different land uses. Table 8-1 shall be used to determine whether mitigation is needed for development of land uses near major transportation noise sources.
 - a. In areas where the noise environment is acceptable, new development may be permitted without requiring noise mitigation.
 - b. For areas where the noise environment is conditionally acceptable, new development shall be allowed only after noise mitigation has been incorporated into the design of the project to reduce noise exposure to the levels specified by the Noise Element.

Table 8-1
**LAND USE COMPATIBILITY FOR NEW DEVELOPMENT
 NEAR TRANSPORTATION AND NOISE SOURCES**

Land Use	Exterior Noise Exposure Ldn or CNEL, dB			Interpretation
	55	65	75	
Residential (except temporary dwellings)				<p>ACCEPTABLE (Mitigation not Required) Specified land use is acceptable</p>
Hotels & Motels				<p>CONDITIONALLY ACCEPTABLE (Mitigation Required) Use should be permitted only after casual study and inclusion of mitigation as needed to satisfy policies of Noise Element.</p>
Churches, Meeting Halls				<p>CONDITIONALLY UNACCEPTABLE (Mitigation Required)</p> <p>Use may be infeasible. Use should be permitted only after careful study and inclusion of mitigation as needed to satisfy policies of Noise Element.</p>
Schools, Preschool to Secondary, Colleges, and University, Specialized Education and Training, Libraries and Museums				

TABLE 8-2 MAXIMUM ALLOWABLE NOISE EXPOSURE-TRANSPORTATION NOISE SOURCES		
Land Use	Outdoor Activity Areas	Interior Spaces
	L _{dn} /CNEL, dB	L _{dn} /CNEL, dB
Residential (except temporary dwellings)	65 ¹	45
Hotels and Motels	65 ¹	45
Hospitals, Nursing and Personal Care	65 ¹	45
Churches, Meeting Halls	--	45
Schools-Preschool to Secondary, College and University, Specialized Education and Training, Libraries and Museums	--	45

¹ Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the boundary of planned or zoned noise-sensitive uses.

TABLE 8-3 MAXIMUM ALLOWABLE NOISE EXPOSURE - STATIONARY NOISE SOURCES ¹		
	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L _{eq} , dB	55	50
Maximum level, dB	75	70

¹ As determined in outdoor activity areas. Where the location of outdoor activity areas is unknown, the noise standard shall be applied to the boundary of planned or zoned noise-sensitive uses.

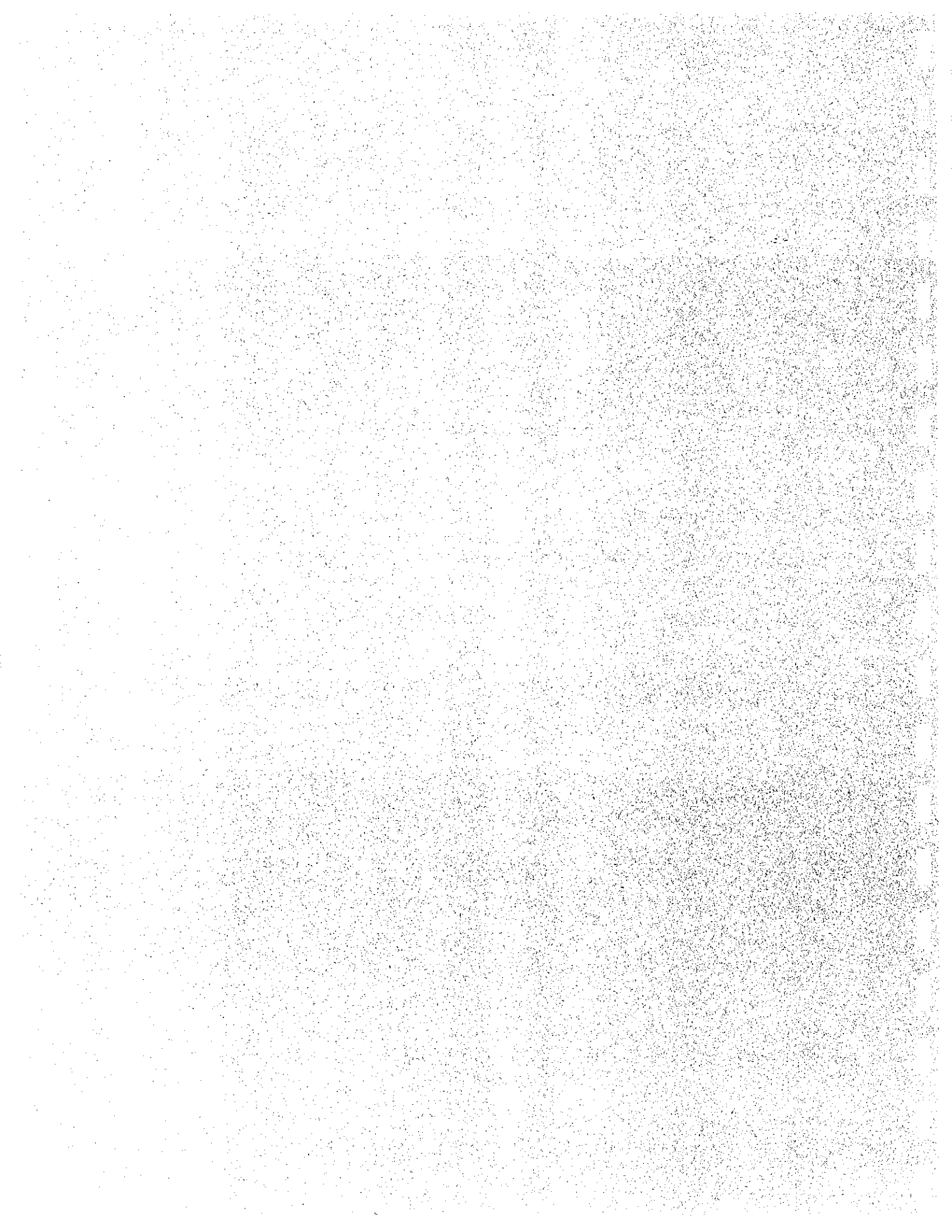
- c. For areas where the noise environment is conditionally unacceptable, new development in compliance with the policies of the Noise Element may not be feasible.
3. New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed the noise levels specified in Table 8-2 for the given land use.
4. Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the noise levels specified in Table 8-2.
5. New development of noise-sensitive land uses shall not be permitted where the noise level due to existing stationary noise sources will exceed the noise level standards of Table 8-3.
6. New proposed stationary noise sources, or existing stationary noise sources which undergo modifications, shall not be permitted where the noise level exceeds the standards of Table 8-3.
7. The preferred method of noise control is thoughtful site design. Secondly, noise control should be achieved through the use of noise barriers. Site and building design guidelines may include:
 - a. The backyards of single-family residences should not back onto the primary noise source. Where this is not possible, the narrow portion of the building should face the primary noise source, and the interior layout should locate the most sensitive areas away from the noise source by placing garages, storage facilities, carports or other such areas nearest the noise source.
 - b. Patios and balconies of apartments should be placed on the side of the building opposite the noise source.
 - c. Commercial and industrial structures shall be designed so that noisy equipment is located as far as possible from noise-sensitive land uses, and/or is shielded by structures.
 - d. Two-story residential construction shall not be permitted immediately adjacent to major roadways, the railroad, or other equally significant noise source unless an adequate combination of noise attenuation procedures is used.
 - e. When possible, residential cul-de-sacs should be perpendicular to adjacent arterials or collectors.
 - f. Loading and unloading activities for commercial uses that are located near noise-sensitive uses should be conducted in an enclosed loading dock with a positive seal between the loading dock and trucks.

8. Development plans, programs and proposals shall not be approved unless they are in compliance with the policies of the Noise Element.
9. Prior to approval of the proposed development in a noise impacted areas, or the development of an industrial, commercial or other noise generating land use in or near an area containing existing or planned noise-sensitive land uses, an acoustical analysis may be required if:
 - a. The existing or projected future noise exposure at the exterior of buildings, which will contain noise sensitive uses, or within proposed outdoor activity areas (patios, decks, backyards, pool areas, recreation areas, etc.) may exceed 65 dB L_{dn} (or CNEL).
 - b. Interior residential noise levels resulting from offsite noise may exceed 45 dBA.
10. When noise studies are necessary they shall:
 - a. Be the responsibility of the applicant.
 - b. Be prepared by an individual or firm with demonstrable experience in the fields of environmental noise assessment and architectural acoustics.
 - c. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
 - d. Include estimated noise levels for existing and projected future (10-20 year hence) conditions, with a comparison made to the adopted policies of the Noise Element.
 - e. Include recommendations for appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.
 - f. Include estimate of noise exposure after the prescribed mitigation measures have been implemented.
 - g. The acoustical analysis shall be prepared as early in the project review or permitting process as possible, so that noise mitigation measures may be an integral part of the project design rather than an afterthought.
11. Definitions
 - a. A-Weighted Sound Level (dB): The sound level obtained by using the A-weighting filter of a sound level meter, expressed in decibels (dB). All sound levels referred to in this policy document are in A-weighted decibels. A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects.

- b. Community Noise Equivalent Level (CNEL): The equivalent energy (or energy average) sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m. The CNEL is generally computed for annual average conditions.
- c. Day/Night Average Sound Level (L_{dn}): The equivalent energy (or energy average) sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m. The L_{dn} is generally computed for annual average conditions.
- d. Equivalent Sound Level (L_{eq}): The sound level containing the same total energy as a time varying signal over a given sample period. Thus, the L_{eq} is a single-valued level that expresses the time-averaged total energy of a fluctuating sound level. For example, if 64 dB is measured for 10 minutes, 68 dB is measured for 20 minutes and 73 dB is measured for 30 minutes, the 1-hour L_{eq} is about 71 dB. The L_{eq} is typically computed over 1, 8 and 24-hour sample periods.
- e. New Development: Projects requiring land use or building permits, but excluding remodeling or additions to existing structures.
- f. Noise-Sensitive Land Use:
 1. Residential development, except temporary dwellings
 2. Schools-preschool to secondary, college and university; specialized education and training.
 3. Hospitals, nursing and personal care
 4. Churches
 5. Hotels and motels, bed and breakfast facilities
- g. Outdoor Activity Areas: Patios, balconies, and swimming pool areas of multi-family dwellings; backyards of single-family dwellings; designated areas for outdoor recreation and activity for hospitals, nursing and personal care facilities.
- h. Stationary Noise Source: Any fixed or mobile source not preempted from local control by existing federal or state regulations. Examples of such sources include industrial and commercial facilities and vehicle movements on private property (e.g., parking lots, truck terminals, auto racetracks, etc.)
- i. Transportation Noise Source: Traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by existing federal or state regulations. However, the effects of noise from transportation sources may be controlled by regulating the location and design of land uses affected by transportation noise sources.

CHAPTER 9

**PUBLIC SERVICES AND
FACILITIES ELEMENT**



9.0

PUBLIC SERVICES AND FACILITIES ELEMENT

9.1 PUBLIC FACILITY IMPROVEMENT

Objectives

- A. It is the policy of the City that new growth shall pay its own way. Fees shall be established to pay for both needed facilities and incremental demands on existing facilities.
- B. A master plan for the development and funding of necessary services and utilities (including but not limited to storm drainage, water and sanitary facilities) shall be developed and adopted. Funding can be through the formation of an assessment district, entering into deferral agreements or direct developer funding of improvements. Distribution of cost for improvements shall be done in a fair and equitable manner.
- C. Facilities and services shall be coordinated with the General Plan land use goals and objectives.

Policies, Standards

- 1. The City shall continue to coordinate community irrigation ditch issues with local districts, private ditch companies, private land owners, and public agencies.
- 2. Irrigation ditches that require a 60-inch or smaller pipe shall be piped as a condition of approval prior to development on adjacent property.
- 3. Cost allocation for required ditch piping that exceeds 60-inches will be resolved on a project-by-project basis until such time that the City and the Merced Irrigation District approve a memorandum of understanding for this subject.
- 4. Continue to coordinate community irrigation ditch issues with local districts, private ditch companies, private land owners, and public agencies. Irrigation ditches shall be piped as a condition of approval prior to development on subject property.
- 5. Developers shall prepare an infrastructure and public services assessment as part of each annexation application determine infrastructure needs, feasibility, timing, and financing.

6. Prepare and implement Citywide infrastructure master plans which carry out adopted land use goals, objectives and policies and federal and State regulations. These master plans shall be implemented through various funding mechanisms including assessment district, property owner's associations user fees, development impact fees, mitigation payments, reimbursement agreements and/or other mechanisms which provide for equitable distribution of development and maintenance costs.
7. Require the extension and construction of infrastructure to proposed developments according to adopted elements and master plans. The City shall use reimbursement agreements or other financing techniques to reimburse developments for any oversizing cost, which may be required.
8. Coordinate urban growth management planning with public and private utilities.
9. Design storm water runoff drainage structures to decrease erosion.
10. Development in floodway areas shall be in accordance with regulations of the Federal Emergency Management Agency.
11. Development fee credit may be given for public improvements made by a builder but shall not exceed the amount of fees.
12. Developers shall construct all tributary facilities necessary to connect to major facilities, whether or not the major facilities have yet been constructed.
13. Temporary drainage facilities such as ponding basins may be constructed by the developer if the major facilities are not available, subject to City determination and approval. The developer will also be required to pay all applicable drainage fees in addition to constructing temporary facilities at his own cost.
14. Temporary drainage facilities such as shall be dedicated to the City with a reversionary clause which specifies that if the basin is abandoned within ten years, the property would revert to the original owner, subject to refurbishment of the site in a manner satisfactory to the City.
15. Upon the collection of adequate funds, the City will install major facilities in accordance with the master plan at the locations deemed most essential by the City, with due regard for community needs and projects from which fees were collected. To make the best use of funds, growth shall be encouraged in areas where it is possible to develop facilities incrementally.
16. To encourage groundwater recharge, ponding basins shall be designed as detention basins. However, pumping facilities shall be included in such facilities to handle peak flows and to provide for disposal of storm water into irrigation ditches when necessary. Stormwater inflow into irrigation district canals and pipelines shall be subject to existing or future

agreements by and between the City and the irrigation districts specifying maximum inflow, maximum service area boundary and any other limitation thereto.

17. New municipal water well sites should be planned which include pump, storage, pressure filtration and/or treatment equipment. They should have design, screening, landscaping and architectural improvements which make them compatible with adjacent land uses.
18. City may require industrial sewage pretreatment as determined by the strength of waste to conserve biological treatment capacity at the wastewater treatment plant. Water conservation measures should also be encouraged for industrial, commercial and residential uses to preserve hydraulic capacity at the treatment plant and to reduce impacts to the sanitary sewer system.
19. The City shall require the connection of existing and new businesses, residents and industries to the City's water and sewer system. The City shall establish fees which enable it to recover the costs of such connection.
20. Conditions of approval shall be implemented with each development to assure that the necessary water production, distribution and/or treatment facility is in place prior to issuance of a building permit.
21. A finding shall be made by the Public Works Department to document that an adequate supply of potable water can be provided to serve the domestic and fire suppression needs of each proposed development prior to approval by the City Council.
22. The City of Livingston shall cooperate with local water agencies to identify and resolve long-term water supply issues.
23. The City of Livingston shall explore the feasibility of the following long-range water resource issues including water storage, valving, and emergency back-up power supply.
24. Conditions of approval shall be implemented with each development to assure that the necessary sewer collection facility is in place and/or wastewater treatment plant capacity is available prior to issuance of a building permit.
25. A finding shall be made by the Public Works Department to document that sewer collection and wastewater treatment can be provided to serve each proposed development prior to approval by the City Council.
26. Monitor treatment plant operations and consider the related effects of land use changes when evaluating plan amendments.

9.2 LOCAL GOVERNMENT FACILITIES AND SERVICES

Objectives

- A. Provide high quality government facilities and services to the general public. Local government facilities and services shall be directed Downtown to the greatest extent possible.

Policies, Standards

- 1. Maintain innovative solid waste service and programs.
- 2. Public improvements identified in the City's Capital Improvement Program shall be consistent with the goals, policies and objectives of the General Plan.

CHAPTER 10
SAFETY ELEMENT

10.0

SAFETY ELEMENT

10.1 *Emergency Planning*

Objectives

- A. Reduce the potential for loss of life and property resulting from natural and manmade hazards to a minimum.
- B. Coordinate responses in the event of a local or regional natural or manmade disaster.

Policies, Standards

1. The City will maintain its emergency preparedness, including evacuation procedures, to address potential natural and manmade hazards. These procedures shall be developed in coordination with Merced County's emergency operations plans.
2. The City hereby adopts by reference those portions of the *Merced County Seismic Safety Element* that pertain to the Livingston Planning Area in satisfaction of the state requirement for the Safety Element.
3. All new buildings shall conform to state standards set forth in the Dangerous Building Code contained in the most current edition of the Uniform Building Code.
4. The City of Livingston shall conduct joint training exercises between local fire and law enforcement personnel to develop coordinated action in fire suppression, traffic and crowd control.
5. The City shall coordinate fire protection services with Merced County and neighboring communities, including consideration of mutual aid and instant aid agreements.
6. During major disasters, the primary coordinating official on behalf of the City shall be the City Manager.
7. Site plans and tentative maps for properties located in Section 23, Township 6 South, Range 11 East, MD B&M, otherwise located in the vicinity of Olive Avenue alignment and the UPRR, will be routed to the California Department of Conservation's Division of

Oil, Gas and Geothermal Resources Coalinga offices during initial environmental review for comment and appropriate conditions of approval.

10.2 Fire Protection

Objective

- A. An effective and well-trained Fire Department that will protect the community from fire dangers.

Policies, Standards

1. The City shall maintain fire department volunteer staffing of one volunteer per 500 residents.
2. The standard of one fire company for every 10,000 residents shall be used to evaluate fire protection services.
3. The City's fire service response goal shall be six minutes from "tone-out" to arrival on scene.
4. The City shall maintain a reliable water supply system that meets the fire protection needs of the community.
5. The City shall enforce the municipal code as it pertains to the abatement of fire hazards related to existing buildings, structures, and weed control.
6. The City shall support local, state and federal programs designed to inform and educate the public concerning fire prevention and suppression.
7. The City will coordinate with Merced County in the provision of fire protection services to ensure the maximum level of protection for all residences, commercial establishments and industries within the planning area.
8. The City will encourage the installation of private fire alarms and fire suppression systems.
9. The City will encourage local and regional educational institutions to develop fire prevention and suppression.
10. The City will encourage the community to become involved in promoting state and federal fire protection programs in school and civic functions.

10.3 Law Enforcement

Objective

- A. An effective and well-trained Police Department to protect the lives and property of the community.

Policies, Standards

1. Maintain a police staffing ratio of one sworn officer equivalent for every 1,000 residents.
2. Promote interagency training and cooperation to enhance the Livingston Police Department's effectiveness and readiness.

10.4 Flooding

Objective

- A. Protect the lives and property of residents from the hazards of flooding.

Policies, Standards

1. Consistent with Federal standards, the City shall plan for storm drainage facilities sufficient to address a 100-year flood event and require adequate storm drainage facilities to prevent flooding within the community.
2. The City will maintain the storm drain master plan for the City, including planned growth areas and require that development conform to it.
3. Development proposals shall be analyzed according to the *Storm Drain Collection System Study and Master Plan*. Development not within an existing *Master Plan* watershed area may be included in the boundaries of an adjacent area and subject to a revision of facilities and cost allocation thereof.

CHAPTER 11
HOUSING ELEMENT

11.0

HOUSING ELEMENT

11.1 Introduction

According to Section 65302(c) of the Government Code, a General Plan Housing Element is required of all local governments. This element must follow the prescribed guidelines prepared by the California Department of Housing and Community Development, and should:

1. Inventory the housing needs of the community for all socio-economic groups;
2. Analyze the availability of adequate sites for housing, considering the accessibility to services and the feasibility of providing public facilities;
3. Analyze and evaluate the obstacles and constraints in developing housing for all socio-economic groups, including market, governmental and physical constraints;
4. Formulate goals, policies and objectives which will serve as the desires of the community and the region in fulfilling the needs for housing;
5. Contain an implementation section which will act as the course of action and the timeframe for solving the problems and fulfilling housing and related needs; and
6. Include an Environmental Review.

The Housing Element was prepared through joint cooperation among the Livingston City Council, Citizens of Livingston and the Livingston Planning Commission.

The Housing Element is intended to serve both as a clear expression of the City's determination to address housing needs and problems and to provide comprehensive guidance based on quantified methodology to the City regarding housing needs. The Housing Element is also intended to promote coordination of City, State and Federal housing policy and programs in the attainment of decent housing for all.

The Housing Element is composed of ten major sections. The complete Housing Element will be revised once the updated *Housing Needs Assessment* has been prepared by the Merced County Association of Governments. This is expected by 2000. The Housing Element Goals and Objectives have been included in this General Plan update in order that they may be considered in context with

the other General Plan elements. The complete Housing Element remains in effect under separate cover.

1. Population Characteristics and Needs Assessment;
2. Household Characteristics and Needs Assessment;
3. Housing market Characteristics;
4. Non-Governmental Constraints;
5. Governmental Constraints;
6. Future Housing Needs;
7. Relationship of Zoning and Public Facilities to Residential Development;
8. Housing Goals;
9. Housing objectives; and
10. Housing Implementation programs.

11.2 Housing Goals (Section H in Complete Housing Element)

The principal goals concerning housing for the City of Livingston are as follows:

1. To provide decent housing in a satisfying environment for all person regardless of age, race, sex, marital status, ethnic background, sources of income or other arbitrary factors.
2. To provide housing selection by location, type, price, and tenure.
3. To provide for the development of a balanced residential environment with access to employment opportunities, community facilities and adequate services.
4. To encourage planned growth in the City by designating suitable sites for residential development.
5. To improve and conserve existing residential areas and housing stock.
6. To reduce residential energy uses within the City and to help decrease housing costs and conserve the resource.
7. To ensure citizen participation and timely plan update.

11.3 HOUSING OBJECTIVES (Section I in Complete Housing Element)

1. Promote and Ensure the Provision of Housing To All Income Groups

a) Analysis of Objective

- i. High increases in housing costs and slower increases in family income have caused a burden on income to afford housing.**
- ii. New housing starts in recent years have been slow and predominantly directed to above median income families causing less housing for lower income groups.**

b) Policies Related to Objective

- i. Encourage programs that provide housing for all income groups.**
- ii. Seek Federal and State grants for use in providing and maintaining low-moderate income housing.**
- iii. Encourage innovations in housing type and site design including mobile and modular housing.**
- iv. Seek housing assistance and encourage programs for the elderly.**
- v. Use zoning and land use controls flexibility to accommodate low income housing.**
- vi. Discourage excessive concentration of lower income groups which contribute to income segregation.**

2. Conserve and maintain the Housing Stock

a) Analysis of Objective

- i. Because of the increase in costs and low availability of housing, housing units are vital to meeting housing needs in the community.**
- ii. Older units can be rehabilitated for use by lower income groups.**
- iii. Low-income residents are least able and require assistance to maintain a home.**

b) Policies Relating to Objectives

- i. All appropriate building related codes and standards should be enforced throughout the life of the housing unit before cumulative maintenance and neglect place the cost of rehabilitation above affordability.
 - ii. Federal and State grants should be used for rehabilitation when available.
 - iii. Education and technical assistance should be provided for maintenance, landscaping and repairs to all households.
 - iv. Tools and equipment could be made available
- 3. Stability, Desirability and the Appearance of Neighborhoods should be preserved
 - a) Analysis of Objective
 - i. Neighborhood appearance is essential to neighborhood price and vice-versa.
 - ii. Neighborhood appearance can affect financing and the location of new homes.
 - iii. Negative appearance can lead to over concentration of lower income groups, blighted and slum conditions.
 - iv. Allowing rezoning to commercial and industrial uses within residential areas can lead to undesirable neighborhoods.
 - b) Policies Related to Objective
 - i. Follow conservation policies of Objective "2".
 - ii. Encourage preservation of important neighborhood features and characteristics.
 - iii. Use effective weed abatement.
 - iv. Remove dilapidated units beyond the possibility of repair.
 - v. Carry on a positive public works and parks program to improve appearance and quality of neighborhoods.
 - vi. Discourage non-compatible zoning and land use which may affect neighborhood vitality.

4. Use Innovative and Effective Land Use to Facilitate Efficient Community Design and Functions
 - a) Analysis of Objective
 - i. Improve centralization, attraction and vitality of the downtown.
 - ii. Continue rejuvenation of older areas to improve and stabilize appearance and desirability.
 - iii. When vacant lands are available they should be in-filled to promote efficient use of public services and maximize the investment in existing public facilities.
 - iv. Innovative design can mix types of housing and provide a more effective use of open space.
 - b) Policies Related to Objective
 - i. Encourage use of the “planned unit development” concept, including mobile home parks.
 - ii. Consider innovative design to lower development costs and provide more affordable housing units.
 - iii. Use flexible zoning regulations to enable transfer of over-zoned or non-compatible land uses to residential or effective land uses.
 - iv. Discourage “leap frog” development which limits accessibility to public services for contiguous undeveloped land and increases energy consumption.
 - v. Discourage developments in the fringe area of the City without proper infrastructure when vacant land is available within the City limits.
5. Use Effective Public Infrastructure to Accommodate Housing to the Most Effective and Efficient Means to Provide Housing for all Income Groups
 - a) Analysis of Objective
 - i. The domestic wastewater treatment plant will be expanded and the major service collector line will be replaced and enlarged, but the location of housing will affect these lines.

- ii. Problems of storm drainage, water and accessibility will affect the location and availability of housing.
 - iii. Public improvements should be based on the comprehensive needs of the community, including housing, commercial and industrial uses.
- b) Policies Related to Objective
- i. More residential land is needed to be zoned near the downtown.
 - ii. Suitable land for subdivisions should be encouraged in areas where there are the least constraints and public facilities are accessible and have capacity to accept growth.
 - iii. New developments should be encouraged where services are easily obtained.
6. Energy Conservation should be a Major Concern in the Provisions of Housing
- a) Analysis of Objective
- i. Conservation programs help offset increasing costs and the depletion of reserves of non-renewable sources of energy.
 - ii. More efficient and renewable energy resources, such as solar and wind power, should be encouraged where feasible.
 - iii. Low-density residential and leap-frog developments have contributed to excessive automobile dependence.
- b) Policies Related to Objective
- i. More efficient use of land and higher density development should be encouraged.
 - ii. Local government should support incentives to develop the use of solar heating.
 - iii. Filling of vacant lands within the City should be encouraged to make more effective use of transportation.
 - iv. The possibility and feasibility of public transportation should be the constant concern of the City.

7. To Evaluate Effectiveness of Housing Policies and Monitor Achievement of Program Implementation

a) Analysis of Objective

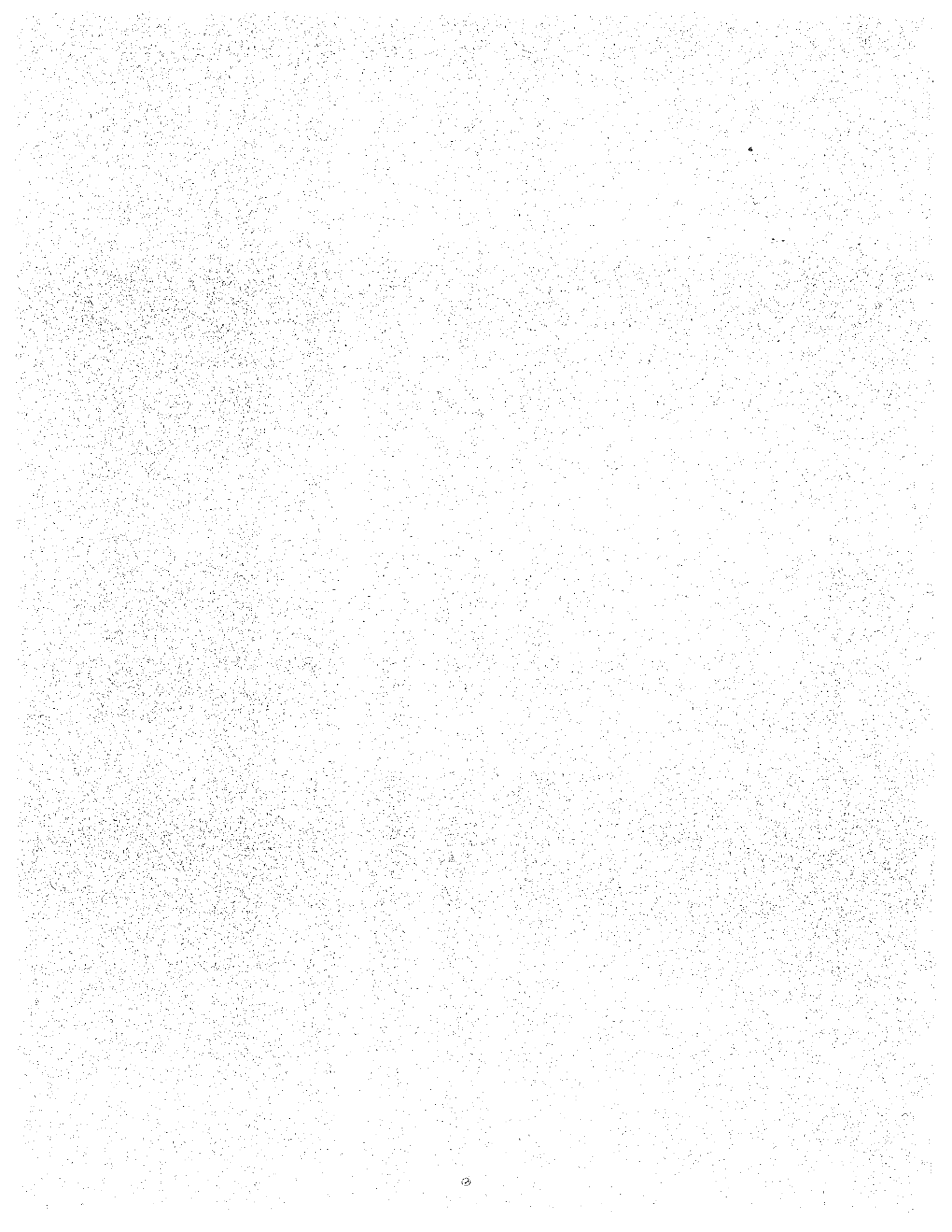
- i. The Housing Element, as part of the general plan, should be reviewed to determine future housing activity.
- ii. Too many decisions are based on shallow and limited concerning broad effects.

b) Policies Related to Objective

- i. Establish clear and specific procedures to enable citizens to participate in determining housing policies and programs.
- ii. Work toward meeting goals of the Housing Assistance Plan.
- iii. Provide for an annual housing progress report to summarize changes in the City's housing balance and report progress in goal achievement.
- iv. Incorporate policies and programs adopted herein.

APPENDICES

HIGHWAY TRAFFIC NOISE PREDICTION MODEL



Appendix A-1
 FHWA-RD-77-108 Highway Traffic Noise Prediction Model
 Data Input Sheet
 Brown-Buntin Associates, Inc. (BBA)

Project #: 98-008
 Description: Existing Conditions -- Livingston Noise Element
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Heavy Trucks	Speed	Distance	Offset
1	Highway 99	Dwight-Robin	36500	77		23	5	19.6	65	150	-4
2	Campbell Road	Winton-Cressey	16000	90		10	5	5	45	75	
3	Walnut Avenue	Cressey-Hammatt	6850	90		10	5	5	35	75	
4	Main Street	F-Hwy. 99	8500	90		10	5	5	35	75	
5	Hammatt Avenue	F-Walnut	6300	90		10	5	5	40	75	

Appendix A-2
 FHWA-RD-77-108
 Brown-Buntin Associates, Inc. (BBA)
 Predicted Levels

Project #: 98-008
 Description: Existing Conditions -- Livingston Noise Element
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

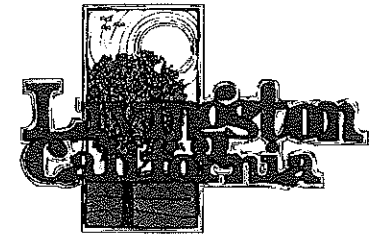
Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Highway 99	Dwight-Robin	65.1	59.5	68.9	70.8
2	Campbell Road	Winton-Cressey	64.1	59.8	64.3	68.0
3	Walnut Avenue	Cressey-Hammatt	57.3	54.5	59.7	62.4
4	Main Street	F-Hwy. 99	58.3	55.4	60.6	63.3
5	Hammatt Avenue	F-Walnut	58.6	55.0	59.8	63.0

Appendix A-3
 FHWA-RD-77-108
 Brown-Buntin Associates, Inc. (BBA)
 Noise Contour Output

Project #: 98-008
 Description: Existing Conditions -- Livingston Noise Element
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	-- Distances to Traffic Noise Contours --				
			75	70	65	60	55
1	Highway 99	Dwight-Robin	78	168	363	782	1684
2	Campbell Road	Winton-Cressey	26	55	118	255	550
3	Walnut Avenue	Cressey-Hammatt	11	23	50	109	234
4	Main Street	F-Hwy. 99	13	27	58	125	270
5	Hammatt Avenue	F-Walnut	12	26	55	119	257

GENERAL PLAN MAP



General Plan

LEGEND

Circulation System

- Southern Pacific Railroad
- Highway 99
- Arterial Streets
- Collector Streets
- Minor Collector Streets
(Final location to be determined)

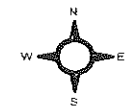
Land Uses

- Public Facility
- General Industrial
- Limited Industrial
- Park / Open Space
- Low Density / Estate Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Community Commercial
- Downtown Commercial
- Service Commercial
- Highway Commercial

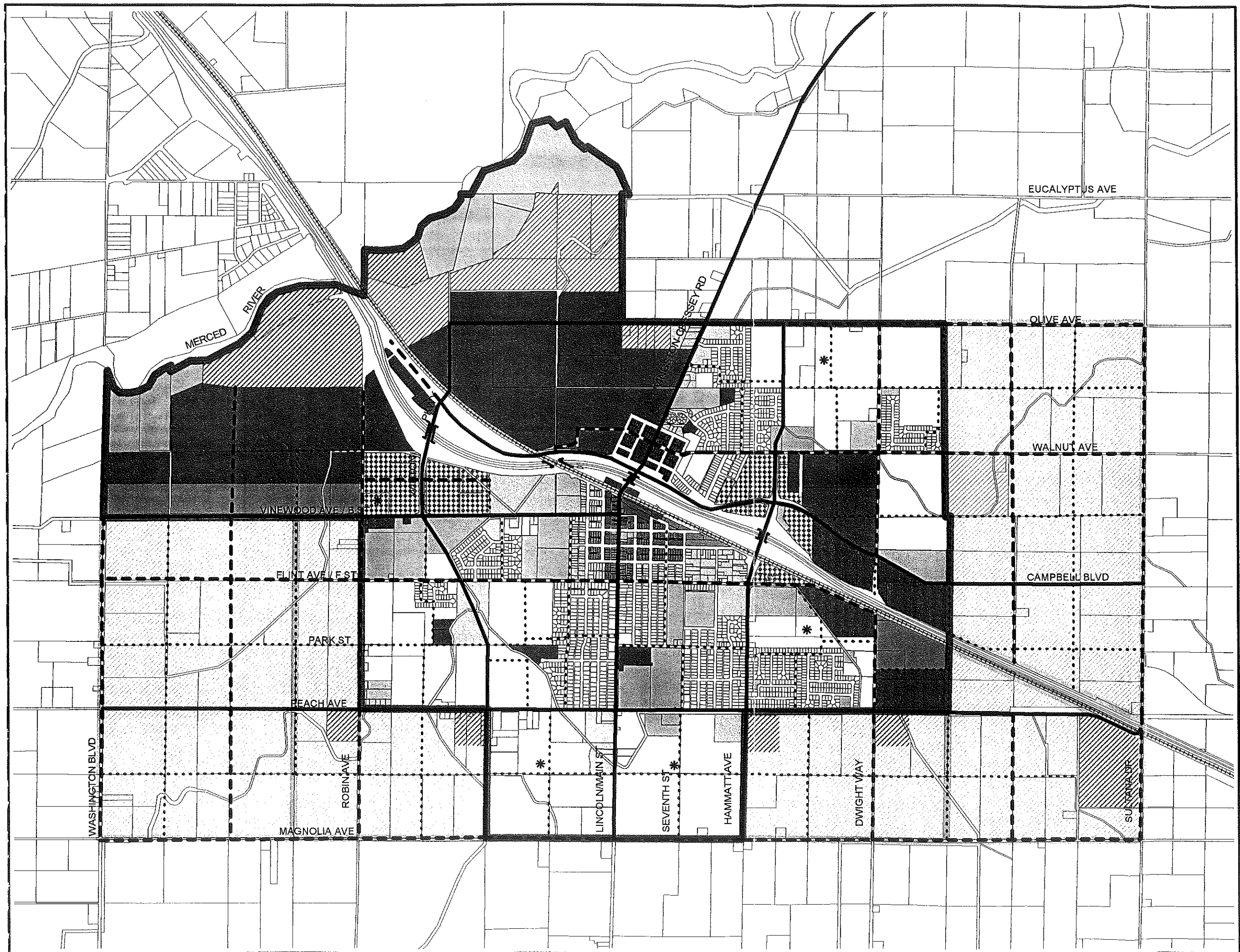
Reserve

- Refer to Land Use Element Policy 3.1.A.7
(Final location to be determined)
- Industrial Reserve
 - Public Facility Reserve
 - Commercial Reserve
 - Park Reserve
 - Urban Reserve

- 2020 Phased Growth Boundary
- 2030 Phased Growth Boundary
- 2040 Phased Growth Boundary
- Sphere of Influence



Quad Knopf



Engineering

Architecture

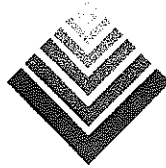
Planning

Land Surveying

GIS/GPS

Biology

-
- Visalia (559) 733-0440
 - Bakersfield (661) 835-8300
 - Fresno (559) 436-6626
 - Sacramento (916) 784-7823
 - Reno (775) 324-1212



Quad Knopf

FINAL

ENVIRONMENTAL IMPACT REPORT LIVINGSTON GENERAL PLAN UPDATE



SCH NO. 99042020



Quad Knopf

Submitted by:
Quad Knopf
5110 West Cypress Avenue
Visalia, California 93278
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November 1999

Submitted to:
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FINAL

**ENVIRONMENTAL IMPACT REPORT
FOR THE
LIVINGSTON GENERAL PLAN
UPDATE**

SCH NO. 99042020

Submitted to the
City of Livingston

By



Quad Knopf

Visalia, California

November, 1999

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- Appendix B Draft General Plan Update (under separate cover)
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- Appendix D Merced County Association of Governments Traffic Model Information
- Appendix E Discussion Paper: Growth Permitted Under the Proposed General Plan
- Appendix F Future Noise Analysis Background Information
- Appendix G Direct Travel Impact Model (DTIM2) Information
- Appendix H Excerpts From the San Joaquin Valley Unified Air Pollution Control District's Guide for Assessing and Mitigating Air Quality Impacts

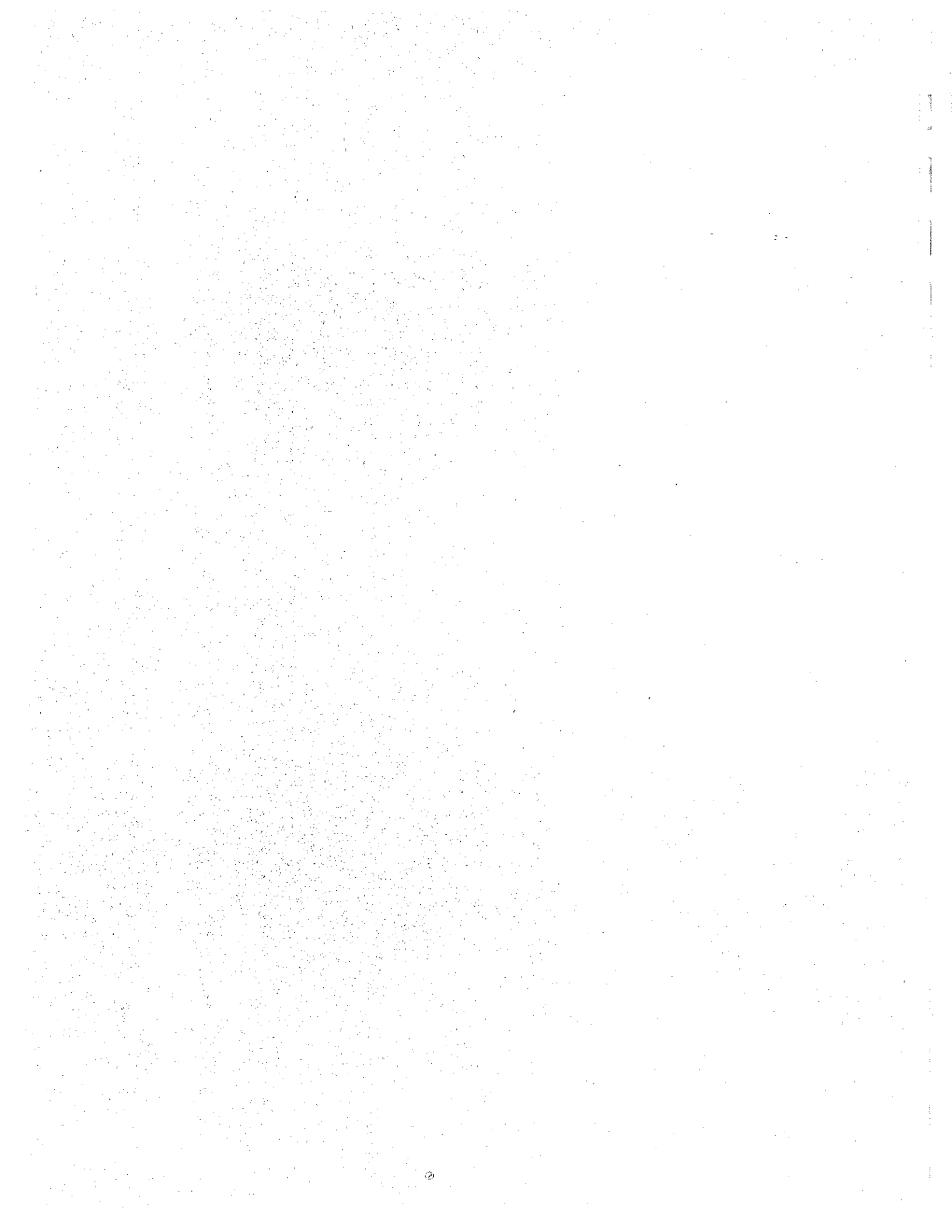
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PREFACE





PREFACE

This final environmental impact report (Final EIR) has been prepared under the auspices of the City of Livingston to analyze the potential effects of adopting and implementing the Livingston General Plan update, referred to throughout this report as the "Project." The Final EIR conforms to the requirements of the California Environmental Quality Act of 1972 (CEQA), as amended, the State CEQA Guidelines, and the administrative procedures established by the City of Livingston for the preparation and processing of EIRs. In accordance with Sections 15050 and 15367 of the State CEQA Guidelines, the City of Livingston is designated as the Lead Agency for this project.

A Final EIR is an informational document to provide the general public and governmental agency decision-makers with a full understanding of the potential environmental effects of a proposed project. The EIR process is intended to enable public agencies to evaluate a project for determination of the significance of its effect(s) on the environment, to examine and institute methods of reducing and/or eliminating the severity of adverse impacts, and to consider alternatives to the project as proposed. CEQA requires that major consideration be given to preventing environmental damage. At the same time, it is recognized that public agencies have obligations to balance other public objectives, including economic and social factors, in determining whether and how a project should be approved.

The Draft EIR is incorporated by reference herein as if set forth fully. This document is available for inspection at the offices of the Livingston City Hall, 1416 C Street, Livingston.

Quad Knopf, Inc., a professional planning and engineering firm with offices in Sacramento, Visalia, Bakersfield and Fresno, California, and Reno, Nevada, prepared this EIR.

**RESPONSES TO COMMENTS
ON THE DRAFT EIR**



RESPONSES TO COMMENTS ON THE DRAFT EIR

R.1 Introduction

The Draft Environmental Impact Report for the Livingston General Plan update (“Project”) dated September, 1999 (hereafter called the Draft EIR), was prepared to disclose, analyze, and provide mitigation measures for all potentially significant environmental impacts associated with the Project. This document was prepared in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines. These Guidelines identify the four basic purposes of CEQA:

- Inform public agency decision-makers and members of the public about the potential significant environmental impacts of proposed activities.
- Identify ways to avoid or significantly reduce these significant environmental impacts.
- Prevent significant, avoidable damage to the environment by requiring project changes, alternatives, or mitigation measures which are technically, legally, economically, socially and environmentally feasible.
- Disclose to the public the reasons why a public agency decides to approve a project if the project will cause significant environmental impacts.

CEQA Guidelines require public disclosure in an EIR of all project-related environmental effects and encourages public participation throughout the EIR process. As stated in Section 15200 of the Guidelines, the purposes of public review of environmental documents are:

- Sharing expertise
- Disclosing Agency analysis
- Checking for accuracy
- Detecting omissions
- Discovering public concerns
- Soliciting counter proposals

The Draft EIR was circulated for review and comment by state and federal agencies, responsible agencies as defined by CEQA, and by members of the public. The CEQA Guidelines require that a final environmental impact report (Final EIR) also be prepared, considered, and certified by public decision-makers prior to taking action on the Project. The Final EIR provides the City of Livingston

as Lead Agency an opportunity to respond to comments received on the Draft EIR necessary to clarify or supplement information contained in the initial draft report.

R.2 Overview of the Purpose of Comments

A public review period of no less than 30 days nor longer than 90 days is required for a Draft EIR under Section 15087(c) of the CEQA Guidelines. In this case, the State Clearinghouse established a 45-day review period extending from September 2, 1999 through October 16, 1999.

Section 15204(a) of the CEQA Guidelines establishes the focus of the EIR review:

In reviewing draft EIRs, people should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alterations or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects.

Section 15204(c) et seq. of the Guidelines advises that "reviewers should explain the basis for their comments, and whenever possible should submit data or references in support of the comments." Reviewing agencies or organizations should include with their comments the name of a contact person who would be available for later consultation if necessary. This section shall not be used to restrict the ability of reviewers to comment on broader issues and on the general adequacy of a document or to reject comments not focused as recommended by this section.

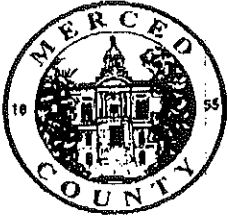
R.3 Comments on the Draft EIR

Written and verbal comments on the Draft EIR have been received during the comment period. A noticed public hearing was held before the City of Livingston Planning Commission on October 12, 1999, for the purpose of receiving public testimony. The Planning Commission received verbal comments at its October 12, 1999 hearing from Mr. Dave Wager.

The City of Livingston received written comments from the following parties:

Mr. Michael Tanner, Agricultural Commissioner, Merced County Department of Agriculture
Mr. Carlos Yamzon, Chief, Office of Travel Forecasting and Metropolitan Planning, Caltrans
Mr. Jason Marshall, Assistant Director, Department of Conservation
Mr. Steve Lyon, Engineering Associate III, Merced County Department of Public Works
State Clearinghouse
Dennis M. Shuler, REHS, Environmental Affairs Manager, Gilton Solid Waste Mgmt., Inc.

The following pages are copies of the letters received on the Draft EIR.



DEPARTMENT OF AGRICULTURE

Agricultural Commissioner • Weights and Measures • Animal Control

2139 WARDROBE AVENUE
MERCED, CALIFORNIA 95340-6495
TELEPHONE (209) 385-7431

MICHAEL J. TANNER
*Agricultural Commissioner
Director of Weights and Measures
Director of Animal Control*

GARY CASERI
Assistant Agricultural Commissioner

October 1, 1999

David Hanham, Associate Planner
Planning Department
1416 C Street
Livingston, California 95334

Subject: City of Livingston Draft Environmental Report/General Plan Update

Dear Mr. Hanham:

We are concerned about the conversion of productive agricultural land to urban use. As stated in Chapter 1.3, Issues of Importance - Agricultural Preservation, "Agriculture and related industries were determined to be crucial to the character of the City of Livingston" However, this issue of importance seems to conflict with statements in Chapter 5.1 A, Open Space, Conservation and Recreation Element - Agriculture, "Preserve prime farmland, farmland of statewide importance, and . . . until logical and orderly urban growth is appropriate" and C, . . . to ensure that agricultural operations are not eliminated prematurely." Is agriculture only crucial to the city of Livingston on an interim basis?

1

We request this issue be more fully addressed because agriculture is vital, not only to the City of Livingston, but to the economy as a whole and needs to be protected on a long-term basis. Urban growth should be directed away from productive agricultural lands with the realization that in some geographical areas this growth may not be possible without irreversible negative impacts to agriculture. Encroachment upon or conversion of agricultural land will impact adjacent agricultural operations, especially when new urban dwellers are unaccustomed or intolerant of the existing agricultural operations.

2

Very truly yours,

Michael J. Tanner
Agricultural Commissioner

DISTRICT OFFICE: 342 "D" Street, Los Banos, CA 93635 (209) 827-2030
ANIMAL CONTROL: 2080 Grogan Avenue, Merced, CA 95340 (209) 725-3647

AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER

DEPARTMENT OF TRANSPORTATION

P.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201
TDD (209) 948-7981
FAX (209) 948-7164
(209) 948-3929



October 12, 1999

10-Mer-99-Various
Livingston General Plan Update
Draft Environmental Impact Report
SCH 99042020

Ms. Mosie Boyd
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

Dear Ms. Boyd:

Thank you for the opportunity to review the above referenced document. Transportation Planning has circulated this document through our normal interdepartmental review process. Our Traffic Branch offers the following comments:

- The environmental document should include a Traffic and Circulation Element that addresses the traffic impacts in terms of:

Trip generation, distribution and assignment. Documentation should include source and methodology of the data that is presented.

ADT, AM and PM peak hour volumes on all significantly affected streets and highways, including freeway ramps and crossroads, and controlling intersections. Traffic volumes should be presented for existing and future conditions, the latter for a cumulative build and a no-build scenario that includes all approved developments in the area. The coverage should include all traffic that would affect the facilities evaluated and should not be limited to projects under the jurisdiction of the lead agency.

Traffic impacts should be evaluated in terms of a Level of Service (LOS) analysis that is consistent with the most recent version of the Highway Capacity Manual (HCM), or by a uniform methodology which is consistent with the HCM.

Proposed mitigation should include highway improvements and modal alternates and any proposed funding mechanisms.

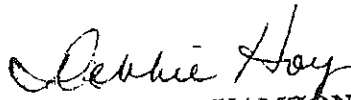
- Table 3-4, Page 3-50, does not disclose impacts on the Winton and Hammat interchanges.

Ms. Mosie Boyd
October 12, 1999
Page 2

- Paragraph 3.11.1, Page 3-51, is vague. A corridor study in itself cannot be used as a mitigation measure. Each development will require review and appropriate mitigation evaluated as they occur. 5
- We would like to request a meeting with the City of Livingston to discuss the manner they propose to mitigate the impacts of development to the State Highway System. It is imperative that the timing, funding and improvements required to mitigate these significant impacts is undertaken early on to efficiently address these issues. We look forward to working with the City on this project. 6
- All Final Conditions of Approval should be forwarded to Caltrans District Planning in order to monitor approved local development and implementation of agreed upon mitigation measures. 7

If you have questions please contact Debbie Hoy of my staff at (209) 948-3929 or myself at (209) 948-3975, or e-mail dhoy@dot.ca.gov or cyamzon@dot.ca.gov.

Sincerely,

for


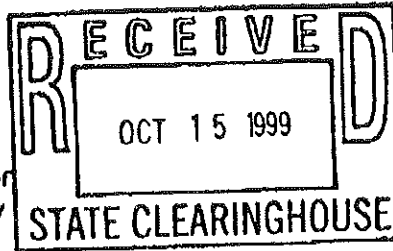
CARLOS P. YAMZON, Chief
Office of Travel Forecasting and
Metropolitan Planning

cc: David Hanham/City of Livingston/1416 C St/Livingston 95334

State of California

The Resources Agency

MEMORANDUM



To: Project Coordinator
Resources Agency

Date: October 15, 1999

Mr. David Hanham, Associate Planner
Livingston Planning Department
1416 C Street
Livingston, CA 95334

*Clear
10/15/99
e*

From: Department of Conservation
Office of Governmental and Environmental Relations

Subject: Draft Environmental Impact Report (DEIR) for the City of Livingston General Plan (GP) Update - SCH# 99042020

The Department of Conservation's Division of Land Resource Protection monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other land conservation programs. The Division has reviewed the DEIR, as well as the GP document itself, and offers the following comments.

The GP notes that one of the issues of importance to the community's land use planning is the protection of agricultural lands for their beneficial contributions to the character and economic vitality of the City. In contrast, the DEIR notes that development under the GP has the potential to urbanize approximately 500 acres of prime farmland and 2,570 acres of farmland of statewide importance, disrupt agricultural production, and/or permanently commit non-renewable agricultural lands and soils to other uses. Additionally, the DEIR proposes no mitigation measures, noting that these impacts are significant, irreversible and unavoidable.

8

In light of the strong GP policy statements in support of agricultural land conservation, we would expect to see a greater attempt in the DEIR to at least lessen the impacts of the GP's implementation on agricultural land. The Division recommends that, for starters, the DEIR make reference to the GP's Land Use and Open Space Elements' policies that could lessen the overall impact of projected growth on agricultural land. Also, if the GP's Housing Element (not part of this update) includes policies that reduce the impact of residential development on agricultural lands, they should likewise be acknowledged in the FEIR.

9

Further, we recommend that other feasible mitigation measures and alternatives to lessen farmland conversion impacts be considered in the Final EIR. The Division has compiled an annotated listing of approximately 30 "conservation tools" that have been used to conserve or mitigate impacts on agricultural land. The unpublished report

10

Mr. David Hanham
October 15, 1999
Page 2

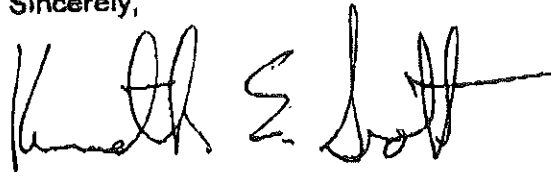
may be requested from the Division at the below listed contact. Examples of the kinds of tools listed in the report that might have applicability to Livingston follow.

- Using the Department's Important Farmland Series Maps, or the county soil survey (by USDA-Natural Resources Conservation Service), to direct urban growth to lower quality soils in order to avoid valuable agricultural lands.
- Increase home density or cluster residential units to allow a greater portion of the development area to remain in agricultural production.
- Protect other farmland through the use of long-term restrictions on use such as perpetual agricultural land conservation easements (e.g., Department of Conservation's Agricultural Land Stewardship Program (Public Resources Code Section 10200-10277)); 20-year Farmland Security Zone contracts (Government Code Section 51296); or, 10-year Williamson Act contracts (Government Code Section 51200 et seq.).
- Establish buffers such as setbacks, berms, greenbelts, and open space areas to separate continuing farmland uses from urban uses.
- Implement a right-to-farm ordinance.
- Implement transfer of development credits/rights or mitigation banking programs to link the development of farmland with the subsequent preservation of farmland as a form of strategic CEQA mitigation, and to encourage more compact and efficient development patterns.
- Provide economic incentives for continuing agricultural uses, such as direct marketing opportunities, farm trails programs, more secure water, encouraging the location of agricultural support industries in the community, etc.
- Encourage the County to retain agricultural uses on lands surrounding the planning area, as well as on urban reserve lands within the planning area, by mutual agreements with the County (e.g., revenue sharing in exchange for the County's direction of urban development to within city limits).
- The use of California's Land Evaluation and Site Assessment system (LESA) to evaluate future annexations, sphere of influence expansions, and project impacts on agricultural land under CEQA. A manual on the relatively new LESA system is available from the Division.

Mr. David Hanham
October 15, 1999
Page 3

The Department thanks you for the opportunity to comment on the DEIR. If you need further information on the Division's land resource protection programs or publications, or have questions regarding our comments, please contact the Division at 801 K Street, MS 13-71, Sacramento, CA 95814; phone (916) 324-0850. You may also call me at (916) 445-8733.

Sincerely,



Jason Marshall
Assistant Director

cc: Luree Stetson, Assistant Director
Division of Land Resource Protection
East Merced Resource Conservation District



DEPARTMENT OF PUBLIC WORKS

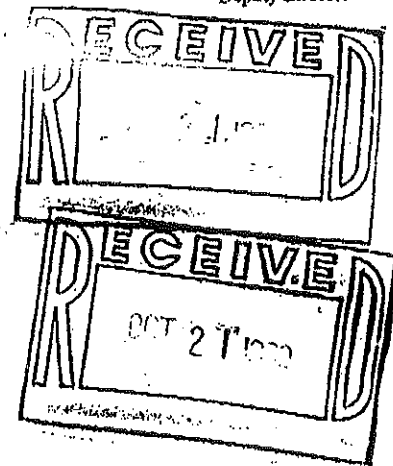
ROAD DIVISION
715 MARTIN LUTHER KING JR. WAY
MERCED, CALIFORNIA 95340
TELEPHONE (209) 385-7601
FAX NO. (209) 722-7690

PAUL A. FILLEBROWN
Director
LINCOLN CLENDENIN
Assistant Director
STEPHEN J. HAMILTON
Deputy Director

October 12, 1999

David Hanham, Assoc. Planner
Planning Dept.
1416 C Street
Livingston, CA 95334

SUBJECT: CITY OF LIVINGSTON GENERAL PLAN UPDATE



Dear Mr. Hanham:

Thank you for the opportunity to review and comment on the City's Draft EIR and proposed General Plan update. The Merced County Department of Public Works initially reviewed the proposed Plan last Spring and sent comments to the consultant, Quad Knopf, Inc. Although our concerns for items proposed in the General Plan update appear to remain unchanged, our letter discussing those concerns have been incorporated into the DEIR (Appendix A), and were responded to in the document (Pages 3-26 and 27).

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To briefly reiterate our concerns, the Plan proposes to significantly expand the existing boundary of the City's Sphere of Influence, encompassing several segments of existing County roadways. The proposed reclassification types, lane designs and right-of-way widths for these road segments differ significantly from that currently existing by the County's General Plan. Section 4.2.A.11, of the proposed Livingston General Plan update, stipulates, in part, that the City's policy shall be to require that right-of-way be "dedicated and/or developed" whenever a "zone change to a greater density, division of property or development occurs" (within the City), and that, "The City shall have Merced County apply the same requirements within the Livingston Sphere of Influence". However, most all of the County property within the proposed Sphere of Influence is currently zoned A-1 or A-2, which the County General Plan (Chapter 2.C.1.B) exempts from any right-of-way dedications or improvements for Minor Subdivisions, and generally excludes for Building Permits and Zone Changes.

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The County General Plan does provide for protecting future right-of-ways from encroachment with any development project or discretionary permit. Furthermore, it also provides for coordinating road right-of-way and improvement goals with incorporated cities. These objectives are typically achieved by reserving future right-of-way areas from development, but not requiring their dedication, for exempted property or where cities designs exceed that of the County.

13

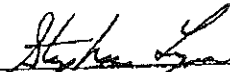
The Livingston General Plan update states that the County's policy, as noted, provides sufficient protection of future right-of-ways and reduces potential impacts to a less than significant level. Accordingly, we have no future objection.

14

If you have any questions regarding this matter, please do not hesitate to contact us.

Sincerely,

PAUL A. FILLEBROWN
DIRECTOR OF PUBLIC WORKS

By 
Stephen E. Lyon
Engineering Associate III

SEL:jag

cc: Bill Nicholson, Merced County Asst. Planning Director

RAWFLETTERS\MULTI\ETLIV-GEN.PLN



Gray Davis
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse

STREET ADDRESS: 1400 TENTH STREET ROOM 222 SACRAMENTO, CALIFORNIA 95814
MAILING ADDRESS: P.O. BOX 3044 SACRAMENTO, CA 95812-3044
916-445-0613 FAX 916-323-3018 www.opr.ca.gov/clearinghouse.html



Loretta Lynch
DIRECTOR

October 18, 1999

David Hanham
City of Livingston
1416 "C" Street
Livingston, CA 95334

Subject: City of Livingston General Plan Update
SCH#: 99042020

Dear David Hanham:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 15, 1999, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's eight-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

**Document Details Report
State Clearinghouse Data Base**

SCH# 99042020
Project Title City of Livingston General Plan Update
Lead Agency Livingston, City of

Type eir Draft EIR
Description The project consists of a comprehensive update of the Livingston General Plan, establishes 2020 urban growth boundaries and an urban reserve. Project area is approximately 4,900 acres and contains a mixture of residential, agricultural, commercial and industrial land uses.

Lead Agency Contact

Name David Hanham
Agency City of Livingston
Phone 209-394-8041 **Fax**
email
Address 1416 "C" Street
City Livingston **State** CA **Zip** 95334

Project Location

County Merced
City Livingston
Region
Cross Streets Hwy 99
Parcel No.
Township **Range** **Section** **Base** MDB&M

Proximity to:

Highways 99
Airports
Railways Union Pacific RR
Waterways Merced River
Schools Livingston School Districts
Land Use Various urban and rural land uses intensities and distribution.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 4; Office of Historic Preservation; Department of Parks and Recreation; Caltrans, District 10; Department of Housing and Community Development; Regional Water Quality Control Bd., Region 5 (Sacramento); Department of Corrections; Native American Heritage Commission; State Lands Commission

Date Received 09/02/1999 **Start of Review** 09/02/1999 **End of Review** 10/15/1999

Note: Blanks in data fields result from insufficient information provided by lead agency.

Gilton Solid Waste Management, Inc.

1722 Mono Drive
Modesto, CA 95354
(209) 527-3781
FAX (209) 527-0422

September 8, 1999

David Hanham
Associate Planner
1416 "C" Street
Livingston, CA 95334

Post-it® Fax Note	7671	Date	12/25/99	# of pages	2
To	DAVID FEY, Sr. Planner	From	David Hanham		
Co./Dept.	Quao Kwaik	Co.	City of Livingston		
Phone #	559-733-0440	Phone #	(209) 394-8041		
Fax #	559-733-7821	Fax #	(209) 394-4190		

RE: Comments - Draft Livingston General Plan

Dear Mr. Hanham:

I have reviewed the Draft Livingston General Plan in the areas that I believe to be germane to our company's responsibilities. Based on that review, I offer the following comments:

Section 2.5.10, Page 2-51

- The correct name of our company is "Gilton Solid Waste Management, Inc."
- Residential waste is collected once per week, but commercial and industrial waste is collected from one to five times a week depending on the customer's need
- Waste is not delivered to a transfer station off Bird Road
- Waste is delivered to State approved and permitted Solid Waste Facilities, which include, but are not limited to:


Gilton Resource Recovery / Transfer Facility, Inc., Modesto, CA
Turlock Transfer Station, Turlock, CA
Highway 59 Landfill, Merced, CA

- The title of this section includes the term "Hazardous Waste Collection, Disposal, and Management". It needs to be may clear that our company does not collect, dispose or manage hazardous waste in the city of Livingston.

16

Gilton Solid Waste Management, Inc.

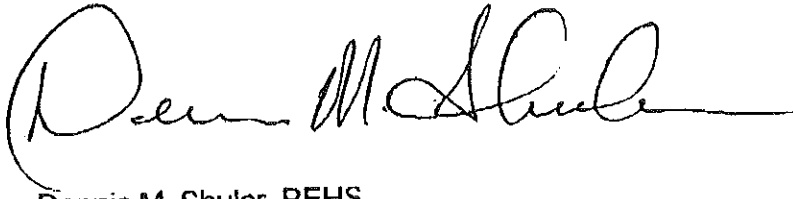
"Our Business is Just Picking Up"

Recycled Paper 

Thank you for the opportunity to comment. If you have any questions you may contact me at any one of the following:

Phone: (209) 527-3781, ext. 114
FAX: (209) 527-0422
E-Mail: denniss@gilton.com

Respectfully,



Dennis M. Shuler, REHS
Environmental Affairs Manager

cc: Richard Gilton, President / General Manager

R.4 Responses to Comments

This section responds to each of the verbal and written comments received on the Draft EIR during the public review period. Following each comment is a response intended to either supplement, clarify, or amend information provided in the Draft EIR, or refer the commentator to the appropriate place in the Final EIR where the requested information is found. Written comments are identified by a numeric designation that corresponds to the response.

R.4.1 Response to Verbal Comment Presented at the October 12, 1999 Livingston Planning Commission Meeting Comments

A hearing of the Livingston Planning Commission was held on October 12, 1999 to receive public comments on the Draft EIR. Mr. Dave Wager provided comments during this hearing. The following is a summary of his comments.

Summary of PC Comment: *Mr. Wager registered his opposition to classifications of east-west streets and the effect that the street standard would have on area lands and development.*

Response to PC Comment: The classification of east-west streets is necessary to secure the proper right-of-way for street development to ensure that future traffic volumes can be adequately served and that development's traffic impacts on the city's street system is mitigated. No specific impacts were raised and no further response is necessary.

R.4.2 Response to Written Comments

Mr. Michael Tanner, Agricultural Commissioner, Merced County Department of Agriculture

Comment 1. *We are concerned about the conversion of productive agricultural land to urban use. As stated in Chapter 1.3, Issues of Importance – Agricultural Preservation, "Agriculture and related industries were determined to be crucial to the character of the City of Livingston. . . ." However, this issue of importance seems to conflict with statements in Chapter 5.1 A, Open Space, Conservation and Recreation Element –Agriculture, "Preserve prime farmland, farmland of statewide importance, and . . . until logical and orderly urban growth is appropriate: and C, . . . to ensure that agricultural operations are not eliminated prematurely." Is agriculture only crucial to the City of Livingston on interim basis?*

Comment 2. *We request this issue be more fully addressed because agriculture is vital, not only to the City of Livingston, but to the economy as a whole and needs to be protected on a long-term basis. Urban growth should be directed away from productive agricultural lands with the realization that in some geographical areas this growth may not be possible without irreversible negative impacts to agriculture. Encroachment upon or conversion of agricultural land will impact adjacent agricultural operations, especially when new urban dwellers are unaccustomed or intolerant of the existing agricultural operations.*

Response to Comments 1 and 2. The City is also concerned about the viability of local agricultural operations and has structured the General Plan update to balance urban growth and minimize the impact on agricultural uses in the area. The quotations provide by Mr. Tanner reflect this attention to the local economy. These policies, however, should not be interpreted to prohibit the growth of the City. They are consistent with the State's General Plan Guidelines and planning and zoning law because they establish criteria to evaluate the logical and timely growth of the City. Urban sprawl is often the result of a plan that fails to establish growth boundaries or logical policies to evaluate development proposals. The City of Livingston's General Plan update contains these elements and additional policies that limit the impact on agriculture. The update,

- Establishes an urban reserve around the 2020 growth phase boundary. This reserve is supported by polices that define the reserve and when it is appropriate to be developed;
- Establishes a minimum 20 acre parcel size for reserve parcels to encourage viable agricultural operations;
- Contains density bonuses up to 30%;
- Makes an objective to preserve prime farm land until logical and orderly urban growth is appropriate;
- Creates logical planning boundaries;
- Provides urban boundary element criteria for urban growth past phased growth boundaries; and
- Contains policies that limit sprawl, such as policy 6.2.A.3 that precludes leap-frog development by requiring that residential development be at least 35% contiguous to existing development.

Livingston's population growth is projected to average 4-5% over the next twenty years. This growth can be accommodated in an area slightly larger (237 acres) than the current Sphere of Influence. In this context, the loss of agricultural lands is significantly reduced. The planning horizon for the General Plan update is the year 2020 but the update contains phased growth boundaries for 2030, 2040, and a Sphere of Influence which corresponds to the year 2050. Depicting the post-2020 long range planning boundaries is an important element of planning.

As illustrated by draft General Plan figure 2-7, all of the soils surrounding the current city limits are either prime soils or soils classified as farmlands of statewide importance. Consequently, there are no alternative land use patterns that will reduce the impact to farmland to a less than significant level. As noted, the City of Livingston has developed policy 6.2.A.3 which states that residential development may only occur on parcels that are "substantially contiguous" to existing development. This policy will result in greater infill development and is more effective in reducing sprawl than conservation easements or other tools.

Agriculture is an industry based on the efforts and contributions of individual farmers. The

decision of each farmer to farm or to sell to a developer is often influenced by the land's proximity to urban areas. As noted, the general plan reconciles much of the negative influence of urban growth on agricultural use but does not reduced it completely; loss of farmland is recognized in the EIR as significant and unavoidable.

Mr. Carlos Yamzon, Chief, Office of Travel Forecasting and Metropolitan Planning, Caltrans

Comment 3: *Thank you for the opportunity to review the above-referenced document. Transportation Planning has circulated this document through our normal inter-departmental review process. Our Traffic Branch offers the following comments:*

- *The environmental document should include a Traffic and Circulation Element that addresses the traffic impacts in terms of:*

Trip generation, distribution and assignment. Documentation should include source and methodology of the data that is presented.

ADT, AM and PM peak hour volumes on all significantly affected streets and highways, including freeway ramps and crossroads, and controlling intersections. Traffic volumes should be presented for existing and future conditions, the latter for a cumulative build and a no-build scenario that includes all approved developments in the area. The coverage should include all traffic that would affect the facilities evaluated and should not be limited to projects under the jurisdiction of the lead agency.

Traffic impacts should be evaluated in terms of a Level of Service (LOS) analysis that is consistent with the most recent version of the Highway Capacity Manual (HCM), or by a uniform methodology which is consistent with the HCM.

Proposed mitigation should include highway improvements and modal alternates and any proposed funding mechanisms.

Response to Comment 3: The commentator is referred to the discussion in Section 3.11 and Appendices D (MCAG Traffic Model Information) and G (Direct Travel Impact Model (DTIM2) Information) of the Draft EIR. The traffic analysis conforms to the methodology recommended by the commentator.

Comment 4: *Table 3-4, Page 3-50, does not disclose impacts on the Winton and Hammatt interchanges.*

Response to Comment 4: The modeling did not reveal potential significant impacts from unacceptable levels of service on the Winton and Hammatt overpasses. The MCAG model run resulted in an acceptable LOS for the subject segments under 2020 scenarios for both the

existing plan and the General Plan update. As illustrated on figure 3-3, the Hammatt and Winton ramps will operate at LOS C or better based on the MCAG traffic model.

Comment 5: *Paragraph 3.11.1, Page 3-51, is vague. A corridor study in itself cannot be used as a mitigation measure. Each development will require review and appropriate mitigation evaluated as they occur.*

Response to Comment 5: The analysis of Impact 3.11.2 concludes, “implementation of [listed] policies and standards will reduce the fiscal impacts of growth and development on transportation but coordination between levels of government agencies should be enhanced to address regional traffic issues in a more comprehensive manner.”

Mitigation measure 3.11.1 establishes two important elements. The first is Livingston’s willingness to cooperate with Caltrans and MCAG on a SH 99 Corridor Study. The second element establishes the standard that this activity must meet in order to mitigate impacts. The standard for this Study is set as “solutions to the segment problems will result in an operating LOS C. The standard of LOS is a quantitative, performance requirement established by the General Plan update. It is adopted for the purpose of environmental protection by the City of Livingston to limit the environmental effect of the General Plan update on the subject overpasses that may result from the update. This measure complies with the definition of “mitigation” under CEQA Guidelines section 15370. No further action is necessary.

While future “studies” alone may not be used as mitigation (based on *Sundstrom v. County of Mendocino* (1988) 202 Cal. App. 3d 296), such studies may provide mitigation where a specific performance standard is identified. CEQA recognizes that at the plan or program level, mitigation will typically consist of policy statements or standards, in contrast to analysis of specific projects where an initial study will be based on a detailed development application. The City has therefore identified level of service C for roadways. This policy implicitly recognizes that the City is not solely responsible for mitigating regional traffic impacts and states the City’s intention to cooperate with responsible agencies.

Comment 6: *We would like to request a meeting with the City of Livingston to discuss the manner they propose to mitigate the impacts of development to the State Highway System. It is imperative that the timing, funding and improvements required to mitigate these significant impacts is undertaken early on to efficiently address these issues. We look forward to working with the City on this project.*

Response to Comment 6: Comment noted. This request is consistent with the mitigation measure discussed previously.

Comment 7: *All Final Conditions of Approval should be forwarded to CalTrans District Planning in order to monitor approved local development and implementation of agreed upon mitigation measures.*

Response to Comment 7: The mitigation monitoring procedure provided in the Draft EIR is deemed adequate. As developments are proposed, they will be evaluated in light of the policies of the General Plan update. Caltrans will be contacted during environmental review of the project pursuant to CEQA Guidelines section 15060 et seq. Caltrans may respond with comments and measures to reduce impacts as conditions of project approval.

Mr. Jason Marshall, Department of Conservation

Comment 8: *The Department of Conservation's Division of Land Resource Protection monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other land conservation programs. The Division has reviewed the DEIR, as well as the GP document itself, and offers the following comments.*

The GP notes that one of the issues of importance to the community's land use planning is the protection of agricultural lands for their beneficial contributions to the character and economic vitality of the City. In contrast, the DEIR notes that development under the GP has the potential to urbanize approximately 500 acres of prime farmland and 2,570 acres of farmland of statewide importance, disrupt agricultural production, and/or permanently commit non-renewable agricultural lands and soils to other uses. Additionally, the DEIR proposes no mitigation measures, noting that these impacts are significant, irreversible and unavoidable.

Response to Comment 8: Comment noted. Please refer to response to comments 1 and 2.

Comment 9: *In light of the strong GP policy statements in support of agricultural land conservation, we would expect to see a greater attempt in the DEIR to at least lessen the impacts of the GP's implementation on agricultural land. The Division recommends that, for starters, the DEIR make reference to the GP's Land Use and Open Space Elements' policies that could lessen the overall impact of projected growth on agricultural land. Also, if the GP's Housing Element (not part of this update) includes policies that reduce the impact of residential development on agricultural lands, they should likewise be acknowledged in the FEIR.*

Response to Comment 9: Section 3.8.3 of the Draft EIR contains references to the policies that reduce, but not completely mitigate, the impacts. The Housing Element focusses on the provision of housing and is not as appropriate a vehicle for growth policies as the Land Use and Urban Boundary Elements.

Comment 10: *Further, we recommend that other feasible mitigation measures and alternatives to lessen farmland conversion impacts be considered in the Final EIR. The Division has compiled an annotated listing of approximately 30 "conservation tools" that have been used to conserve or mitigate impacts on agricultural land. The unpublished report may be requested from the Division at the below listed contact. Examples of the kinds*

of tools listed in the report that might have applicability to Livingston follow.

- *Using the Department's Important Farmland Series Maps, or the county soil survey (by USDA-Natural Resources Conservation Service), to direct urban growth to lower quality soils in order to avoid valuable agricultural lands.*
- *Increase home density or cluster residential units to allow a greater portion of the development area to remain in agricultural production.*
- *Protect other farmland through the use of long-term restrictions on use such as perpetual agricultural land conservation easements [e.g., Department of Conservation's Agricultural Land Stewardship Program (Public Resources Code Section 10200-10277)]; 20-year Farmland Security Zone contracts (Government Code Section 51296); or, 10-year Williamson Act contracts (Government Code Section 51200 et seq.).*
- *Establish buffers such as setbacks, berms, greenbelts, and open space areas to separate continuing farmland uses from urban uses.*
- *Implement a right-to-farm ordinance.*
- *Implement transfer of development credits/rights or mitigation banking programs to link the development of farmland with the subsequent preservation of farmland as a form of strategic CEQA mitigation, and to encourage more compact and efficient development patterns.*
- *Provide economic incentives for continuing agricultural uses, such as direct marketing opportunities, farm trails programs, more secure water, encouraging the location of agricultural support industries in the community, etc.*
- *Encourage the County to retain agricultural uses on lands surrounding the planning area, as well as on urban reserve lands within the planning area, by mutual agreements with the County (e.g., revenue sharing in exchange for the County's direction of urban development to within city limits).*
- *The use of California's Land Evaluation and Site Assessment system (LESA) to evaluate future annexations, sphere of influence expansions, and project impacts on agricultural land under CEQA. A manual on the relatively new LESA system is available from the Division.*

Response to Comment 10: The City has chosen to address urban growth by the policies presented in the draft General Plan. The General Plan reconciles the loss of agricultural lands by, among other things, establishing policies that allow the City to maintain a logical land use pattern until an orderly conversion of agricultural property to urban uses is appropriate. The tools introduced by the commentator are evaluated as follows.

“Using the Department's Important Farmland Series Maps, or the county soil survey (by USDA-Natural Resources Conservation Service), to direct urban growth to lower quality soils in order to avoid valuable agricultural lands.”

The USDA's *Soil Candidate Listing for Prime Farmland and Farmland of Statewide*

Importance, Merced County was used in the preparation of draft General Plan figure 2-7.

"Increase home density or cluster residential units to allow a greater portion of the development area to remain in agricultural production."

Policies of the General Plan update that prescribe density of or control urban land development include, but are not limited to, the following:

Policy 3.1.A.1 - Consistency requirement.

Policy 3.1.A.3.a - increases residential density with conditions.

Policy 3.1.A.11 - Reserve land use classifications.

Policy 3.2.A.3 - density bonus.

Policy 3.3.B.3 - retains downtown as the center of the city.

Objective 5.1.A - acknowledges importance of farmland preservation through orderly urban growth.

Objective 5.1.B - establishes boundaries between the city and nearby agriculture operations.

Objective 5.1.C, Policy 6.1.4 - establishes "hard" edges to the urban area.

Policy 5.1.1 - minimum 20-acre size for reserve lands.

Policy 5.1.2 - promotes increased residential densities through small-scale duplexes.

Policy 5.2.3 - restricts urban development to that served by city sewer system.

Policies 6.1.1, 6.2.1 - establishes elements of phased growth boundaries.

Policy 6.1.2 - promotes use of infill.

Policy 6.2.3 - substantially contiguous policy.

Policy 6.2.4 - urban services shall be used to manage growth.

Policy 6.3.A.1 - encourages Merced County to limit development in the Sphere of Influence.

"Protect other farmland through the use of long-term restrictions on use such as perpetual agricultural land conservation easements [e.g., Department of Conservation's Agricultural Land Stewardship Program (Public Resources Code Section 10200-10277)]; 20-year Farmland Security Zone contracts (Government Code Section 51296); or, 10-year Williamson Act contracts (Government Code Section 51200 et seq.)."

Use of long-term restrictions, such as agricultural conservation easements or Williamson Act contracts, are not acceptable mitigation in Livingston's situation. As the Department notes on its Division of Land Resource Protection website, "agricultural conservation easements are created specifically to support agriculture and prevent development on the subject parcels." To this end, conservation easements or other restrictions within the planned 2020 urban area would not contribute to logical growth patterns. Their placement here may encourage leap-frog development by restricting the development potential of properties, or

discourage investment in and commitment to comprehensive planning. These tools are not consistent with the City's chosen growth goals or the General Plan update.

"Establish buffers such as setbacks, berms, greenbelts, and open space areas to separate continuing farmland uses from urban uses."

Separation of urban and agricultural lands is established by the use of "hard" edges as designated in Objectives 5.1.B and C and Policy 6.1.4.

Implement a right-to-farm ordinance; Implement transfer of development credits/rights or mitigation banking programs to link the development of farmland with the subsequent preservation of farmland as a form of strategic CEQA mitigation, and to encourage more compact and efficient development patterns.

Please refer to the previous discussions of long-term restrictions and General Plan update policies that control urban growth. Agricultural preservation/conservation tools suggested are not compatible with the long-term urban growth of the City of Livingston.

"Provide economic incentives for continuing agricultural uses, such as direct marketing opportunities, farm trails programs, more secure water, encouraging the location of agricultural support industries in the community, etc."

The land use policies of the General Plan update are considered to adequately balance the long-term needs of the City with the surrounding agricultural land uses. Additional economic incentives are not practical (as discussed under agricultural conservation easements, above) nor are the financial resources necessary to implement many of these activities available to the City of Livingston.

"Encourage the County to retain agricultural uses on lands surrounding the planning area, as well as on urban reserve lands within the planning area, by mutual agreements with the County (e.g., revenue sharing in exchange for the County's direction of urban development to within city limits)."

As noted Policy 6.3.A.1 encourages Merced County to limit development within the City of Livingston's Sphere of Influence.

"The use of California's Land Evaluation and Site Assessment system (LESA) to evaluate future annexations, sphere of influence expansions, and project impacts on agricultural land under CEQA. A manual on the relatively new LESA system is available from the Division."

As noted in the response to Comments 1 and 2, all of the soils surrounding the current city limits are either prime soils or soils classified as farmlands of statewide importance. The evaluation of urban growth will use the General Plan update policies to guide decision-making in a manner that protects agriculture to the fullest extent possible.

Mr. Steve Lyon, Engineering Associate III, Merced County Department of Public Works

Comment 11: *Thank you for the opportunity to review and comment on the City's Draft EIR and proposed General Plan update. The Merced County Department of Public Works initially reviewed the proposed Plan last Spring and sent comments to the consultant, Quad Knopf, Inc. Although our concerns for items proposed in the General Plan update appear to remain unchanged, our letter discussing those concerns have been incorporated into the DEIR (Appendix A), and were responded to in the document (Pages 3-26 and 27).*

Response to Comment 11: Comment noted. The Notice of Preparation comments submitted by the County Department of Public Works were incorporated to the extent feasible in the General Plan update.

Comment 12: *To briefly reiterate our concerns, the Plan proposes to significantly expand the existing boundary of the City's Sphere of Influence, encompassing several segments of existing County roadways. The proposed reclassification types, lane designs and right-of-way widths for these road segments differ significantly from that currently existing by the County's General Plan. Section 4.2.A.11, of the proposed Livingston General Plan update stipulates, in part, that the City's policy shall be to require that right-of-way be "dedicated and/or developed" whenever a "zone change to a greater density, division of property or development occurs" (within the City), and that "The City shall have Merced County apply the same requirements within the Livingston Sphere of Influence". However, most all of the County property within the proposed Sphere of Influence is currently zoned A-1 or A-2, which the County General Plan (Chapter 2.C.1.B) exempts from any right-of-way dedications or improvements for Minor Subdivisions, and generally excludes for Building Permits and Zone Changes.*

Response to Comment 12: There is no consistency mandate between the general plans of the City and the County, so the situation identified by the commentator is not a significant impact. This policy is in the General Plan update to reinforce the necessity of protecting future rights-of-way.

Comment 13: *The County General Plan does provide for protecting future right-of-ways from encroachment with any development project or discretionary permit. Furthermore, it also provides for coordinating road right-of-way and improvement goals with incorporated cities. These objectives are typically achieved by reserving future right-of-way areas from development, but not requiring their dedication, for exempted property or where cities designs exceed that of the County.*

Response to Comment 13: The described method of protecting future rights-of-way in the unincorporated areas is acceptable and compatible with the General Plan update.

Comment 14: *The Livingston General Plan update states that the County's policy, as noted, provides sufficient protection of future right-of-way and reduces potential impacts to a less than significant level. Accordingly, we have no future objection.*

Response to Comment 14: Comment noted.

State Clearinghouse

Comment 15: *The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. [this excerpt has been abridged. The full text of the letter can be found in this FEIR].*

Response to Comment 15: Comment noted.

Dennis M. Shuler, REHS, Environmental Affairs Manager, Gilton Solid Waste Management, Inc.

Comment 16: *I have reviewed the Draft Livingston General Plan in the areas that I believe to be germane to our company's responsibilities. Based on that review, I offer the following comments:*

Section 2.5.10, Page 2-51

- *The correct name of our company is "Gilton Solid Waste Management, Inc."*
- *Residential waste is collected once per week, but commercial and industrial waste is collected from one to five times a week depending on the customer's need*
- *Waste is not delivered to a transfer station off Bird Road*
- *Waste is delivered to State approved and permitted Solid Waste Facilities, which include, but are not limited to:
 Gilton Resource Recovery/Transfer Facility, Inc., Modesto, CA
 Turlock Transfer Station, Turlock CA
 *Highway 59 Landfill, Merced CA**

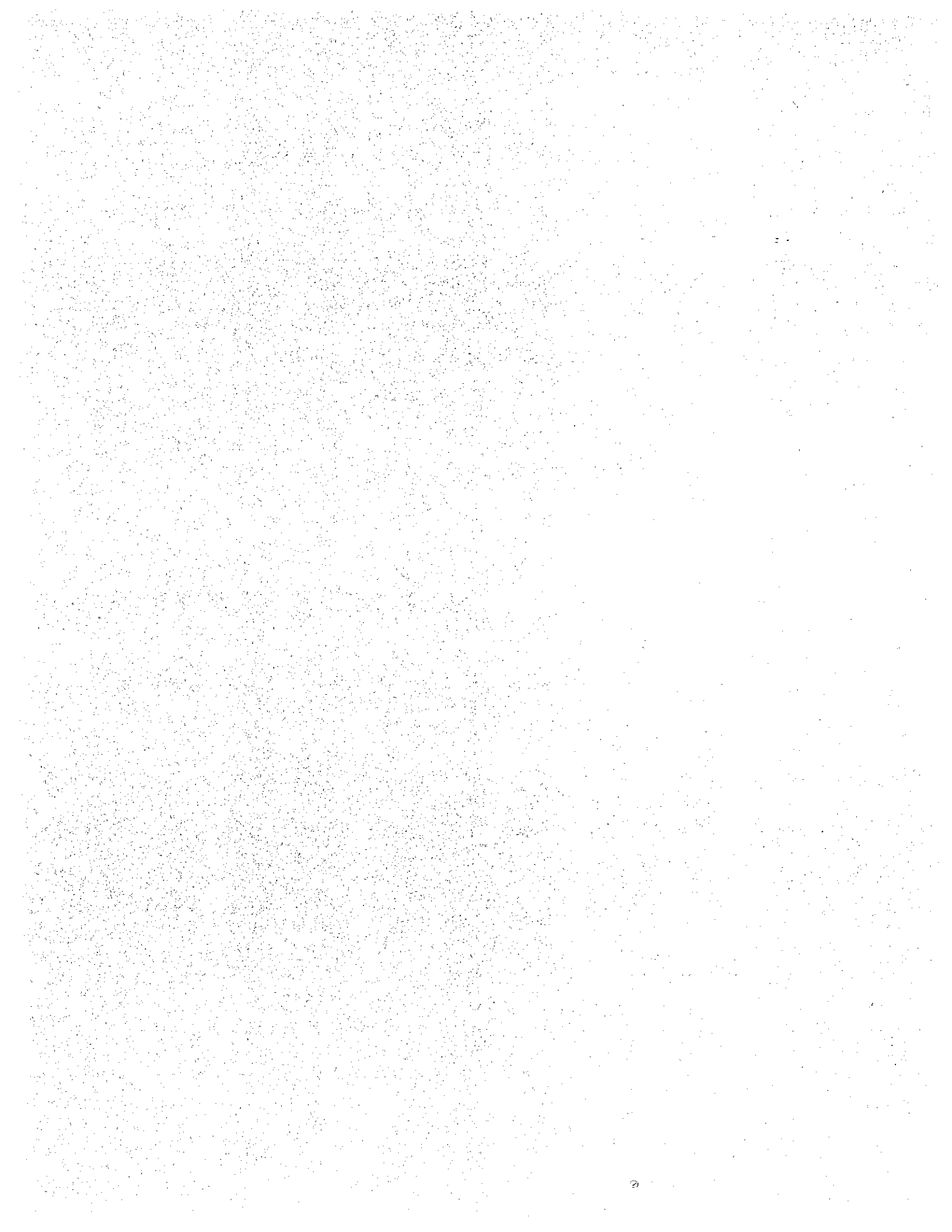
The title of this section includes the term "Hazardous Waste Collection, Disposal, and Management." It needs to be made clear that our company does not collect, dispose or manage hazardous waste in the city of Livingston.

Response to Comment 16: The text of General Plan update section 2.5.10 will be amended to include this information.

R.5 Errata

Chapter 5.0, Mandatory CEQA Analyses, incorrectly identified traffic impacts as significant and unavoidable. This was an inadvertent inclusion which is not reflected by information in the record: the analysis of traffic impacts in Section 3.11 notes General Plan update policies and objectives reduce the impacts of growth on established levels of service (impact 3.11.1) to a less than significant level; the conclusions of this Section are further summarized in Table ES-1 at Impact Numbers 3.11.1 and 3.11.2.

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

PROJECT DESCRIPTION

This Environmental Impact Report (EIR) has been prepared for the adoption and implementation of a General Plan update for the City of Livingston, Merced County, California. The proposed project area consists of approximately 2,800 acres planned for urban growth to the year 2020. The City of Livingston General Plan update goals and objectives are intended to meet requirements of State Planning Law and to guide the City's land use planning through the year 2020. The City of Livingston will adopt, implement and administer this Plan.

An urban reserve component of approximately 2,060 acres is included within the City of Livingston's Sphere of Influence. The Reserve classifications lying outside of the 2020 phased growth boundary identify lands which bear relation to Livingston's long range planning. It is anticipated that these lands will develop under the City of Livingston between 2020 and 2050.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Section 15123(b)(1) of the Guidelines for Implementation of the California Environmental Quality Act (*CEQA Guidelines*) provides that the summary shall identify each significant effect with proposed mitigation measures that would reduce or avoid that effect. This information is summarized in Table S-1, Summary of Potential Impacts, Proposed Mitigation Measures and Mitigation Monitoring Program.

POTENTIAL AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

The following issues are most likely to produce controversy in reviewing and considering the proposed General Plan update:

- Growth of the civic center/downtown area;
- Expansion of the City's Sphere of Influence;
- Peak traffic hour levels of service along Main Street/Livingston-Cressey Road.

ALTERNATIVES TO THE PROJECT

Section 15126.6 of the State CEQA Guidelines requires the EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts which could feasibly accomplish the basic objectives of the project, and to evaluate the comparative merits of the alternatives. Alternatives which would reduce or avoid significant impacts represent an environmentally superior alternative to the proposed project. However, if the environmentally superior alternative is the "no project" alternative, the EIR must also identify an environmentally superior alternative among the other alternatives. Based upon the analysis contained and documented in this EIR, the proposed project is determined to be the environmentally superior alternative.

The EIR evaluates the following alternatives:

No Project Alternative

Under this scenario, "no project" is taken to mean that the City would retain the existing General Plan and none of the update alternatives were found to be acceptable.

Reduced Project Area Alternative

This alternative would update the General Plan elements but would preserve the existing Sphere of Influence, rather than extending it to the 2050 phased growth boundary as shown on the proposed project.

Infill Development

Like the No Project alternative, the Infill Development alternative assumes that the City finds the existing General Plan is adequate without revision. The difference is that the City would continue to build out under the current general plan using *only existing vacant land within the city limits* for all future development. Unincorporated lands within the Sphere of Influence would develop only under County zoning and land use controls.

Modified Southern Boundary

This alternative uses the proposed General Plan land use and policy structure but squares the southern boundary of the 2020 phased growth area between Dwight Way and Robin Avenue along a line approximately 1500 feet south of Peach Avenue. The new land use areas would be designated for low density residential and commercial reserve.

Existing Downtown Alternative

This alternative uses the proposed General Plan land use and policy structure but retains the existing downtown land use pattern south of SR 99.

F Street Downtown Alternative

This alternative uses the proposed General Plan land use and policy structure but limits the expansion of the downtown civic center to north of F street. Rezoning will be required to facilitate the eventual conversion of property from residential and industrial to downtown commercial zoning.

D Street Downtown Alternative

The D Street Downtown alternative uses the proposed General Plan land use and policy structure but expands the downtown civic center along D Street east and west. Implementation tasks similar to the F Street alternative would be needed for D Street.

B Street Downtown Alternative

The B Street Downtown alternative uses the proposed General Plan land use and policy structure but expands the downtown civic center along B Street west of Main Street. Implementation tasks would be similar to the F Street and D Street alternatives.

Maps illustrating the Modified Southern Boundary and various downtown alternatives are provided in Chapter 4.

**Table ES-1
Summary of Potential Impacts, Proposed
Mitigation Measures, and Mitigation Monitoring Program**

Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan
3.2.1	Potential exposure of people to geologic hazards, such as seismic events, subsidence, or foundation instability, or expansive and collapsible soils.	N/A	None Required. Existing Uniform Building Code regulations govern building design and construction and are not changed by the General Plan update.	Less Than Significant	None Required.
3.2.2	Potential exposure of people and property to unsafe conditions if development occurs without sufficient knowledge of a proximate abandoned oil, gas, injection or water well.	3.2.2	Mitigated by project-to-agency linkage by Safety Element Policy 10.1.7: Site plans and tentative maps for properties located in Section 23, Township 6 South, Range 11 East, MD B&M will be routed to the California Department of Conservation's Division of Oil, Gas and Geothermal Resources Coalinga offices during initial environmental review.	Less Than Significant	City of Livingston Planning Department with consultation from the California Department of Conservation's Division of Oil, Gas and Geothermal Resources during project review and evaluation.
3.3.1	The General Plan update has the potential to result in direct and non-direct emissions of non-attainment pollutants by new development and activity.	N/A	No additional measures required. Open Space/Conservation/ Recreation Element Policy 5.2.9, measures established by the San Joaquin Valley Unified Air Pollution Control District will be used to evaluate and mitigate the effects of all new development to the extent feasible.	Significant and Unavoidable	City of Livingston with consultation by the San Joaquin Valley Unified Air Pollution Control District during project evaluation.

1 For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan ¹
3.3.2	The General Plan update has the potential to violate air quality standards resulting from short-term construction-related emissions of particulate matter smaller than ten microns, otherwise known as PM-10.	N/A	No additional measures required. Open Space/Conservation/ Recreation Element Policy 5.2.8, construction activities shall comply with the PM-10 control measures established by the San Joaquin Valley Unified Air Pollution Control District.	Less Than Significant	City of Livingston with consultation by the San Joaquin Valley Unified Air Pollution Control District during project evaluation.
3.4.1	Potential for people and property to be exposed to flooding from natural watercourses or as a result of excess storm runoff due to increased impervious surfaces.	3.4.1	Mitigation by Safety Element Policy 10.4.4: Development proposals shall be analyzed according to the Storm Drain Collection System Study and Master Plan. Development not within an existing Master Plan watershed area may be included in the boundaries of an adjacent area and subject to a revision of facilities and cost allocation thereof.	Less Than Significant	City of Livingston Planning and Public Works during project review and evaluation.
3.4.2	Potential to substantially degrade surface water in excess of National Pollution Discharge Elimination System.	N/A	None Required. Existing National Pollution Elimination Discharge Elimination System standards enforced by the Regional Water Quality Control Board are not changed by the General Plan update.	Less Than Significant	None Required.
3.5.1	Potential adverse impact on biological resources, including sensitive plant and animal species, and sensitive habitats.	3.5.1	Mitigated by Open Space/Conservation/ Recreation Element Policy 5.2.10: Properties which may have listed plant and animal species will be required to have biological investigation if such species may be present. Federal and State protocols and requirements shall be used for such surveys and needed mitigation.	Less Than Significant	City of Livingston Planning Department during project review and evaluation.

1 For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan
3.6.1	Increased noise levels associated with traffic growth in the City may encroach upon existing noise-sensitive land uses	N/A	No additional measures are required. Noise Element policies 8.1.1 through 11 establish criteria for determining impact, will be used to evaluate future development and reduce potential impacts.	Less Than Significant	City of Livingston Planning Department during project review and evaluation.
3.6.2	An increase in the railroad operations could result in exposure of existing and future noise-sensitive land uses of noise levels in excess of acceptable noise levels.	N/A	No additional measures are required. See mitigation discussion for Impact 3.6.2, above.	Less Than Significant	City of Livingston Planning Department during project review and evaluation.
3.6.3	Potential for future noise-generating industrial exposing existing and future noise-sensitive land uses to industrial noise levels in excess of acceptable noise standards.	N/A	No additional measures are required. See mitigation discussion for Impact 3.6.2, above.	Less Than Significant	City of Livingston Planning Department during project review and evaluation.
3.7.1	Potential exposure of sensitive uses to significant sources of light and glare.	3.7.1	Mitigated by Land Use Element policy 3.1.A.12 which requires building material, activities, and lighting evaluation of site and plot plans.	Less than Significant	City of Livingston Planning Department during project evaluation.
3.8.1	Potential to urbanize approximately 1,500 acres of prime agricultural lands, disrupt agricultural production, and/or permanently commit non-renewable agricultural lands and soils to other uses.	N/A	No additional measures are required. General Plan Urban Boundary Element policies 6.2.A.2 and 3, Land Use Element policies 3.1.A.1-4, 7-9 and 11, Open Space Conservation/ Recreation Element goals 5.1.A, B, and C, and policies 5.1-3.	Significant and Unavoidable	City of Livingston Planning Department during project evaluation.

1 For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan ¹
3.8.2	Potential inducement of substantial growth or concentrations of population.	N/A	No additional measures are required. The General Plan provides sufficient housing sites and diversity of housing, enhances jobs/housing balance and economic growth.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.8.3	Potential for displacement of substantial numbers of existing housing or substantial numbers of people, necessitating the construction of replacement housing elsewhere.	N/A	No additional measures are required. The adopted Housing Element of the General Plan has been designed to ensure housing opportunities for all economic and social groups that reside or are anticipated to reside in the City.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.8.4	Growth and development has the potential to disrupt or divide the physical arrangement of an established community or result in the loss of open space.	N/A	No additional measures are required. General Plan proposes a balanced & phased growth pattern that keeps downtown in the center of the city, preservation of a compact urban form by Urban Design Element policies 6.1.1, 6.2.A.2 and 3, Open Space Element policy 5.3.A.6 links development with a park acreage per population standard, infill development (Land Use Element policy 3.2.B.6 and Urban Boundary Element policy 6.1.3), features identified for the edge of the urban area (Urban Boundary Element policy 6.1.4), and maintenance of existing agricultural uses on the fringe of the urban area (Open Space/Conservation/Recreation Element policy 5.1.1).	Less Than Significant	City of Livingston Planning Department during project evaluation.

1 For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan ¹
3.8.5	Potential conflict with adopted environmental plans, development standards and goals of the community where it is located.	N/A	No additional measures are required. Plan policies cited previously preserve agriculture, control urban growth and sprawl, and is consistent with the intent of Merced County's SUDP policies.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.9.1	Development under the General Plan could potentially result in a public health hazard or involve the use, production, or disposal of materials that pose a hazard to people or animal or plant populations in the area affected.	N/A	None necessary. The General Plan update does not change existing state and federal regulations that govern the manufacturing, transportation, use, or storage of hazardous materials. These regulations will remain in effect and be enforceable by the appropriate agency.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.9.2	Development under the General Plan has the potential to interfere with emergency response plans or emergency evacuation plans.	N/A	No additional measures are required. Standards for public safety staffing and response to maintain acceptable emergency services as the city grows: General Plan Safety Element policies 10.2.A.1 (fire department volunteers), 3 (fire response time goal), 4 (water supply for fire suppression) and 10.3.A.1 (police department staffing).	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.9.3	The Merced County Fire Department has commented that the proposed standard presented in Safety Element policy 10.2.A.2 of one fire company for every 15,000 residents is too high; increasing this ratio by 50%	3.9.3	Mitigated by Safety Element policy 10.2.A.2 is hereby amended as follows: The standard of one fire company for every 10,000 residents shall be used to evaluate fire protection services.	Less Than Significant	City of Livingston, with consultation by the Merced County Fire Department.

1 For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan ¹
	Would increase the workload on both career and Paid Call Firefighters to unacceptable levels.				
3.9.4	Potential secondary effects from emergencies such as earthquakes could result including fire and disrupted water supplies and utilities.	N/A	No additional measures are required. Safety Element policies 10.1.1 – 6 establish procedures for cooperative training and development of emergency response between Livingston and Merced County; policies 10.2.1 and 2 establish standards for fire department staffing by volunteers and paid firefighters, and policy 10.3.1 establishes a staffing level for the police department.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.10.1	Growth and development under the General Plan could potentially affect the availability of safe, affordable housing for all households residing in the City of Livingston.	N/A	No additional measures are required. The existing Housing Element provides for safe and affordable housing for City of Livingston residents.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.10.2	Potential that existing and future housing stock could deteriorate and require maintenance or other action to meet General Plan housing standards and correct or prevent blight.	N/A	No additional measures are required. The existing Housing Element provides for rehabilitation of existing substandard housing and maintenance of housing standards for new development.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.11.1	Growth and development under the General Plan has the potential to result in a significant impact on established Levels of Service.	N/A	No additional measures are required. The Circulation Element policy 4.2.A.9 establishes Level of Service C to evaluate effects of growth, Land Use Element,	Less Than Significant	City of Livingston Planning Department during project evaluation.

¹ For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan ¹
			<p>policies 3.2.B.1, 4 through 6, will guide new development in a manner that minimizes driving distances between residential areas and employment centers. Policies 3.3.A.2 through 4 establish criteria for commercial land uses that will provide for logical distribution of land uses, reducing trip distances.</p>		
3.11.2	<p>Growth under the General Plan has potential to impact the roadway system and transportation in general. This will make it increasingly difficult for public agencies to fund necessary expansion and improvement of the transportation system to accommodate growth and maintain roadway safety standards.</p>	3.11.1	<p>Mitigated by Circulation Element Policy 4.5.6: Livingston shall participate in a joint SH 99 Corridor Study with CalTrans and MCAG to determine the solution and funding options for the improvements needed to maintain an acceptable LOS on SH 99 through Livingston. The solutions to the segment problems will result in an operating LOS C.</p>	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.12.1	<p>Growth and development under the General Plan has potential to strain existing public services and facilities and utilities and create demand for expanded services and facilities.</p>	N/A	<p>No additional measures are required. General Plan Objectives 9.1.A, B, and C delineate the city's policy toward urban services and development, Public Services and Facilities Element policies 9.1.17-22 require certain findings by the Public Works Department to document that an adequate supply of water and sewer capacity.</p>	Less Than Significant	City of Livingston Planning Department during project evaluation.

¹ For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

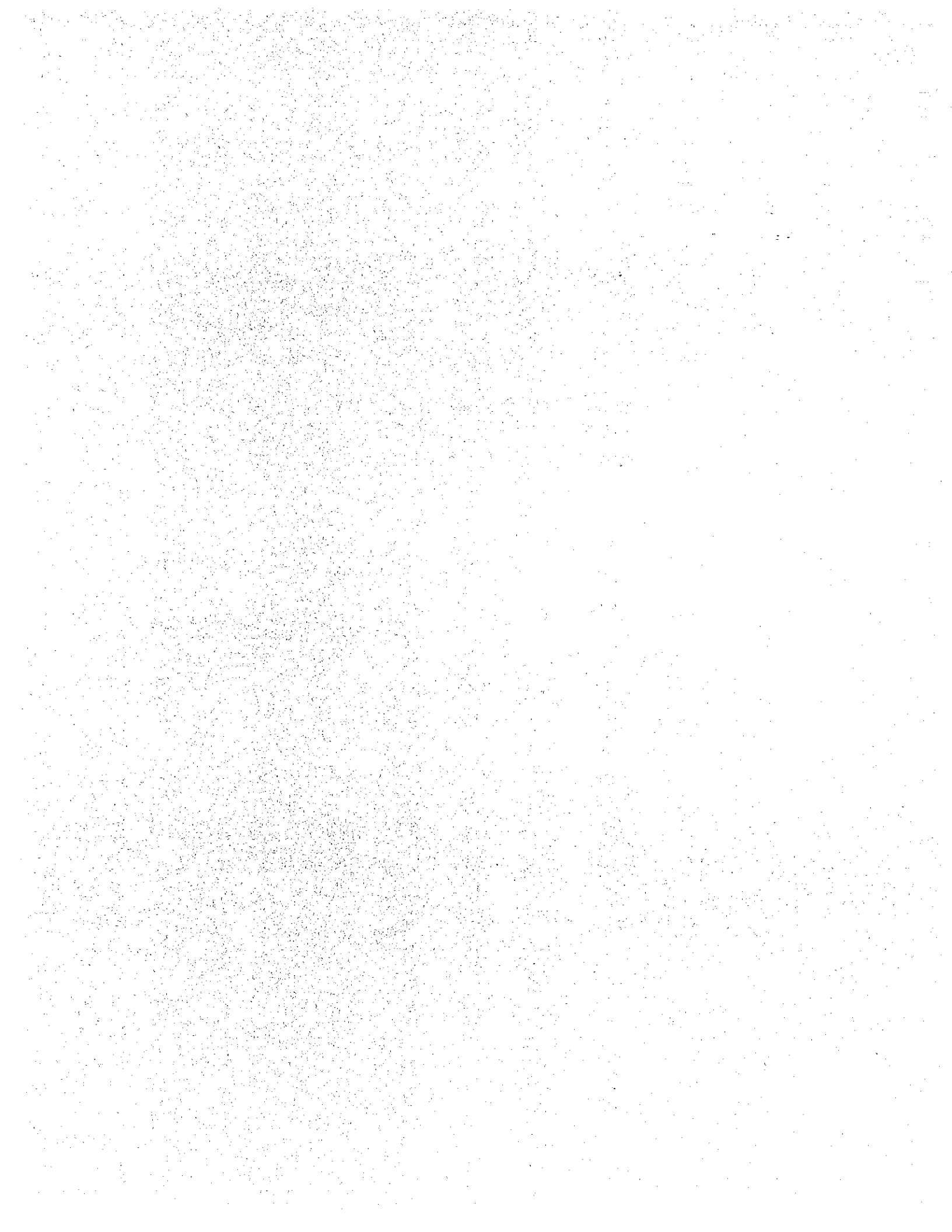
Impact No.	Impact	Mitigation No.	Mitigation Measure	Level of Significance After Mitigation	Monitoring Plan ¹
3.12.2	Along with impacts to public services and facilities as described above will come impacts related to the ability of the City to provide funding for such facilities.	N/A	No additional measures are required. General Plan policies and standards listed in Public Services and Facilities Element Objective 9.1.B, policy 9.1.2, 3, 4, 8-13, 16 and 9.2.A.2 and the Open Space, Conservation and Recreation Element (policies 5.3.A.6, 8, 28, 29) as well as the policies discussed in Impact 3.12.1.	Less Than Significant	City of Livingston Planning Department during project evaluation.
3.12.3	The General Plan may result in the extension of a sewer trunk line with capacity to serve new development.	N/A	No additional measures are required. Industrial reserve north of Highway 99 is designated to preclude development of this area until sewer collection facilities are in place. For the same reason, the area east of Dwight is not included in the 2020 plan area until collection facilities can be constructed to serve it.	Less Than Significant	City of Livingston Planning Department during project evaluation.

¹ For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

¹ For each monitoring plan listed, the City of Livingston will be responsible for monitoring and reporting that mitigation has been properly implemented, and for taking corrective actions when a measure has not been properly implemented.

CHAPTER ONE

INTRODUCTION



1.0

INTRODUCTION

1.1 PROPOSED ACTIONS AND PROJECT OBJECTIVES

The City of Livingston is updating its General Plan with assistance from Quad Knopf, Inc. The Plan objectives are to meet requirements of State Planning Law and to guide the City's land use planning through the year 2020. The City of Livingston will adopt, implement and administer this Plan.

California Government Code Section 65300 states that "each planning agency shall prepare and the legislative body of each county and city shall adopt a comprehensive, long-term general plan for the physical development of the county or city, and of any land outside its boundaries which in the planning agency's judgment bears relation to its planning." A General Plan covers all lands within the city limits and also the area outside the city limits, called the "Sphere of Influence."

A General Plan is commonly referred to as a City's land use charter or constitution because all land use policies and decisions by the City Council must conform to the General Plan.

The proposed actions this environmental impact report (EIR) assesses consist of the adoption of an updated City of Livingston General Plan and its implementation to the year 2020.

The EIR evaluates potential environmental effects that the Plan may have. Several General Plan alternatives were considered during Plan development. The relative environmental merits of each alternative are also analyzed in this EIR and will be considered by the Planning Commission and the Livingston City Council.

1.2 PROCEDURES

This EIR has been prepared under the California Environmental Quality Act (CEQA) and Guidelines for CEQA Implementation (California Administrative Code [CAC], Title 14, Chapter 3 — hereafter called the *CEQA Guidelines*). Under CEQA, the City of Livingston is the Lead Agency and is responsible for the EIR. A Lead Agency is defined by CEQA as the agency with the ultimate authority to approve or deny the project. Quad Knopf has prepared this document under contract with the City.

Section 15121(a) of the *CEQA Guidelines* defines an EIR as an informational document that will “inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.”

CEQA applies to all discretionary projects. *CEQA Guidelines* Section 15357 defines a discretionary project as one that requires the public agency that must approve or disapprove the action to exercise judgement. This is distinct from projects where approval is given simply by determining if the action conforms to applicable statutes, ordinances, or regulations. As defined by Section 15378 of the *CEQA Guidelines*, a “project” is an action that “has a potential for resulting in a physical change in the environment, directly or ultimately....” Section 15378(a)(1) explicitly identifies a general plan amendment as a “project” subject to CEQA review.

CEQA recognizes that many processes for preparing general plans and EIRs are similar or identical and that the two documents will overlap in many ways. Similarly, according to the State General Plan Guidelines, a complete general plan revision will cover virtually every EIR requirement. For example, many goals, policies, and implementation strategies in a general plan are incorporated into the general plan EIR as mitigation measures (i.e., actions that reduce or eliminate adverse environmental effects) or vice versa. *CEQA Guidelines* Section 15166 provides that, due to the similarities in the processes, a general plan EIR may be a separate document or a section of the general plan. In the case of the City of Livingston, the EIR has been prepared as a separate volume of the General Plan.

CEQA Guidelines Section 15093 requires the decision-makers to balance project benefits against any unavoidable environmental effects. If the benefits outweigh the unavoidable adverse effects, the decision-makers may adopt a statement of overriding considerations, finding that the environmental effects are considered acceptable.

Program EIR

CEQA Guidelines Section 15168 permits a program EIR for general plan updates which will form the basis for later decision-making. It can streamline the later environmental review of projects analyzed in the Program EIR. According to this section,

A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

- (1) Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.
- (2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
- (3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

Where a program EIR is prepared in connection with a general plan update, the anticipated subsequent projects included within a program EIR may consist of later planning approvals, including parcel-specific approvals, consistent with the general plan for which the program EIR has been prepared. Such subsequent projects shall be adequately described if the program EIR identifies the land use designations and the permissible densities and intensities of use for the subject parcels.

Future capital improvement programs conceivable under the General Plan update's program EIR include those for streets, water or sewer, parks and other facilities needed to implement the updated General Plan. At this time, it is not possible to specify either the specific projects or their schedule. This is because these projects are either influenced by economic or development forces outside the control of the City or they may rely on the availability of future funding which itself has not yet been approved.

Notwithstanding, subsequent projects that are consistent with the land use designation and permitted density and intensity of development established in the General Plan are considered to be within the scope of the program EIR.

Other future projects considered under the scope of this EIR include amendments to the City of Livingston Zoning Ordinance and Zone District Map pursuant to this Plan update, refinement of the City's Redevelopment Plan, adoption of Merced County and Merced County General Plan amendments to conform with the Plan and improvements to the City's urban service infrastructure.

The Notice of Preparation (NOP) for the City of Livingston General Plan was circulated to interested agencies on April 8, 1999. The NOP gives responsible and trustee agencies¹ an opportunity to comment on the project and the scope of the EIR. Thus, the NOP contributed to the ultimate EIR scope in terms of environmental issues that are analyzed in response to agency (and, where applicable, public) comments. In addition, the City also held a scoping meeting on April 14, 1999, and invited comment on the Draft EIR from interested parties.

1

The *CEQA Guidelines* (§ 15381) define a "Responsible Agency" as any public agency other than the Lead Agency that has discretionary approval power over the project. For example, the County, acting as Lead Agency, could approve a project that involves construction of a wastewater treatment plant. However, only the appropriate Regional Water Quality Control Board has the authority as a Responsible Agency to grant a waste discharge permit for the treatment plant, without which, it cannot legally operate. A "Trustee Agency" is defined by the *CEQA Guidelines* (§ 15386) as an agency with legal jurisdiction over natural resources affected by the project that are held in trust by that agency for the people of the State of California. For example, the California Department of Fish and Game has jurisdiction over fish and wildlife, rare or endangered native plants and animals, and their habitats.

The Draft Environmental Impact Report (DEIR) will be subject to a 45-day public review period as required under CEQA. CEQA prescribes how the public must be notified where and when the DEIR is available for review. During the review period, the public and all responsible, trustee, or other interested agencies may comment, orally or in writing, on DEIR contents.

CEQA Guidelines Section 15132 requires that each comment made during the public review period must be responded to in writing and included in the Final EIR. A Final EIR (FEIR) includes:

- the DEIR with any necessary revisions
- comments on the DEIR
- a list of individuals, organizations, or agencies that commented on the DEIR
- Lead Agency responses to the comments.

Upon Final EIR completion, the City can certify that the Final EIR has been completed in compliance with CEQA and that information in it was reviewed and considered prior to deciding on Plan adoption. The City will then make its required findings under CEQA regarding the project's environmental effects. Finally, the City will adopt a Mitigation Monitoring or Reporting Program as required by Section 21081.6 of the Public Resources Code. The Mitigation Monitoring Program ensures that mitigation measures are actually implemented.

Prescribed mitigation measures will be imposed by the City. Future developers, the City itself, and any parties involved in Plan implementation or actions under the Plan will be subject to these mitigation requirements.

1.3 METHODOLOGY/SCOPE OF EIR

As noted, the City of Livingston General Plan update applies to all land under City jurisdiction and within its Sphere of Influence. Included in the EIR analysis are direct, cumulative, and growth-inducing effects. Many Plan goals, objectives, policies, and implementation strategies are recognized by this EIR as viable mitigation measures.

The NOP, the notice of scoping meeting, and a distribution list of agencies that received them both appear as Appendix A to this Draft EIR.

In addition to the NOP, public input has contributed to development of the scope of the EIR. The Livingston City Council appointed a General Plan Review Committee to review all documents associated with the Plan update and advise City staff and the City's consultants. The Review Committee met a total of four times since January 1998 to identify issues of concern and assist in formulating Plan goals, objectives, policies, and alternatives, many of which have been directly incorporated into this EIR. All Review Committee meetings were open to the public. Additionally, two public workshops were held to discuss the General Plan process and seek public input into the planning process.

Further public input will be received in public hearings before the City of Livingston Planning Commission and City Council.

Based on responses to the NOP, and public input, the EIR will focus on the following broad environmental topics:

- **Earth.** The EIR will examine potential seismic and geological hazards in relation to growth of the city.
- **Air Quality.** The potential for Plan implementation to create significant air emissions that will further contribute to Merced County air basin non-attainment status under the California Clean Air Act will be evaluated.
- **Hydrological Conditions, Water Quality and Supply, and Drainage.** This section addresses surface and groundwater quantity and quality. Surface runoff effects will be analyzed, including excess runoff generated by creating impervious ground surface (i.e., buildings and pavements).
- **Biological Resources.** The potential for the project or alternatives to affect sensitive or unique plant and wildlife species and their habitats, wetlands, riparian zones, and other plant and animal resources will be assessed.
- **Noise.** Significant noise sources and sensitive noise receptors will be identified from the Noise Element and investigations by the noise consultant. Plan goals and policies should ensure that significant noise sources are not located adjacent to sensitive uses, such as hospitals, schools, and residential neighborhoods.
- **Light and Glare.** Significant existing and potential sources of light and glare will be identified and Plan goals and policies will provide a basis for mitigation light and glare effects.
- **Land Use.** The project will be analyzed for its internal land use compatibility and its relationship to other plans, focussing on compatibility of the proposed General Plan with Merced County's General Plan. Agricultural lands retention and maintaining the existing social and economic character also will be discussed.
- **Public Safety.** This section includes such issues as risk from hazardous materials; urban fire hazards; and the city's emergency response capabilities. Other public health and safety issues, such as water and air quality, noise, and traffic safety, are addressed under other headings in the EIR.
- **Housing and Population.** The Plan will have an effect on population growth, density, and distribution in the city over the next twenty years. The EIR addresses potential effects of the Plan with respect to these issues. The effects on housing availability and the mixture and quality of available housing will be assessed. A

general plan directly affects population growth and distribution which, in turn, will affect housing needs in the City.

- **Transportation and Circulation.** The EIR will analyze the effects on transportation facilities and traffic circulation resulting from growth and development under the Plan.
- **Public Services and Utilities.** The Plan must provide for adequate public services and facilities to support planned growth and development. Utilities capacities to accommodate projected growth under the Plan must also be evaluated.

The project discussed herein is adoption of an updated City of Livingston General Plan with updates of the mandatory General Plan elements excepting the Housing Element. The City of Livingston initiated its General Plan update process in January 1998. Quad Knopf was selected by the City to assist in Plan preparation and environmental documentation. The process included preparation of a series of reports have been released at intervals during the process.

The first of these was the Preliminary Development Forecasts/Community Concerns Summary Report (April, 1998). It included the results of community forums held to inform the citizens of Livingston about the planning process and solicit their views about the future listing and brief discussion of issues viewed as important to the future of Livingston. The Report also summarized population, commercial, and industrial development forecasts.

The second document prepared was the Draft Background Report (October, 1998). It described the existing conditions that apply to the Planning Area and serves as the "environmental setting" portion of this EIR. The Draft Background Report document is organized to correspond to the major topical headings that appear in this EIR.

The third document, a Constraints and Opportunity Summary (November, 1998), focused on strengths, weakness, and opportunities and summarized policy options which the General Plan Review Committee, the Planning Commission, and the City Council considered.

Upon review and discussion of the three working papers described above, a draft General Plan was prepared containing the updated elements and the Environmental Setting and Background Paper. Upon completion, the updated General Plan will consist of the General Plan including the Environmental Settings and Background which will contain the objectives, policies, and standards for all elements.

The following format will be used in this report to describe existing environmental conditions, potential project-related impacts, and mitigation measures for each of the topical areas stated above:

Setting: Existing environmental and regulatory conditions specific to each topical area listed above will be described.

Impact and

Mitigation: **Impact Evaluation Criteria:** The standard by which impacts are measured or the threshold of significance will be presented. The purpose is to establish the level at which an environmental impact will be considered significant.

Impact #: Each identified environmental impact will be numbered for reference.

Conclusion: This will be a statement of whether or not an identified impact is significant and the nature of significance (i.e., direct, indirect, cumulative, or growth-inducing impact). If not significant, an explanation will provide the basis for this conclusion.

Mitigation

Measure: **Mitigation Measure #:** If an additional mitigation measure is required, it will be presented here. Each mitigation measure will be listed by a reference number and linked to the impact that it addresses.

Effectiveness

of Measure: This section states whether the recommended mitigation measure will reduce the impact to a less than significant level based on Impact Evaluation Criteria.

This format is intended to conform to standards for adequacy of an EIR as described in Section 15151 of the *CEQA Guidelines*, which states:

An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and good faith effort at full disclosure.

1.4 ORGANIZATION OF THE EIR

Chapter One describes the project and the reason(s) for preparing the EIR. It also explains CEQA's purposes and requirements and briefly summarizes how the CEQA process proceeds.

Chapter Two describes the project in greater detail, including project goals and objectives, general Planning Area environmental setting, project alternatives, and related City actions needed to adopt the Plan.

Chapter Three identifies and evaluates impacts, including direct, indirect, and cumulative impacts, and proposed mitigation measures to reduce impacts to insignificant levels. This chapter follows the format described in Section 1.3 above. Also considered in Chapter Three are several CEQA-mandated topics, including growth-inducing impacts, significant irreversible environmental changes that would occur under the Plan, short-term land uses that may sacrifice long-term environmental productivity (such as converting agricultural land to non-agricultural use), and irreversible commitments of non-renewable resources.

Chapter Four evaluates Plan alternatives based on Chapter Three findings. CEQA requires an EIR to assess a "reasonable" range of project alternatives that ostensibly might achieve project objectives while having less environmental impact than the project as proposed. The project alternatives analyzed for their relative environmental merits are essentially different growth scenarios. The "preferred alternative," which combines elements of the alternatives was selected by consensus based on presentations, meetings, and hearings before the Livingston Planning Commission, City Council, Review Committee, and public input received during these proceedings. This "preferred alternative" constitutes "the project" for purposes of this EIR. The "reasonable range" of alternatives to the project addressed in Chapter Four of this document includes all of the alternatives analyzed. Per *CEQA Guidelines* Section 15126(d)(2), a "no project" alternative must also be presented in the EIR to compare the project's environmental consequences to those associated with maintaining status quo.

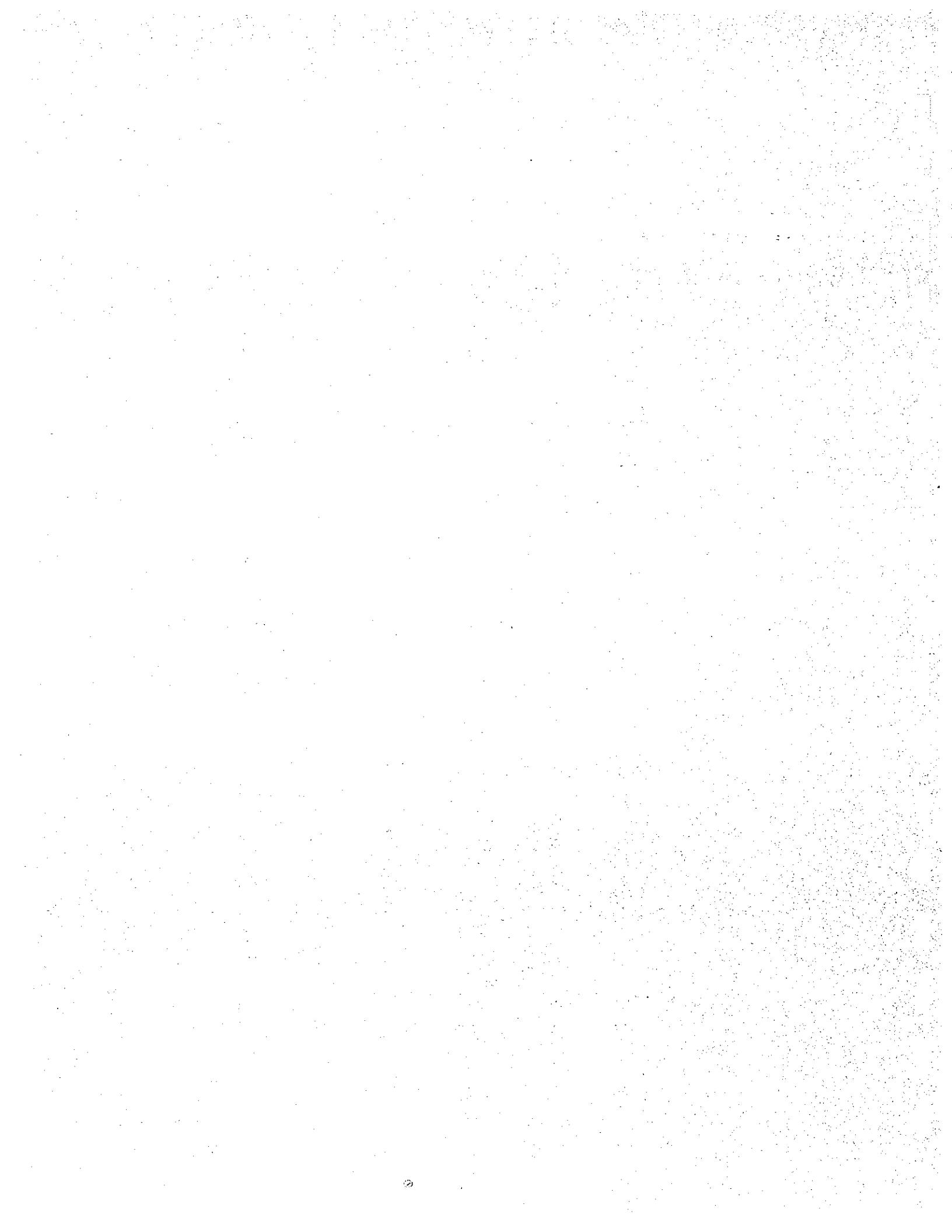
CEQA does not require all alternatives to be analyzed in as great detail as the project per se. Thus, the project will be comprehensively analyzed in Chapter Three, while Chapter Four will summarize the General Plan alternatives and the "no project" alternative and compare the environmental consequences of the alternatives in relation to the environmental consequences of the project. The City will ultimately adopt the project or an alternative to the project, considering environmental and other factors. General plans with different growth and development assumptions will obviously be quite different.

Appendix A contains a copy of the Notice of Preparation (NOP), Scoping Meeting Notice, a list of NOP recipients, and the comments received on the NOP. Appendix B contains chapters the draft General Plan update and includes objectives, policies and standards referred to throughout this EIR. Appendix C contains references to published literature or technical reports cited in the text and individuals and agencies contacted for information during EIR preparation. Appendix D presents the Merced County Association of Governments' Traffic Model Information as background information for the traffic analysis in Chapter 3. Appendix E contains a discussion paper regarding an economic analysis for the proposed General Plan update.

1.5 AVAILABILITY OF DOCUMENTS FOR PUBLIC REVIEW

The Draft EIR and any material incorporated by reference, such as the General Plan Update document, are available for public review at the Livingston City Hall, 1416 C Street, Livingston, California 95334 and the Livingston Branch of the Merced County Library, I and Main Streets, Livingston.

CHAPTER TWO
PROJECT DESCRIPTION



2.0

PROJECT DESCRIPTION

2.1 LOCATION

Project Location and Description

The City of Livingston is located along State Highway 99 (SH 99) in north central Merced County. The City is bisected by SH 99, a major north-south interstate transportation artery, and by the Southern Pacific Railroad. Incorporated as a General Law city in 1922, Livingston is centrally located between Stockton and Fresno in the San Joaquin Valley along the Highway 99 corridor. At the start of the General Plan update process in January, 1997, the City of Livingston had a population is 10,490; its population in January, 1999 was 10,550. Livingston lies in a highly productive agricultural region and is poised to transition from a small town to the service center of the surrounding community. The City limits currently contain approximately 3.5 square miles, with approximately 480 acres of residential land, 150 acres of commercial land, and 200 acres of industrial land available for development. This General Plan update will cover the growth of the City from 1999 to 2020.

While many Livingston residents cherish the “small town” character of their city, they also find commercial and recreation opportunities are limited because of the city’s size and the effects of SH 99 realignment. The rerouting of SH 99 has resulted in major transformation of the city’s center; it removed 20 housing units, and relocated 35 businesses. The realigned SH 99 poses challenges to Livingston and provides a unique opportunity to direct growth in a manner that will promote a sustainable future. The General Plan update will include, in addition to more traditional topics and issues, modified land use controls that will focus economic development to capture lost sales tax revenue currently generated by Livingston residents shopping outside of the city, and increase employment and housing opportunities. The City’s public infrastructure will also be evaluated and the means to finance its expansion will be evaluated.

The determination of the study area boundary for the General Plan update was guided by the following factors:

- Extent of existing development in the area, including unincorporated areas, and contiguous undeveloped parcels.

- Major physical features in the community including the Merced River.
- Hard edges including major roadways.
- Undeveloped areas necessary to square off the development boundaries.
- Areas within which the city may likely grow over the next 30 years.

Assumptions used to evaluate the General Plan update and the alternatives were as follows:

- The General Plan horizon year is 2020.
- The Plan will accommodate growth.
- A target population of 23,000 by 2020.
- Housing must be affordable and provide a range price-diversity.

The November, 1998 *Constraints and Opportunities Report* (described later in this chapter) contained the following summary and interim recommendations for the update process:

- The community should take on a north-south orientation in the short term, developing around the Main Street/Winton Parkway and Hammatt Avenue axis.
- The primary thrust for development should be south of SH 99 to provide greater support for the downtown and the existing community facilities there. Development north of SH 99 should not exceed the current capacity of parks, schools, and utility systems that now serve the area.
- Development north and west of Livingston-Cressey Road should be industrial; the downtown remnant between Swan Street and Campbell Street should be converted to a service commercial/light industrial character since it is not suitable, long term, for residential or commercial uses.
- Due to the access constraints and sewerage needs an additional industrial park area should be designated north of Vinewood Avenue and west of Robin Avenue. This would eliminate the need for sewer line extension across town and across the freeway. It would also place additional employment on the south side of SH 99, reducing the impact of work trips on the Winton Parkway, Main Street and Hammatt Avenue interchanges.
- Downtown should be expanded to 7th Street along D Street and south to G Street to include the F Street intersection.
- A minor collector street system should be developed that provides for inter-neighborhood connections along local streets.

- Future development (after 2020) should occur in an east-west direction between Sultana Drive and Washington Boulevard south of SH 99. Needed utility extensions serve this area should be designed to accommodate growth over the next 50 years, including development of the north side of SH 99 between Dwight Way and Sultana Drive.
- Neighborhood level commercial development should be designated for the property at the southeast corner of F Street and Hammatt Avenue.
- A site should be reserved on the north side of the community between F Street and Walnut Avenue easterly of Dwight Way for a second high school
- A regional park should be established along the Merced River.
- Needed parks should be integrated located adjacent to existing MID facilities to enhance their potential use as detention basins. Parks should also be located adjacent to elementary schools to enhance the joint usage of these facilities. A community park should be located between Winton Parkway and Hammatt between Peach Avenue and Magnolia Drive.

These issues have formed the foundation of the General Plan and influenced the EIR analysis.

The boundaries of the General Plan update Study Area are the Merced River on the west (to Washington Avenue), Magnolia Drive on the south, Eucalyptus Avenue in the north and Sultana Drive on the east. These streets are depicted on Figure 1-1 in Appendix B. This Study Area includes sufficient area to meet the City's land development needs over the planning period of twenty years and a geographical territory to enable city review of development proposals that may occur in the County adjacent to the city limits. The unincorporated area between the City Limits and the Sphere of Influence also serves as a conceptual planning area beyond the current twenty year time frame for the General Plan update. Its long-range purpose is to serve as the catalyst for future planning discussion and vision. The Study Area also provides sufficient flexibility to review alternative growth scenarios that would focus growth in either the north or southern sections of the community, along the SH 99 axis, or other alternatives identified by the community.

2.2 PROJECT DESCRIPTION

In January, 1998, the Livingston City Council authorized an update to the City's General Plan. A general plan is a long-term, comprehensive framework to guide physical, social and economic development within a community's planning area. Livingston's General Plan is a long-range guide for attaining the City's goals within its ultimate service area and accommodating its population growth to the year 2020. A comprehensive document, it coordinates all components of the City's physical development and sets objectives, policies and standards which guide future growth within the City's planning area.

The work program for the General Plan update entailed the preparation of a series of working papers which were released at intervals during the process. These papers have been described in Chapter One of this EIR. The combined efforts of these activities have resulted in this document.

The first step in the General Plan update process was the preparation of a Preliminary Development Forecast for Livingston's population and its commercial and industrial sectors. Based upon the results of this study and previous retail/commercial analysis, the City was able to determine which types of retail/commercial and industrial uses were most likely to generate a stable economic base for the community. The General Plan land use designations (Figure 1-1 in Appendix B) reflect the land uses needed to support the City's targeted retail/commercial and industrial employers. This approach reflects the City's commitment to maintain a revenue base which will support future demand for services, thus maintaining and enhancing Livingston's quality of life. The acreages of these designations are depicted in tabular form compared with the existing General Plan in Table 2-1.

Using the results of the work program, community workshops and General Plan Review Committee meetings, City staff and Quad Knopf, the general plan consultant, concluded the following issues to be of greatest importance when drafting policies for the General Plan update:

Agricultural Preservation. Agriculture and its related industries were determined to be crucial to not only the character of the City of Livingston and its surroundings, but the key to the economic vitality of the community. Agriculture and agriculture-related industries were determined to be the most important employment base for the City of Livingston. The economic analysis performed for the City targeted agriculture and agriculture related industries as those which benefit the City of Livingston.

Contiguous Planning. In order to maintain a vital economy, preserve surrounding agricultural lands, maintain a healthy quality of life and minimize public service and facility costs, it was determined that future growth within the Livingston planning area should be contiguous to existing development, making the best possible use of existing vacant lands within the City limits and allowing the City to provide services to new development at the most cost-effective, efficient manner possible. The economic vitality of the City is best served by concentric growth which maintains the existing downtown as the center of the community.

Public Facilities. A key policy throughout all elements of the General Plan is the need for development to "pay its own way." New development will be encouraged to develop in areas which can adequately accommodate the increased demand on public services and facilities. Urban growth boundaries have been established based upon the capabilities of the City to accommodate new growth. Development will be required to contribute to the cost of upgrading facilities and services to accommodate its needs.

Commercial Development. Much of the potential commerce was found to “leak” out of Livingston to shopping centers north and south, depriving the city of sales tax revenue. Capturing this market would enhance city revenue and provide funding for future municipal operations.

Downtown Development and Revitalization. As Livingston increases in size from 10,490 at the start of the General Plan update process to over 23,000 in 2020, neighborhood planning will become a key component. A new downtown configuration will reinforce its central role as an administrative and governmental center, while other commercial centers for service and retail are developed at the Winton Parkway and Hammatt Avenue interchanges, as well as the remnant downtown north of SH 99.

State law requires all cities and counties to adopt and maintain a General Plan. The Plan document will contain discussion of the environmental settings related to land use, urban design, transportation/circulation, public facilities and services, recreation, natural resources, safety, and noise. Each chapter, or element of the Plan contains the objectives, policies and standards as determined by the above described work efforts of the City Staff, General Plan Steering Committee, the Planning Commission, City Council, various public workshops and the General Plan Consultant Staff.

2.3 RELATED ACTIONS AND INTENDED USES OF THE EIR

The City of Livingston General Plan update, of which this EIR is a part, will be refined through the public review and public hearing process. The final City of Livingston General Plan will be evaluated by the Livingston Planning Commission and officially adopted by the Livingston City Council.

The EIR will serve at least two major purposes. First, it will inform the City’s decision-makers (i.e., the Planning Commission and the City Council) and the public of the potential environmental consequences of adopting the Plan. Secondly, all subsequent actions under the Plan, including but not limited to the adoption of specific and community plans, amendments to the zoning ordinance, and the consideration of specific development projects, will require CEQA documentation. This EIR is structured as a program EIR that intends to address the growth of the City of Livingston under the Plan as a series of actions that can be characterized as one large project., this EIR serves as a basis for “tiering.” Under the tiering concept provided in Sections 15152 and 15385 of the *CEQA Guidelines*, subsequent CEQA analyses may “tier” off the General Plan EIR by incorporating by reference the general environmental information provided in this document and focus narrowly on those project or site-specific issues not fully addressed in this program EIR.

**Table 2-1
Comparison of Planned Land Uses**

Existing General Plan	Acreage	Proposed General Plan	Acreage
Low Density	981	Low Density/Estate Res.	986
Low Density Reserve	39	Medium Density Res.	96
Medium Density	58	High Density Res.	86
High Density	48	Community Commercial	41
Commercial	61	Downtown Commercial	35
Commercial Reserve	74	Highway Commercial	101
Highway Commercial	63	Neighborhood Commercial	8
Neighborhood Commercial	1	Service Commercial	120
Industrial	347	Commercial Reserve	94
Open Agriculture	547	General Industrial	558
Open Recreation	40	Limited Industrial	114
Park	30	Industrial Reserve	158
Public Facility	53	Park / Open Space	32
School	71	Park Reserve	153
Urban Reserve	19	Public Facility	309
WWTP	126	Public Facility Reserve	36
		Urban Reserve	1929
Total	<hr/> 2559		<hr/> 4855

The Planning Commission and City Council will use this EIR in their deliberations on land use proposals under the Plan. Other agencies within the City are likely to utilize this document to ensure that their plans and activities conform to the objectives, policies and standards, and/or mitigation measures presented in this document.

This EIR will be used by other levels of local government and state agencies in their decision-making. These include but are not limited to Merced County, Merced County Association of Governments, the San Joaquin Valley Unified Air Pollution Control District, the Regional Water Quality Control Board, and the Department of Health Services.

The Livingston Zoning Ordinance and any infrastructure master plans (i.e. Water Master Plan, Parks and Recreation Master Plan) may need to be amended to conform with the General Plan.

2.4 GENERAL PLAN ALTERNATIVES

As stated in Chapter One, this EIR will analyze the relative environmental advantages and disadvantages of several alternative General Plan scenarios in comparison to the "preferred alternative" which is considered by this EIR to be "the project." Analysis of the "No Project" alternative compares the relative environmental merits and disadvantages of maintaining *status quo* (i.e. continuing to operate under the existing *General Plan*) against the relative environmental merits and disadvantages of the project. The proposed alternatives, which are fully described in Chapter Four of this EIR include:

- **No Project** is taken to mean that the City would retain the existing general plan and none of the update alternatives were found to be acceptable.
- **Reduced Project Area Alternative** preserves the existing Sphere of Influence, rather than extending it to the 2050 phased growth boundary as shown on the proposed project.
- **Infill Development Alternative** assumes that the City finds the existing General Plan is adequate without revision. The City would continue to build out under the current general plan using *only existing vacant land within the city limits* for all future development.
- **Modified Southern Boundary Alternative** uses the proposed General Plan land use and policy structure but would place the southern 2020 phased growth boundary currently proposed on Magnolia Avenue at a point approximately halfway between Peach Avenue and Magnolia Avenue.
- **Existing Downtown Alternative** uses the General Plan update land use configuration but preserves the Downtown Commercial area as it exists south of SH 99. No expansion of this designation would take place.

- **F Street Downtown Alternative** uses the proposed General Plan land use and policy structure but limits the expansion of the downtown civic center to north of F street.
- **D Street Downtown Alternative** uses the proposed General Plan land use and policy structure but expands the downtown civic center along D Street east and west.
- **B Street Downtown Alternative** uses the proposed General Plan land use and policy structure but expands the downtown civic center along B Street west of Main Street.

Maps illustrating the Modified Southern Boundary and downtown alternatives are provided in Chapter 4.

The “preferred alternative” was developed from the same general assumptions, goals and constraints set forth in the community workshops. The assumptions have been identified previously in this chapter. Goals give meaning to short and long-range directions for policy action. They also express what the community is capable of achieving over time. The goals used as the basis for the General Plan update were identified during the workshop process as:

- Goal 1:** Preserve and enhance Livingston’s friendly atmosphere.
- Goal 2:** Enhance economic opportunities in the community to promote family self-sufficiently, increase in the price-diversity of housing, and increased amenities.
- Goal 3:** Enhance the visual quality of the community through improvement of public facilities, increased landscaping standards, gateway improvements at strategic locations, and designation of adequate parks and open space.
- Goal 4:** Plan and develop an efficient public facilities and services system and feasible methods of financing improvements and maintenance costs.
- Goal 5:** Manage planning area growth so that it is contiguous to existing development and concentric from the City’s core.
- Goal 6:** Design and implement a comprehensive circulation and transportation system that will ensure a high level of service, maintain Livingston’s regional market position, and reduce reliance on private automobiles.
- Goal 7:** Develop a plan implementation and citizen participation program that ensures that General Plan will remain responsive to changing market conditions and community needs.

The seven goals presented above imply a broad range of actions on several fronts, including:

- Providing social, educational and recreational opportunities to neighborhoods; providing sufficient access for emergency police, fire and health services; and protecting neighborhoods from the adverse effects of through traffic, noise and crime;
- Preventing degradation of the natural and man-made environment and offsetting degradation which may already have occurred;
- Providing a choice of housing location in the community for all persons, regardless of race, gender, cultural origin, marital status, or physical ability in conformance with federal, state and local laws;
- Reducing land use conflicts while providing a range of residential, commercial, industrial, and institutional uses;
- Providing adequate streets, transportation facilities and public services to accommodate existing and future populations; and
- Fostering economic growth and the provision of employment opportunities for all residents.

Constraints were identified during the workshop process to provide focus and direction to the planning process:

- **Economic.** The City's agriculture cluster (that is, the mix of businesses necessary to produce a final product to be purchased by a consumer) dominates the local economy. Growth opportunities are constrained by the lack of an economic strategy and implementation plan tailored to meeting the needs of prospective businesses.

As a continuation of the economic analysis for the General Plan update, a discussion paper entitled *Growth Permitted Under the Proposed General Plan* is attached as Appendix E. This paper examines the planned distribution and extent of land uses under the General Plan update.

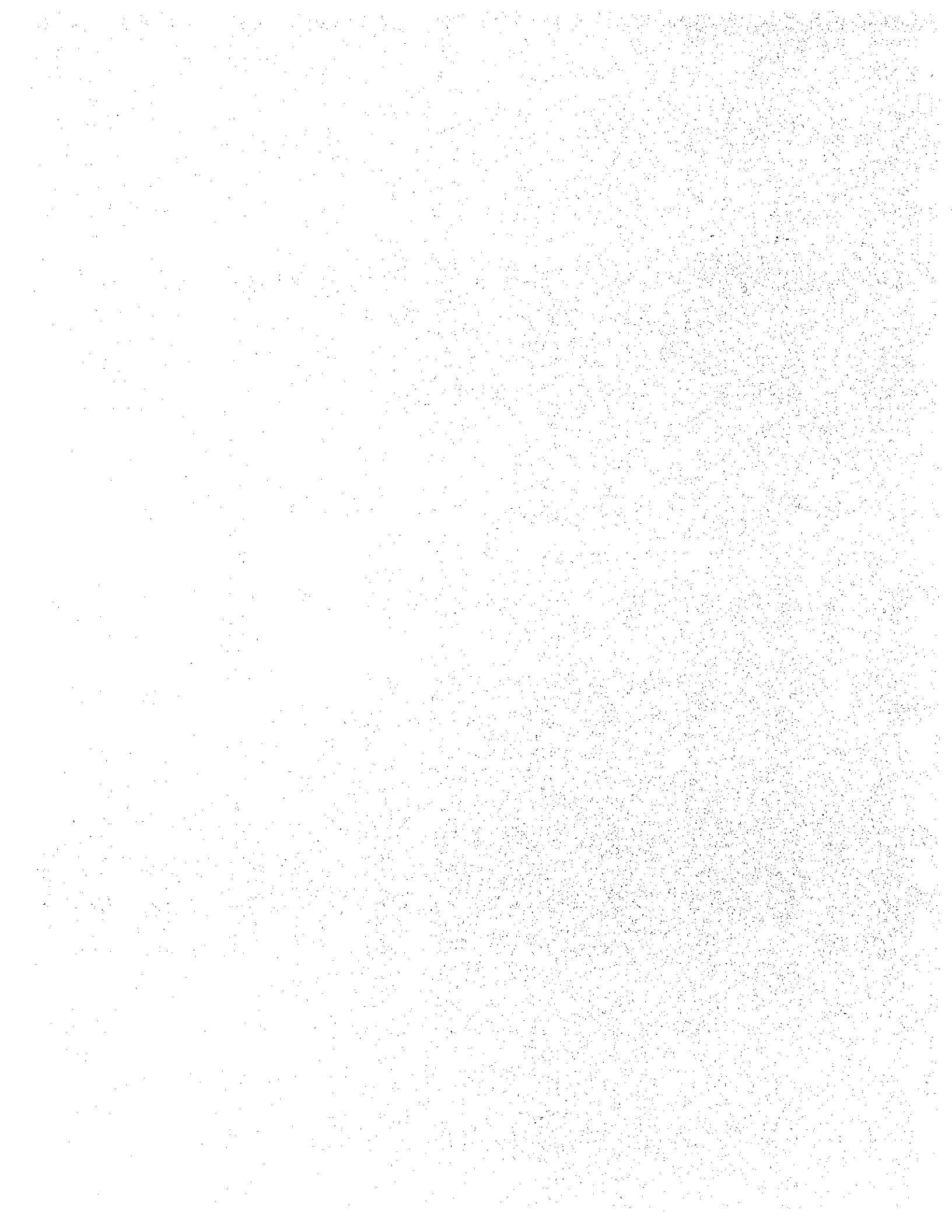
- **Agricultural Lands.** Within the existing and proposed Sphere of Influence are agricultural lands with soils classified as prime for agricultural purposes. Prime agricultural lands are considered a valuable resource and the conversion of agricultural lands to non-agricultural use is considered a significant impact.
- **Air Quality.** The San Joaquin Valley is classified as a nonattainment area for certain air pollutants. New development should be directed to areas which will likely have adequate roadway capacity and the plan should include measures to decrease the

number and length of vehicle trips by planning for bus routes, bike routes and neighborhood convenience centers which are easily accessible by foot.

- **Water.** Livingston's present water system is adequate to serve the current population and can be readily and incrementally expanded to serve newly developed areas. System development charges can be developed on the basis of the proposed new wells and water mains needed for future development. The City should program its water resources activities to provide a safe, economical, and reliable water supply for its 2020 planning horizon.
- **Wastewater.** The existing treatment facilities are currently unable to process any additional wastewater due to lack of adequate percolation/evaporation basin capacity for the application of the treated effluent. The City should plan for funding and construction of future expansion of its sewer collection system and the treatment facilities to accommodate new industry and future growth.
- **Storm Drainage.** The City's existing storm drainage system is adequate to handle current needs but will need incremental improvement to maintain acceptable levels for planned urban development. The City should plan for the funding of new retention/detention basins and entities to provide drainage for existing and new development.
- **Traffic and Circulation.** Currently Main Street/Livingston-Cressey Road experiences occasional congestion at Level of Service D. Future road system should recognize a street pattern designed to accommodate long-range planning and the growth of the City.
- **Community Design.** Citizens have stated that urban design issues should reinforce downtown's civic and geographic position in the community. Therefore, the alternatives that were developed emphasize differences in development form and density.

CHAPTER THREE

SETTING, IMPACTS, AND MITIGATION MEASURES



3.0

SETTING, IMPACTS, AND MITIGATION MEASURES

3.1 INTRODUCTION

As discussed in Chapter One, this EIR has been prepared to analyze potential environmental effects of adopting and implementing the City of Livingston General Plan update. The setting discussions for each topic appear in the Livingston General Plan update's Chapter Two - Environmental Setting and Background. This Chapter was based on the October 1998 *Draft Background Report* and is considered sufficient to describe the physical environment at the issuance of the Notice of Preparation. The reader will be referred to the appropriate section of that chapter for setting information under each topical heading below. The General Plan update is included in Appendix B.

In Chapter Two of this EIR, it was noted that the General Plan "preferred alternative" is considered to be "the project" for impact analysis purposes in this Chapter. Thus, the reader should assume that the environmental analysis of the project that follows refers specifically to the preferred alternative. A comparison of the potential environmental effects of this and the other alternatives appears in Chapter Four.

One purpose of this EIR is to identify significant environmental effects associated with the General Plan and recommend mitigation measures that will reduce such effects to a less than significant level, if possible. Objectives, policies and standards included in the General Plan have been explicitly designed to anticipate, and thereby avoid impacts to the environment. Therefore, throughout this Chapter, wherever an impact is identified that will be mitigated through adoption the General Plan's objectives or policies, these will be referenced in lieu of mitigation measures per se. General Plan objectives and policies serve as the functional equivalent of mitigation measures, while General Plan standards are the functional equivalent of an EIR mitigation monitoring/reporting plan. In those instances where impacts are not be fully mitigated by means of the General Plan's objectives or policies, other mitigation measures may be provided.

The following discussion examines the potential significant environmental effects of the proposed project. The topics presented have been raised as comments on

the Notice of Preparation and during the General Plan update's public meetings and workshops.

3.2 EARTH

3.2.1 Setting

The California Government Code requires that a General Plan address the protection of the community from unreasonable risks associated with geologic hazards, such as seismic ground shaking, ground rupture, ground failure slope instability, subsidence, erosion, soil expansion, and flooding. The issue of flooding is later addressed in Section 3.4 - Hydrological Conditions - of this EIR.

Earth setting issues are discussed in the following General Plan sections:

- 2.1.3 Existing Land Use Within Current City Limits
- 2.7.3 Summary of Existing Description of Soils in Study Area
- 2.8.1 Identification of Geologic and Seismic Hazards
- 2.8.2 Identification of Structural Hazards and Critical Facilities

3.2.2 Impact Evaluation Criteria

Appendix G to the *CEQA Guidelines* states that "a project will normally have a significant effect on the environment if it will expose people to major geologic hazards."

The Uniform Building Code (UBC) establishes construction standards in relation to identified geologic hazards. UBC standards indicate the significance of geologic hazards by identifying the likelihood that such events will occur. Significant geologic effects have the potential to occur if the General Plan proposes a policy or standard that is inconsistent with UBC standards for Livingston's Seismic Risk Zone 3.

Therefore, a significant impact will occur if the General Plan allows substantial development activity in areas with high potential for such geologic effects unless these effects are otherwise prevented or mitigate through General Plan objectives, policies, and standards, and/or mitigation measures.

In its response to the Notice of Preparation, the Department of Conservation's Division of Oil, Gas, and Geothermal Resources has identified one plugged and abandoned well within the project area. The well identified as Starlyn Oil Company "Ben Bartlett" 1 is located in Section 23, Township 6 South, Range 11 East, MD B&M. It is located near the Olive Avenue alignment, approximately 300 feet east of the railroad. According to the Department's records, this well was converted to a water well in 1957.

In the future, if any structure is to be located over or in the proximity of a previously plugged and abandoned well, the well may need to be plugged to current Division specifications. If the construction of any structure over or in the proximity of the well could result in a hazard, the State Oil and Gas supervisor is authorized by Section 3208.1 of the Public Resources Code to order the reabandonment of a previously plugged and abandoned well. If reabandonment is necessary, the cost of operations is the responsibility of the owner of the property upon which the structure will be located. Also, if any plugged and abandoned or unrecorded wells are damaged or uncovered during excavation or grading, remedial plugging operations may be required.

3.2.3 Impacts and Mitigation Measures

Impact 3.2.1: Activities and development in accordance with the General Plan could potentially expose people to geologic hazards, such as seismic events, subsidence, slope or foundation instability, expansive and collapsible soils.

Conclusion: This is not a potentially significant impact because of a number of factors, the foremost of which is discussed in Section 2.8.1 of the General Plan update: Livingston's "Low" maximum expectable earthquake intensity as listed as in the Urban Geology Master General Plan prepared by the California Division of Mines and Geology. Second, new public and private facilities and structures will be designed and constructed to resist shaking in accordance with current building code standards and practices set forth in the Uniform Building Code for Seismic Zone 3. No additional mitigation is necessary.

Impact 3.2.2: Development initiated under the Plan could potentially expose people and property to unsafe conditions if development occurs without sufficient knowledge of an abandoned oil, gas, injection or water well.

Conclusion: The Subdivision Map Act (Government Code Section 66424.5) notes that tentative maps show existing conditions in and around proposed subdivisions, but "need not be based upon an accurate or detailed final survey of the property." It is possible, therefore, that wells and underground facilities could be omitted from tentative maps. As noted in the Department of Conservation's response to the Notice of Preparation, "the State Oil and Gas Supervisor is authorized by Section 3208.1 of the Public Resources Code to order the reabandonment of previously plugged and abandoned wells. If reabandonment is necessary, the cost of operations is the responsibility of the owner of the property upon which the structure will be located."

Mitigation Measure 3.2.2: Mitigation will include the following project-to-agency linkage in the Safety Element as Policy 10.1.7:

Site plans and tentative maps for properties located in Section 23, Township 6 South, Range 11 East, MD B&M will be routed to the

California Department of Conservation's Division of Oil, Gas and Geothermal Resources Coalinga offices during initial environmental review for comment and appropriate conditions of approval.

Effectiveness of Mitigation: Through this measure, coordination between city development and the agency that records these facilities will help to identify and mitigate this potential impacts to a less-than-significant level.

3.3 AIR QUALITY

3.3.1 Setting

Climate and air quality setting issues are discussed in the following General Plan sections:

- 2.7.7 Climate and Air Quality
- 2.7.8 Air Quality Monitoring Data

The existing conditions have been quantified through an air quality model and are summarized in the sections above and included in the following analysis.

3.3.2 Impact Evaluation Criteria

The San Joaquin Valley Air Basin (SJVAB) is classified "non-attainment" by the Environmental Protection Agency and by the Air Resources Board for ozone and PM-10. The urbanized areas of Fresno, Bakersfield, Stockton, and Modesto are classified attainment and all the non-urbanized area of the SJVAB are classified as "unclassified" for federal carbon monoxide standards.

Appendix G of the *CEQA Guidelines* states that a project may be deemed to have a significant effect on the environment if it will violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations.

Federal and state ambient air quality standards provide the basis for evaluating air quality related impacts. Non-attainment of a federal or state emission standard for any pollutant is a significant impact. Because the State standards set forth under the Clean Air Act of 1988 are more restrictive than federal standards, the state standards will be used for comparison of impacts.

It is unlikely that an individual project would, in itself, exceed a standard. However, if a project, such as the General Plan update, results in an incremental contribution to a nonattainment condition, significant cumulative impacts will result.

3.3.3 Impacts and Mitigation Measures

Impact 3.3.1: The General Plan update has the potential to result in direct and non-direct emissions of non-attainment pollutants by new development and activity. Many or most development projects that would be considered under the General Plan would potentially result in emissions of ozone or ozone precursors, which are associated with vehicular emissions, and PM-10, which can potentially be emitted by agricultural burning, construction activities, wood-burning appliances, and incineration.

Conclusion: In a non-attainment air basin, any emissions of non-attainment pollutants by new developments are considered to be a significant air quality impact, both directly and cumulatively. Without proper controls, virtually all projects will result in emissions of non-attainment pollutants, which is a direct and cumulative significant impact in this nonattainment area.

The Merced County Association of Governments (MCAG) maintains a regional transportation model using the MINUTP software, and performed air quality conformity analyses to demonstrate the conformity of transportation projects in the county to the State Implementation Plan for Air Quality. In the GAMAQI, the SJVUAPCD recommends that the DTIM2 be used to estimate emissions of monitored pollutants for projects on the scale of a general plan update.

DTIM2 is a software tool used to estimate on-road vehicle emissions. It was developed for CalTrans' Office of Traffic Improvement and released in 1994. Emissions are calculated based on vehicle activity multiplied by emissions rates. Vehicle activity is collected from a transportation model such as MINUTP. Emission rates are taken from an emission rate model such as EMFAC7G, developed by the California Air Resources Board and approved for use in air quality analyses.

Five scenarios, in three different analysis years, were evaluated:

1. Current conditions, 1998
2. Existing General Plan, 2008
3. Proposed General Plan, 2008
4. Existing General Plan, 2018
5. Proposed General Plan, 2018

Scenarios 1, 2, and 4 used the existing models developed by MCAG to demonstrate the conformity of the 1998 Regional Transportation Plan (RTP). These models are consistent with the land uses and circulation described in the existing Livingston General Plan. Scenarios 3 and 5 were developed by revising these models using the population projections, land uses, and circulation system of this General Plan update.

Vehicular activity data for trips and vehicle miles traveled from the MINUTP transportation model was the input to DTIM2. The emission factors used were taken from EMFAC7G. The output from DTIM2 is the total emissions in the region for each of four pollutants: reactive organic gasses (ROG), carbon monoxide (CO), oxides of nitrogen (NOX), and particulate matter (PM-10). ROG and NOX are precursors to ozone. Additional background on the methodology of the DTIM2 analysis is attached as Appendix G.

The year 1998 was chosen as the baseline for estimation of potential impacts of the existing Plan and Plan update, and projections from this year in two ten-year increments were established. This year represents a point in time when MCAG prepared an "existing conditions" data set for the General Plan update. MCAG does not consider the difference in model output between the DTIM2 model buildout of 2018 and the theoretical buildout of the two General Plans in 2020 to be significant. The results of the DTIM2 air quality analysis are displayed in Table 3-1.

**Table 3-1
DTIM2 Air Quality Analysis Results**

Year	1998	2008	2008	2018	2018
Scenario	Current Conditions Kg/Day	Existing General Plan Kg/Day	General Plan Update Kg/Day	Existing General Plan Kg/Day	General Plan Update Kg/Day
ROG	8,281	6,833	6,823	6,257	6,232
CO	54,883	59,764	59,737	68,204	68,133
NOX	47,892	44,354	44,205	39,405	39,203
PM-10	1,064	1,570	1,570	2,363	2,362
Total in Kilograms/Day	112,120	112,521	112,335	116,229	115,930
Total in Tons/Year	45,016	45,177	45,103	46,666	46,546

Source: MCAG, July, 1999.

MCAG has drawn the following conclusions. Both the existing General Plan and the Plan update show lower ROG and NOX emissions and higher CO and PM-10 emissions than current conditions. This is mainly attributable to the overall growth of the region, especially in the case of PM10 which is known to be directly-related to total vehicle miles traveled. As population increases, vehicle miles traveled increase and result in additional PM-10.

Both the existing Plan and Plan update show lower ROG and NOX emissions than current conditions even though more activity will occur in the future. Emission rates for future years in EMFAC are lower than today's rates because of the trend toward cleaner fuels and vehicles that pollute less.

The Plan update shows lower emissions for all pollutants than the existing Plan in both the interim and buildout years. This is due to the more efficient location of complementary land uses in the Plan update, and the lower population projection for the City. MCAG concludes its air quality analysis with the statement that "regional air quality will be improved by the adoption of the proposed plan."

The Plan update's benefits are attributable to its objectives, policies and standards. Land Use, Circulation and Open Space/Conservation/ Recreation Elements will result in indirect benefits to air quality by:

- Promoting short intra-city trips by a compact urban form and contiguous growth;
- Reducing dependence on single occupant vehicles by increasing neighborhood connectivity through the use of minor collectors; and
- Reducing overall vehicle miles traveled by enhanced city street connectivity.

Additional measures as set forth in the *Guide For Assessing Mitigating Air Quality Impacts* will be employed on a project-specific basis to further lessen impacts. Open Space/Conservation/Recreation Element Policy 5.2.9 requires "the *Guide for Assessing and Mitigating Air Quality Impacts* will be used to evaluate and mitigate the effects of all new development to the extent feasible."

These actions listed above will reduce emissions by employing design standards, which reduce air quality impacts. However, because the General Plan update will contribute to the nonattainment status of the SJVAB, these actions will not reduce the potential impact to a less than significant level. Air quality impacts remain unavoidable and significant.

Impact 3.3.2: The General Plan update has the potential to violate air quality standards resulting from short-term construction-related emissions of particulate matter smaller than ten microns, otherwise known as PM-10.

Conclusion: This is a potentially significant impact. The San Joaquin Valley Unified Air Pollution Control District (District) considers PM-10 to be the pollutant of greatest concern during a project's construction phase. The GAMAQI found "construction-related emissions can cause substantial increases in localized concentrations of PM-10, as well as affecting PM-10 compliance with ambient air quality standards on a regional basis." The GAMAQI includes the following interpretation of this impact:

The District's approach to CEQA analyses of construction impacts is to require implementation of effective and comprehensive control measures rather than to require detailed quantification of emissions.... PM-10 emitted during construction can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions and other factors, making quantification difficult. Despite this variability in emissions, experience has shown that there are a number of feasible control measures that can be reasonably implemented to significantly reduce PM-10 emissions from construction.

Open Space/Conservation/Recreation Element Policy 5.2.8 requires that "new construction activities shall comply with the PM-10 control measures as set forth by the San Joaquin Valley Unified Air Pollution Control District's *Guide For Assessing and Mitigating Air Quality Impacts*."

Compliance with these measures for all sites and implementation of all other control measures indicated in the GAMAQI's Tables 6-2 and 6-3 (as appropriate, depending on the size and location of the project site) will constitute sufficient mitigation to reduce PM-10 impacts to a level considered less than significant. These measures are attached as Appendix H and will be made conditions of project approval under the General Plan update. They will be monitored by the building inspectors in the course of their routine inspection duties. No additional measures are needed.

3.4 HYDROLOGIC CONDITIONS

3.4.1 Setting

Hydrologic setting issues are discussed as follows in the General Plan:

- 2.5.1 Water
- 2.5.2 Sanitary Sewer
- 2.5.3 Storm Drainage
- 2.7.1 Water Resources in the Study Area
- 2.7.2 Water Quality Conditions in Major Water Courses in Study Area
- 2.8.4 Areas Subject to Flooding and Dam Failure Inundation

The provision of domestic water service and the ability of the groundwater supply to provide for the growth of the city were observed in Section 2.5.1 of the General Plan.

Reports completed for the 1988 General Plan Environmental Impact Report (SCH number 87063010) and the 1992 Water Distribution System Study and Master Plan have found that adequate long term groundwater supply exists for buildout of the City of Livingston's Sphere of Influence. Improvement of the production, storage, distribution, and treatment systems will be needed to take advantage of this resource. However, the water system can be readily and incrementally expanded to serve newly developed areas. Fees can be developed on the basis of the proposed new wells and water mains needed for future development.

The net increase between the existing Sphere of Influence and the proposed 2020 phased growth boundary is approximately 500 acres. When compared with the existing acreage of the Sphere of Influence, this represents a 19% increase in acreage of the City's water service area. Considering that the incremental expansion of the water system would consist of new wells and distribution mains paid for by new development, the findings of the documents cited above remain valid.

3.4.2 Impact Evaluation Criteria

Flooding: Appendix G to the *CEQA Guidelines* states, "a project will normally have a significant effect on the environment if it will cause substantial flooding, erosion, or siltation or expose people or structures to major geologic hazards."

Development within any Federal Emergency Management Agency-defined (FEMA) flood hazard zone without mitigation is considered a potentially significant impact. Federal standards require flood protection against a storm event with a 100-year occurrence interval. 100-year flood hazard areas in Merced County have been mapped by the on FEMA Flood Insurance Rate Maps (FIRM). Figure 2-6 in Chapter 2 of the General Plan shows areas subject to flooding by such a storm are restricted to the Merced River valley. All development within such zones must be avoided or mitigated through construction of flood control facilities or other effective measures.

Development can increase the risk of flooding by creating impervious surfaces from the construction of structures and pavements. Excess runoff occurs where water cannot seep into the ground due to such impervious surfaces. All excess runoff not controlled by storm water collection and storage systems represents a potentially significant effect.

Water Supply and Quality: Appendix G to the *CEQA Guidelines* states, "a project will normally have a significant effect on the environment if it will

substantially degrade water quality, contaminate a public water supply, substantially degrade or deplete groundwater resources, interfere substantially with groundwater recharge, encourage activities that result in the use of large amounts of ...water... in a wasteful manner.”

Water quality effects can be associated with both surface and groundwaters. Any disturbance of surface water courses and adjacent areas should be considered a significant impact. Watersheds must be protected in order to protect water quality. If surface water courses or impoundments are contaminated by storm runoff, this would also be a significant effect. The National Pollutant Discharge Elimination System (NPDES), a federal monitoring and permitting system administered by the State through Regional Water Quality Control Boards (RWQCB), provides standards for stormwater discharge quality. Urban storm water runoff is likely to contain petroleum compounds, glycol, and dissolved metals from vehicular fluid leaks.

During and following heavy rains, materials discharged into a storm drain are carried directly to surface water. Because of the adverse effect of these discharges, the Clean Water Act requires that communities and industries obtain NPDES permits to discharge storm water to urban storm sewer systems. The Environmental Protection Agency (EPA) requires storm water runoff from 11 different categories of industrial activities to be permitted. These industrial activities include certain manufacturing facilities, wastewater treatment plants, hazardous waste treatment plants, hazardous waste treatment storage, and disposal facilities and construction activities where there is a land disturbance of five acres or more.

A strong regional enforcement program is the key to safeguarding the State's water quality. Legislation now authorizes the Regional Water Quality Control Board to impose substantial civil liability on polluters. In addition, the Regional Board maintains computerized databases covering an array of regulatory activities. The vast majority of dischargers routinely comply with the State's water pollution control laws. When problems arise, the Regional Board determines which enforcement measures to adopt. Decisions are based on the nature of the violation, the discharger's record, and input received at public hearings. Decisions of the Regional Boards may be appealed to the State Board.

Groundwater impacts can be measured by the potential to encounter unsafe domestic water supplies in groundwater aquifers or for the General Plan itself to adversely affect groundwater quality through its standards or policies. State and federal drinking water standards for public and private water systems can be used as a measure of impact significance involving existing or potential drinking water supply sources.

3.4.3 Impacts and Mitigation Measures

Impact 3.4.1: The potential exists for people and property to be exposed to flooding from natural watercourses or as a result of excess storm runoff due to increased impervious surfaces.

Conclusion: This is a significant impact. Although most of the planned urban area is not in the 100-year flood area, the accumulation of stormwater runoff will increase as urban development results in additional impervious surfaces, resulting in a greater potential for stormwater flooding as the city grows. The City's *Storm Drain Collection System Study and Master Plan* was developed in 1992 to estimate drainage demand and facilities for the urban area.

The *Master Plan* is maintained pursuant to Safety Element update policy 10.4.2. The General Plan update establishes goals and policies to reduce potential flood impacts and storm water drainage impacts based on the conclusions and recommendations of the *Master Plan*. Existing city standards for new development requires that storm water drainage basins must hold the total runoff from either a 10-year frequency, 24-hour storm with outlet facilities providing terminal drainage capable of emptying a full basin with in 48 hours, or a 10-year frequency, three-day storm with outlet facilities capable of emptying a full basin within five days. Either option shall possess a positive outlet terminal. This standard currently reduces potential impacts associated with storm water runoff from new development to a less than significant level.

The recommendations of the *Master Plan* were based on the earlier General Plan Sphere of Influence, which is similar but not identical with the proposed 2020 urban boundary. The main difference being that the *Master Plan's* watershed area analyses did not extend west of Robin Avenue north of Vinewood Avenue/B Street, an area designated by the General Plan update for light industrial and public facility land uses; neither did it include the proposed light industrial reserve north of Olive Avenue alignment. This omission will not result in significant flooding potential, however, as the standard referenced above applies to all areas within the city limits, including those not within the *Master Plan* watershed areas. Inclusion of the entire 2020 urban boundary is beneficial to the comprehensive scope and cost allocation of the *Master Plan*, however. Further, the inability of a developer to participate in a stormwater watershed area program because a property is not identified in the *Master Plan* may result in an environmental impact, avoidable if the development proposal was evaluated according to the appropriate *Master Plan* watershed area.

Mitigation Measure 3.4.1: Safety Element Policy 10.4.3 is added to read,

Development proposals shall be analyzed according to the *Storm Drain Collection System Study and Master Plan*. Development not within an existing *Master Plan*

watershed area may be included in the boundaries of an adjacent area and subject to a revision of facilities and cost allocation thereof.

Effectiveness of Measure: This measure has the potential to improve the City's comprehensive *Master Plan* and fairly allocate the costs associated with storm water drainage, reducing potential environmental impacts to a less than significant level.

Impact 3.4.2: The project has the potential to substantially degrade surface water in excess of National Pollution Discharge Elimination System.

Conclusion: This potential impact is considered two distinct ways: in relation to the ongoing wastewater treatment plant capacity issue, and surface water contamination from stormwater runoff.

Wastewater Treatment General Plant. This potentially significant environmental impact is reduced to a less than significant level by existing activities ordered and monitored by the Regional Water Quality Control Board. As noted in General Plan Section 2.5.2 under discussion of the wastewater treatment plant, the Regional Board issued a Cease and Desist Order to prohibit the City from discharging disinfected wastewater into the Merced River. Since that time, the City has cooperated with the Board to implement the activities required by the Order to upgrade the capacity of the plant and prevent unauthorized discharges to the river. Additional lands have been leased at the plant site and two five-acre evaporation/percolation ponds will be constructed there to provide sufficient water disposal capacity for the city. Also, the Board has approved the City's plans to use gypsum to enhance the percolation capacity of existing ponds. Board staff has stated that the City's continued efforts to complete the tasks set forth in the Order will reduce the potential for degradation of surface water from the wastewater treatment plant to a less than significant level.

Stormwater Runoff. *CEQA Guidelines* provide for the analysis of development proposals and the mitigation of their potential impacts. Under *CEQA Guidelines* Section 15060 et seq., consultation with public agencies regarding project-specific environmental analysis can be performed and mitigation measures established when required based on existing State and Federal regulations for surface water, ground water, and drinking water. NPDES permitting and monitoring for public and private projects provides an enforceable standard to evaluate future projects' environmental impacts to water quality.

No additional mitigation measures are required. All potentially significant impacts identified above, including flooding and impacts to water quality and water supply, will be mitigated to a less than significant level by existing NPDES discharge standards, and by regulatory control by agencies commenting on development proposals.

3.5 **BIOLOGICAL RESOURCES**

3.5.1 **Setting**

Biological resources setting is presented in the following General Plan sections:

2.7.5 Description of General Wildlife Habitat within the Study Area

2.7.6 Description of State- and Federally-protected Special Status Species

In general, agricultural areas have the potential to support wildlife habitat. The quality of this habitat is limited by the types of farming practices and crops grown. Orchards provide habitat for birds and mammals because of crop longevity and the presence of cover. Irrigated fields and pastures provide foraging habitat for wintering geese and sandbill cranes. Rabbits, pheasants, and various small birds and mammals also use these areas. Row crops provide seasonal habitat for pheasants, rodents, and doves. Agriculture, in some cases, has enhanced certain species of wildlife by contributing to the wildlife populations that exist in the area. Because the species that inhabit those areas are typically prey for larger predators, it should be considered that agricultural and vacant lands provide foraging for raptorial birds and mammalian predators.

Sensitive species also have the potential to occupy the area. Species known to occur in the area include succulent owl's-clover (*Castilleja campestris* spp. *Succulenta*) Results of National Diversity Database and California Native Plant Society searches for the Livingston environs for rare and endangered plant and animal species provided on Table 3-2.

3.5.2 **Impact Evaluation Criteria**

CEQA Section 21001 states California's policies with respect to fish and other wildlife:

- to prevent elimination of fish or other wildlife species due to human activities;
- ensure that fish and wildlife populations do not drop below self-perpetuating levels;
- preserve representatives of all plant and animal communities for future generations.

Section 15065 of the *CEQA Guidelines* defines a significant adverse effect of a project as one that:

- has the potential to substantially reduce the habitat of a fish or wildlife species or cause the population to drop below self-sustaining levels;
- threatens to eliminate a plant or animal community; or
- reduces the number or restricts the range of a threatened or endangered plant or animal species.

Table 3-2
Natural Diversity Data Base/
California Native Plant Society's Inventory of
Rare and Endangered Vascular Plants and Animals in the
Livingston Environs

Common Name	Federal/
Scientific Name	State Status
Succulent Owl's-Clover <i>Castilleja campestris</i> spp. <i>succulenta</i>	Threatened/ Endangered
Valley Elderberry Longhorn Beetle <i>Demoscerus californicus dimorphus</i>	Threatened/ None
San Joaquin Valley Orcutt Grass <i>Orcuttia inaequalis</i>	Threatened/ Endangered
Merced monardella <i>Monardella leucocephala</i>	Threatened/ Endangered

As defined by Section 15380 of the *CEQA Guidelines*, a species is *endangered* when its survival and reproduction in the wild are in immediate danger from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease or other factors. Species are designated as *rare* when either:

- they are not presently threatened with extinction, but their numbers are so small throughout a significant portion of their range that they may become endangered if their environment worsens; or
- the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the federal Endangered Species Act.

All animals designated as rare by the California Fish and Game Commission prior to January 1, 1985 were automatically reclassified as threatened by legislation.

Appendix G to the *CEQA Guidelines* states: "A project will normally have a significant effect on the environment if it will substantially affect a rare or endangered species of animal or plant or the habitat of the species, interfere substantially with the movement of any resident or migratory fish

or wildlife species, or substantially diminish habitat for fish, wildlife, or plants.

In addition to CEQA impact significance criteria, this EIR also considers effects to species of special concern to the U.S. Fish and Wildlife Service (USFWS) and State Department of Fish and Game (CDFG) to be significant. Included are species listed on the State and federal Endangered Species Acts. Species of concern to CDFG are listed on the Natural Diversity Data Base (NDDB). For this EIR, species are considered "sensitive" if they are listed as threatened or endangered by the USFWS or CDFG or in federal Category 1 (candidates for federal listing for which the USFWS has sufficient biological information to support a listing), federal Category 2 (candidates for federal listing for which sufficient information on their biological status and threats to support a proposal to list as Endangered or Threatened), or species of special concern that are not yet on the state threatened or endangered lists.

3.5.3 Impacts and Mitigation Measures

Impact 3.5.1: Implementation of the General Plan could potentially result in development that would adversely impact biological resources, including sensitive plant and animal species, and sensitive habitats.

Conclusion: This is a potentially significant impact. Research of available records indicates that sensitive plant and animal species could potentially occur in the Livingston planning area. Development, therefore, has the potential to affect these biological resources. While individual sensitive species may not be affected by some developments, many developments will directly impact some organisms and their habitats. If unregulated, these effects could be individually and cumulatively significant.

In this sense, wildlife that is supported by the agricultural and vacant lands in the project area contribute to the functioning ecosystem of the general area and is beneficial. The cumulative long-term impact of incremental urbanization of habitat in the area may cause an overall reduction in many higher order predators in the vicinity.

The objectives, policies and standards of the General Plan update will reduce the potential for adverse effects on wildlife by encouraging clustered, contiguous development and infill of existing developed areas, all of which lower the development pressure on lands outside of the 2020 urban boundary. Policies of General Plan Open Space/Conservation/Recreation Element and the Urban Boundary Element limit the extent of urbanization by restricting leapfrog development and protect agricultural land from premature conversion to urban uses.

Further, the General Plan designates the part of the Merced River channel not already dedicated to urban uses as Open Space park reserve rather than an urban level use. Development of the Merced River environs will require an Initial Study under the *CEQA Guidelines* at which time consultation with the Department of Fish and Game and Merced County can be used to establish standards to protect and maximize this area's natural habitat.

These measures will reduce the impact of urbanization on sensitive species within the planning area. However, an addition measure is needed to provide for further identification and protection on a project-specific level.

Mitigation Measure 3.5.1: Policy 5.2.10 is added to the General Plan.

Properties which have the potential to support listed plant and animal species will be required to have a biological investigation as a condition of development. Surveys for species will need to follow both Federal and State protocols.

Effectiveness of Mitigation: This measure will reduce potential impacts to a less than significant level.

3.6 NOISE

3.6.1 Setting

The setting and background discussion of noise appears in the following General Plan sections:

- 2.9.1 Background Noise Level Survey
- 2.9.2 Major Stationary Noise Sources

3.6.2 Impact Evaluation Criteria

Appendix G to the *CEQA Guidelines* states that, "a project will normally have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas." Noise contours must be used as a guide for establishing a pattern of land uses that minimize the exposure of community residents to excessive noise. The adopted noise element must also serve as a guideline for compliance with the State Noise Insulation Standards (California Code of Regulations, Title 24 and Section 35 of the Uniform Building Code [UBC]). Noise level criteria also should be consistent with the noise level criteria contained in the California Office of Noise Control Model Community Noise Control Ordinance.

Any failure by new development under the updated General Plan to satisfy the objectives, policies and standards of the Noise Element, noise insulation standards of the UBC, or noise level criteria of the Model Community Noise Control Ordinance shall be considered a significant impact.

3.6.3 Impacts and Mitigation Measures

Impact 3.6.1: Increased noise levels associated with traffic growth in the City may encroach upon existing noise-sensitive land uses.

Impact 3.6.2: The potential increase in the railroad operations could result in exposure of existing and future noise-sensitive land uses of noise levels in excess of acceptable noise levels.

Impact 3.6.3: The General Plan may result in future noise-generating industrial exposing existing and future noise-sensitive land uses to industrial noise levels in excess of acceptable noise standards.

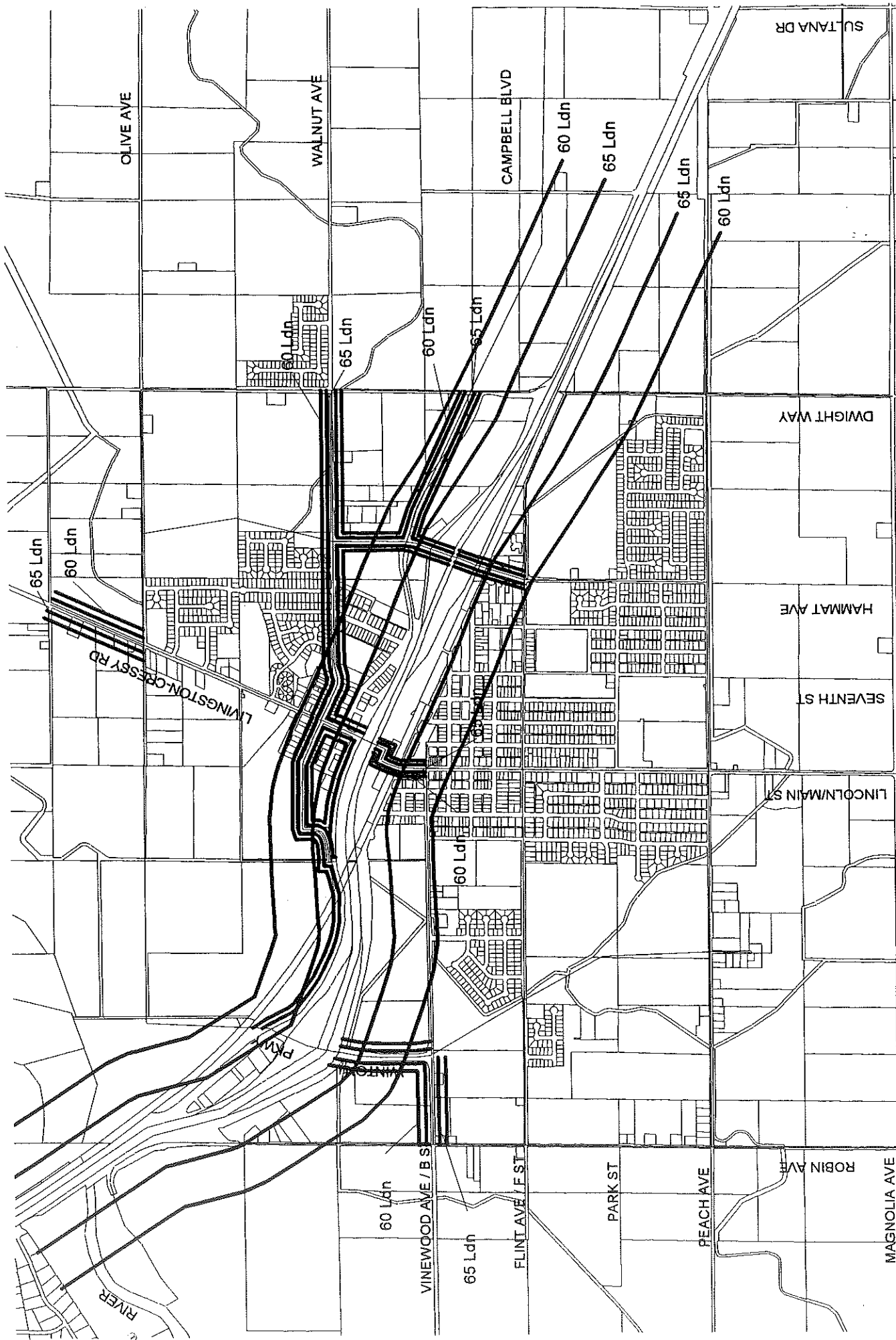
Conclusion: These can all be considered potentially significant noise impacts. The growth of Livingston will increase the number of future noise generators and result in the development of additional noise-sensitive land uses. Sensitive land uses include residences, hospitals, churches, convalescent homes, and schools; moderately sensitive land uses include offices and motels. Refer to Figure 3-1 for illustration of future noise levels associated with road and rail traffic. Appendix F contains for assumptions and information used to complete Figure 3-1.

These potential impacts are reduced to a less than significant level by the implementation of the General Plan's Noise Element.

For example, noise impacts can be the result of expansion of either noise sensitive land uses growing into noise impacted areas or vice versa. Because there are many possibilities for new types of industrial noise sources to be introduced into the City, it is not possible to quantify the noise emissions of those uses until specific development plans are filed. Therefore, a review of potential noise impacts via policies in the Noise Element of the General Plan should be conducted for these types of facilities when they are proposed.

The Noise Element establishes standards for acceptable noise levels and policies to implement them. For example, Noise Element policy 1 reads,

Table 8-1 depicts the ranges of noise exposure from transportation noise sources, which are considered to be acceptable, conditionally acceptable, or conditionally unacceptable for the development of different land uses.



General Plan Update Build-Out
Noise Contours

Figure 3-1
Source: Brown-Buntin Associates, Inc.

Table 8-1 shall be used to determine whether mitigation is needed for development of land uses near major transportation noise sources.

Tables 8-2 and 8-3 further establish maximum allowable noise exposure levels resulting from transportation and stationary noise sources. The policies of the noise element link these tables to the evaluation of development proposals and establish standards upon which mitigation measures can be developed as conditions of project approval.

These policies mitigate potential noise impacts associated with implementation of the General Plan to a less than significant level. No additional mitigation measures are necessary.

3.7 LIGHT AND GLARE

3.7.1 Setting

Growth of Livingston will result in increased urban development, which may increase light and glare impacts. Common sources of light and glare are advertising signs, street lights and light or reflective surfaces of buildings.

3.7.2 Impact Evaluation Criteria

Appendix G of CEQA states that a project may be deemed to have a significant effect on the environment if it will have a substantial, demonstrable negative aesthetic effect.

Aesthetics concerns the appreciation of beauty or good taste. These things are subjective and their evaluation is difficult to demonstrate. There are probably as many definitions of what is pleasing to the eye as there are residents of the city. The analysis of this subject is therefore restricted to potential impacts that are "demonstrable," that is, measurable.

While the reference to Appendix G above does not specifically refer to light and glare as a negative aesthetic effect, light and glare is generally regarded as a negative aesthetic effect. Light and glare can be considered as a negative effect not only from an aesthetic, subjective viewpoint, but it can be argued that severe light and glare can be a severe nuisance, if not a potential health and safety hazard, particularly when it affects sensitive uses, such as schools and residences.

Glare is a continuous or periodic intense light which may cause eye discomfort or be blinding to humans. The following terms will be used in this discussion on glare:

- **Foot-candle:** The primary measure of light intensity. One foot candle equals one lumen per square foot.
- **Light Pattern:** The area of direct illumination from a light source.
- **Light Source:** A device that produces illumination, including incandescent bulbs, fluorescent and neon tubes, halogen and other vapor lamps, and reflecting surfaces or refractors incorporated into a lighting fixture. Any translucent enclosure of a light source is considered to be part of the light source.
- **Point of Overlap:** The highest point vertically from ground level at which adjacent light patterns overlap.

To determine if the project would have an impact, a project must generate light which would directly illuminate or reflect upon adjacent property or could be directly seen by motorists or persons residing, working or otherwise located within sight of the project. In order to determine significance, it is necessary to determine the intensity of the lighting (in foot candles), and whether it would affect a motorist's ability to drive safely.

The following conditions will normally be considered significant:

- Any light source in excess of 150 watts, which directly illuminates adjacent properties.
- Additional indirect illumination of adjacent properties in excess of 0.5 foot candles.
- For pedestrian lighting systems, a point of overlap between light patterns greater than seven feet.
- Intensity of lighting within the physical limits of an area required to be lighted that is greater than seven foot candles.

3.7.3 Impacts and Mitigation Measures

Impact 3.7.1: The General Plan may result in exposure of sensitive uses to significant sources of light and glare.

Conclusion: Light and glare can be a significant direct impact if it is unmitigated and affects sensitive uses, such as schools and residences. Each development project could potentially result in an incremental contribution to a cumulative light and glare impact.

Mitigation Measure 3.7.1.: A project can cause glare through the type of exterior building materials utilized, the type of activities undertaken and/or the type of exterior lighting employed. Potential glare impacts shall be mitigated by including the following criteria in future site plan reviews for all development and shall be implemented by the Community Development Department. The following policies are added to the Land Use Element policy 3.1.A.12:

12. Project descriptions for Site or Plot Plans shall identify:

- a. **Building Materials:** All potentially reflective exterior building materials, location of the materials in relation to the position of the sun, and to location of motorists and other persons within sight of the project.
- b. **Activities:** Type of activities to be performed, what hours they will be performed, where on the property they will be performed, and what types of shielding/screening will be employed.
- c. **Lighting:** Each exterior light source according to type, location, wattage (measured at 110 volts or the equivalent), height, direction of lighting patterns, type of shielding, when in use, and whether the light is steady or pulsating. For a lighting system, an outline of directly illuminated areas, including points of overlap) between lighting patterns, all streets within the lighting system, and all adjacent property lines must also be submitted.
- d. The following conditions will normally be considered significant and subject to additional review to determine level of significance and whether mitigation measures will be needed:
 1. Any light source in excess of 150 watts which directly illuminates adjacent properties.
 2. Additional indirect illumination of adjacent properties in excess of 0.5 foot-candles.
 3. For pedestrian lighting systems, a point of overlap between light patterns greater than seven feet.
 4. Intensity of lighting within the physical limits of an area required to be lighted that is greater than seven foot-candles.

Effectiveness of Mitigation: These measures will permit the evaluation of development to the degree necessary to reduce potential light and glare impacts to a less than significant level.

3.8 LAND USE

3.8.1 Setting

Land Use setting is discussed in General Plan in the following sections:

- 2.1.1 Present Livingston General Plan
- 2.1.2 Present City Land Use Controls
- 2.1.3 Existing Land Use within Current City Limits
- 2.3.1 Demographic and Real Estate Trends and Outlook
- 2.3.2 Industrial Trends and Outlook
- 2.3.3 Employment and Commuting Patterns

By their nature, General Plans possess great potential for environmental impacts by providing for new growth and development. In the present case, the Livingston General Plan update will provide sufficient space to accommodate approximately 15,761 citizens by 2008 and over 23,000 by 2020.

3.8.2 Impact Evaluation Criteria

Appendix G to the *CEQA Guidelines* states that a project will normally have a significant effect on the environment if it will convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land, induce substantial growth or concentration of population, displace a large number of people, or disrupt or divide the physical arrangement of an established community.

3.8.3 Impacts and Mitigation Measures

Impact 3.8.1: Development under the proposed General Plan has the potential to urbanize approximately 500 acres of prime agricultural lands, 2,570 acres of farmland of statewide importance, disrupt agricultural production, and/or permanently commit non-renewable agricultural lands and soils to other uses.

Conclusion: This is a significant and irreversible impact. The acreages given above represent the area between the limit of urbanization under the existing General Plan and the proposed Sphere of Influence.

Urban sprawl and non-contiguous urban development often fragment agricultural lands or hasten their conversion to other uses. Any proposed land use that permanently converts agricultural land, especially prime agricultural land, to non-agricultural use and/or disrupts existing agricultural production or production potential is a significant direct impact. Proposed land uses that fragment agricultural lands also represent potentially significant impacts, because encroachments of non-agricultural uses often inhibits agricultural uses or creates pressures for further land conversions. Where this occurs repeatedly as a result of multiple projects, each such project contributes incrementally to a cumulative impact.

The General Plan has many provisions that are economically and socially beneficial, but which, in the absence of appropriate controls, might result in adverse environmental impacts. Accordingly, the General Plan objectives, policies and standards are designed to bring about or accommodate growth and development and are intended to anticipate and mitigate the environmental impacts of growth and development. For example, Urban Boundary Element policy 6.2.A.2 establishes criteria that must be satisfied to develop beyond the proposed urban growth areas. Urban Boundary Element policy 6.2.A.3 would allow residential development to occur on lands currently in agricultural production but only if these lands are substantially contiguous to existing urban development. This policy prevents the premature development of productive agricultural lands by encouraging development to radiate outward, thus preventing "leapfrog" development or urban islands surrounded by agricultural uses. Ten year and twenty year growth boundaries have been established to promote such concentric, contiguous growth.

Land Use Element policies 3.1.A.1-4, 7-9 and 11 and Open Space/Conservation/ Recreation Element goals 5.1. A, B, and C, and policies 5.1-3 are expected to have a beneficial effect on agricultural lands by establishing and promoting logical growth pattern and recognizing the intrinsic value of surrounding agricultural lands to open space and resource management. Some of these provisions directly address conversion of agricultural lands and/or protecting agricultural lands from encroachment by non-agricultural uses.

Although the General Plan creates a framework that will balance the preservation of agricultural land with urbanization to the fullest extent possible, the loss of agricultural land is an irreversible process, is significant, and cannot be mitigated.

Impact 3.8.2: The General Plan could induce substantial growth or concentrations of population.

Conclusion: A General Plan, by its nature, can have a significant direct and cumulative effect on growth. It is important to recognize that growth per se is not necessarily bad. Assuming that growth is properly planned and regulated, it can result in beneficial effects, such as improvement of economic conditions, by providing expanding employment and business opportunities and increasing the property tax base. Commercial and industrial development and increased job and housing opportunities must be carefully balanced against one another and against potential adverse environmental effects associated with growth to achieve the maximum benefits of growth and development while minimizing the adverse effects.

The General Plan anticipates an annualized growth rate of five percent through 2020, at which time the City's population is anticipated to be over 23,000 residents. Based on the following facts, it is judged that the General Plan will not induce unduly substantial growth or concentrations of population that would be considered a significant impact under CEQA:

- the General Plan provides sufficient sites for the housing needs to accommodate projected growth;
- the General Plan provides for a sufficient mixture of housing types and development densities to accommodate all lifestyles and social and economic groups;
- sufficient provisions are made for retaining and protecting agricultural lands and open space for recreational uses and habitat in the face of growth; and
- sufficient provisions are provided for a jobs/housing balance and economic growth and diversification to ensure that economic development keeps pace with population growth.

It is concluded that the impact will not be significant, unless the growth rate over the planning period exceeds the projected rate. However, it is unlikely that this would occur without parallel growth in job opportunities. Finally, the City can control its growth rate through the process of approving or denying development proposals. The City can further control its growth, if desired, through other legislative acts, including subsequent General Plan amendments, and through the electoral process in the form of local referenda.

Impact 3.8.3: The General Plan could displace substantial numbers of existing housing or substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Conclusion: This is not considered a potentially significant environmental impact. A General Plan can have profound direct and cumulative effects on the physical arrangement of a community, the types and locations of specific land uses, the rates of growth and development, housing and employment opportunities, all of which could potentially displace people. However, the adopted Housing Element of the General Plan has been designed to ensure housing opportunities for all economic and social groups that reside or are anticipated to reside in the City. The General Plan update has been conceived to accommodate a population of over 23,000 by 2020. It also has been designed to accommodate all types of land uses. In short, the General Plan will do more to accommodate the existing and future population of the City than displace people.

The General Plan proposes that the downtown civic center designation be expanded from its current configuration west to Second Street and

southward along Main Street to Park Street. This land use pattern would redesignate residential areas to commercial/professional. Its implementation would require the use of the City's non-conforming uses and structures section of the zoning ordinance and/or inclusion of the area into a future redevelopment project area.

This activity could eventually convert up to 92 single family homes and properties into commercial uses between adoption of the General Plan and the year 2020. This is not expected to result in a significant environmental impact associated with the displacement of housing or persons. Whatever the mechanism used to convert these properties, Redevelopment Agency activities, special districts, or simply market forces, fair market values of the property, will be paid for the properties. Should the conversion be subject to Redevelopment activities, relocation costs will be paid as well. For these reasons, this impact is not significant.

Impact 3.8.4: Growth and development has the potential to disrupt or divide the physical arrangement of an established community or result in the loss of open space.

Conclusion: This is not a potentially significant impact. The compact urban form, requirements for contiguity for new residential development, a circulation system strengthened by the Winton Parkway, Main Street, and Hammatt Avenue overcrossings, and a balanced phased growth pattern that keeps downtown in the center of the city will preserve a compact urban form and preserve the surrounding agricultural lands until the logical growth of the city is warranted.

Loss of passive open space due to urban growth is reduced to a less than significant level by policy 5.3.A.6 that links development with park acreage per population standard.

The General Plan provides for logical and efficient growth of the city. Civic values of a small town are protected by several factors. First, the urban area will remain centered around the existing civic center, reinforcing its role as the center of civic activities. Second, expansion of the urban boundary must be done in accordance with the Urban Boundary Element policies which mandate, among other things, logical conditions for growth beyond the 2020 urban boundary (Urban Boundary Element policy 6.2.A.2), a encouraging infill development (Land Use Element policy 3.2.B.6 and Urban Boundary Element policy 6.1.3), identify features for the edge of the urban area (Urban Boundary Element policy 6.1.4), and preserve the viability of existing agricultural uses on the fringe of the urban area (Open Space/Conservation/Recreation Element policy 5.1.1). These policies will preserve the city's established values while

accommodating growth needed to create an attractive and viable urban city.

Impact 3.8.5: The General Plan update has the potential to conflict with adopted environmental plans, development standards and goals of the community where it is located.

Conclusion: This is a potentially significant effect that can be mitigated to a less than significant level. If growth and development were allowed to occur without proper regulation, a wide variety of adverse impacts could occur, including, but not limited to, blight, urban sprawl, transportation gridlock, impacts to public services and facilities (e.g., schools, parks and recreation facilities, fire and police protection, solid waste disposal, water and sewer service), aesthetic damage, unemployment, economic impacts, air and water quality effects. Each project that contributes to such problems represents a significant direct impact.

The policies of General Plan Section 3 - Land Use, in particular, are intended to provide for orderly growth and development to prevent these problems or correct such problems that currently exist. In addition to regulating growth and development per se, the General Plan includes provisions for providing the necessary infrastructure to areas of new growth and development, which is necessary to prevent certain kinds of blight. Implementation of these policies will reduce these impacts to a less than significant level.

Merced County Department of Public Works' Roads Division responded to the Notice of Preparation with the following comments to Circulation Element update policy 4.2.A.11.

The County General Plan stipulates that right-of-way dedication or improvements are not required for zone changes or for minor subdivisions of property zoned A-1 or A-2. Most all of the County property within the Sphere of Influence is currently zoned as such.

Merced County Plan has different classifications for nearly all of these roadways. Accordingly, the County has proposed widths less than that sought by the City. The County's typical procedure for such conflicts has been not to ask developers to dedicate more than the County's General Plan requirements, but to require that a building set-back be reserved for the additional width proposed by the City.

The city recognizes that it does not control development in the unincorporated areas. It can cooperate with the County through a number of official or administrative mechanisms such as cooperative agreements

or memoranda of understanding to address mutual issues. The policy in question addresses a potentially significant environmental impact as well as an important development issue. If sufficient rights-of-way are not obtained to constructed roads to planned standards a number of impacts can result: traffic flow and Levels of Service can be reduced if roads are not sufficiently wide to accommodate vehicular traffic; safety of motorists, pedestrians, cyclists and property owners can be effected as well where roads narrow due to insufficient right-of-way; and, while not an environmental effect, the City may incur otherwise avoidable costs of right-of-way acquisition.

These impacts can be avoided if sufficient right-of-way is dedicated at an optimum point in time for both the city and the property owner. When land use intensification is approved by the City, dedications of land for public purposes including roads, bike paths, utility easements are permitted by several existing statutes.

The County's policy, noted in the excerpt from its NOP comment, provides sufficient protection of future rights-of-way and reduces potential impacts to a less than significant level. Though it does not require the county to do so, Policy 4.2.A.11 can continue to serve as a standard available to the County to permit it to protect future public rights-of-way within the Livingston Sphere of Influence.

A comparison is warranted to examine whether the Livingston General Plan update would create potential inconsistencies with the Merced County Year 2000 General Plan that might result in significant environmental impacts.

Merced County has used an "Urban Centered Concept" as the basic principle of land use policy in the County for the past ten years and continues this direction for its Year 2000 General Plan. The urban centered concept is directed at using cities and unincorporated communities or centers to accomplish anticipated urban expansion in an orderly manner, based on the ability of these communities to furnish public services along with land needs based on population demands and in balance with employment-generating land uses. The term "urban" is used to describe land uses common to a city or unincorporated community. Urban land uses include residential, commercial, industrial and related institutional uses. The County finds home sites of one acre or larger found in Rural Residential Centers as urban. These urban uses are generally more "intensive" in character than rural land uses.

The purpose of using the urban centered concept to plan land use is to ensure that:

- Growth occurs in an orderly and logical manner;
- Land is utilized efficiently;
- Agricultural operations are not eliminated prematurely
- The City's planning efforts are complementary to those of the County; and
- Urban development occurs where proper services are available.

The urban centered concept for the City of Livingston is expressed through the General Plan update's use of the urban reserve and the "Phased Growth Boundaries." The former designates land expected to develop with urban uses in the long-term planning horizon of the City but not within the next 20 years; the latter is analogous to the County's Specific Urban Development Plan (SUDP) designations. The SUDP is the broadest General Plan boundary designation intended to accommodate all classifications of urban land use. An SUDP has a boundary line, which is recognized as the ultimate growth boundary of the community over the life of the Plan. All land within the SUDP is planned for eventual development in a mixture of urban and urban-related uses, as designated on the SUDP diagram for each community.

Like the SUDP, Livingston's Phased Growth Boundary designation uses the urban centered concept to provide for intensive urban development and to protect agricultural and open space land from uncontrolled sprawling urban development. Beyond the Phased Growth Boundaries lies land designated as urban, public facility, or commercial reserve. The urbanization of these areas occurs only through a General Plan amendment and requires satisfaction of Urban Boundary Element policies 6.1.1.a through c and 6.2.A.1, and 2 a through d, a recommendation of the Planning Commission, a decision by the City Council and coordination with the County through the public hearing process.

The City concurs with the County General Plan that "while the County encourages normal, healthy growth in the existing communities it also recognized that with few exceptions, growth within these communities occurs at the sake of the most productive agricultural soils in the County because they are concentrated on the Valley floor."

As noted in previous analysis of this EIR, agricultural impacts are reduced, but not mitigated completely by policies, which control growth and prevent urban sprawl. Growth of the city will respond to market forces and consumer taste as well as the regulatory framework of the General Plan. A dependence on the automobile and consumers' preference for a detached single-family residence will likely remain

significant influences in urban design in the Valley. Due to these influences, the Livingston General Plan, while providing policies, which encourage compact urban form, infill development, and developer-supported infrastructure improvements, recognizes that growth will largely occur at the expense of surrounding agricultural areas. The County General Plan Urban Centered Concept recognizes this as well, observing that "a legitimate need exists to accommodate soils which can be geographically located to satisfy regional growth needs."

Based on this comparison, Livingston's General Plan update is consistent with the Merced County Year 2000 General Plan intent, though different somewhat in its terminology. This is not expected to result in significant impacts.

3.9 PUBLIC SAFETY

3.9.1 Setting

Government Code Section 65302(g) provides that a General Plan shall include a safety element for the protection of the community from any risks associated with seismic hazards and other hazards. Some public safety issues have already been considered in previous sections of this EIR; Section 3.4 considered flooding and Section 3.2 considered geologic and seismic hazards. This section will consider police and fire response. The existing setting, including discussion of fire hazards and law enforcement is described in the following sections:

2.5.5 Police and Fire

2.8.3 Wildland and Urban Fire Hazards

3.9.2 Impact Evaluation Criteria

Appendix G to the *CEQA Guidelines* states that a project will have a significant effect on the environment if it will create a potential public health hazard or involve the use, production, or disposal of materials that pose a hazard to people or animal or plant populations in the area affected, or interfere with emergency response plans or emergency evacuation plans

3.9.3 Impacts and Mitigation Measures

Impact 3.9.1: Development under the General Plan could potentially result in a potential public health hazard or involve the use, production, or disposal of materials that pose a hazard to people or animal or plant populations in the area affected.

Conclusion: This is not a potentially significant impact. The General Plan update does not change existing state and federal regulations that govern the manufacturing, transportation, use, or storage of hazardous materials. These regulations will remain in effect and be enforceable by the appropriate agency. No mitigation measures are necessary.

Impact 3.9.2: Development under the General Plan has the potential to interfere with emergency response plans or emergency evacuation plans.

Conclusion: These potential significant impacts are reduced to a less than significant level by the proposed General Plan policies. The Safety Element establishes standards for public safety staffing and response that will be used to maintain acceptable emergency services as the city grows. Implementation of these standards will effectively reduce impacts associated with risk of upset and fire hazards to a less than significant level.

For the fire department, these are policies 10.2.A.1 (fire department volunteers), 2 (fire company staffing), 3 (fire response time goal), and 4 (water supply for fire suppression).

Based on the proposed standards of one volunteer for every 500 residents, and one fire company per 10,000 residents, it is projected that by 2020 Livingston's population of over 23,000 residents will require 46 Paid Call Firefighters and two fire companies.

Police department staffing policy 10.3.A.1 (one officer per 1,000 residents) will result a police force that grows with the city, projected to be composed of 23 sworn officer equivalents by the year 2020.

In addition, implementation of the standards of the Circulation Element will reduce potential impacts related to access to and from the city for emergency response or evacuation by establishing standards for street classification and improvement to meet future needs for network connectivity.

No additional measures are necessary.

Impact 3.9.3: The Merced County Fire Department has commented on the Notice of Preparation that the proposed standard presented in Safety Element policy 10.2.A.2 of one fire company for every 15,000 residents is not adequate. Fire Chief Gregory writes, "the present ratio is one company to approximately 10,000 residents and the Livingston Station is consistently the busiest in the County. Increasing this ratio by 50% would increase the workload on both career and Paid Call Firefighters to unacceptable levels."

Conclusion: This potentially significant impact can be mitigated by adjusting the ratio to a level acceptable to the Merced County Fire Department. This standard will be used as the city grows to evaluate levels of service for fire protection, to estimate budgets for personnel and apparatus provided by the County, and capital costs for which the city is responsible, and to assess the adequacy of fire protection demanded by new development. In the latter, the standard will be used to develop mitigation measures associated with the growth of the city and the increased needs for fire protection. Mitigation may include land acquisition and construction costs for future fire companies.

Mitigation Measure 3.9.3: Safety Element policy 10.2.A.2 is hereby amended as follows:

The standard of one fire company for every 10,000 residents shall be used to evaluate fire protection services.

Effectiveness of Mitigation: According to the Merced County Fire Department, this measure will provide an adequate standard for the provision of fire protection and reduce potential impacts to a less than significant level.

Impact 3.9.4: Potential secondary effects from emergencies such as earthquakes could result including fire and disrupted water supplies and utilities.

Conclusion: Although estimating the extent of these potential impacts at this stage of the planning process is speculative, their potential impacts can be reduced to a less than significant level by policies which result in effective response and inter-agency cooperation during emergencies. Implementation of Safety Element policies 10.1.1 – 6 establish procedures for cooperative training and development of emergency response between Livingston and Merced County; policies 10.2.1 and 2 establish standards for fire department staffing by volunteers and paid firefighters, and policy 10.3.1 establishes a staffing level for the police department. By implementing these policies of the General Plan update and constructing new public and private structures to the standards established in the UBC, potentially significant impacts identified above will be reduced to a less than significant level. No additional mitigation measures are required.

3.10 HOUSING AND POPULATION

3.10.1 Setting

These topics are discussed in the following General Plan sections:

- 2.3 Population, Economic Conditions and Fiscal Considerations
- 2.3.1 Demographic and Real Estate Trends and Outlook

Government Code Sections 65580-65589.5 establish the standards for adoption and content of general plan housing elements. Livingston's Housing Element, adopted in 1993, is not a part of the General Plan update. It has been found by the city to be in conformance with state housing law until the Housing Allocation Data are revised by the Merced County Association of Governments, expected in 2000.

3.10.2 Impact Evaluation Criteria:

Appendix G to the *CEQA Guidelines* states, "a project will normally have a significant effect on the environment if it will induce substantial population growth in an area, either directly or indirectly; displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

It is the State of California's goal to provide adequate housing to all residents of California, regardless of economic or ethnic status. By identifying local housing needs, adopting appropriate goals and policies, and providing local legislation and programs to meet these needs, the City may be more effective in addressing the housing needs of its residents.

Government Code Section 65583 requires a Housing Element to include four basic components:

- A review of the previous housing element's goals, policies, programs and objectives to ascertain the effectiveness of each factor and the overall effectiveness of the element.
- An assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs.
- A statement of the City's goals, quantified objectives, and policies relative to the maintenance, improvement, and development of housing.
- A program that sets forth a five-year schedule of actions the City is taking or intends to undertake to implement the policies and achieve the goals and objectives through the administration of land use and development controls, provision of regulatory concessions, and the use of appropriate state and federal financing and subsidy programs when available.

State law requires that a housing policy span a specific time frame. While the General Plan will span the planning period 1998-2020, the Housing Element, currently covers a five-year period, in this case, 1996-2001. The City has found that the current Housing Element remains an appropriate planning tool.

It shall be considered an impact if the City fails to: provide safe, affordable housing for all current and future households residing in the county; provide reasonable housing choices; maintain high quality standards and energy efficiency standards for housing stock; correct existing blight conditions; provide housing opportunities for all income levels and special needs groups (i.e., elderly, large families, families with female head of household, farm workers, disabled, homeless).

3.10.3 Impacts and Mitigation Measures

Impact 3.10.1: Growth and development under the General Plan could affect the availability of safe, affordable housing for all households residing in the City of Livingston.

Conclusion: Failure of the City to make available safe, affordable housing for all households would be a violation of state law, and depending on the scope of such failure, could constitute a direct or cumulative impact under CEQA. A cumulative impact would exist should the City approve numerous residential developments that provide housing for affluent households but fail to accommodate low income and other households with special needs. This would consume considerable developable land designated for residential use, but increasingly and cumulatively result in a shortage of affordable housing.

As noted, updating the Housing Element is not a part of this project. The existing Housing Element provides policies and objectives that accomplish the goal of making safe, affordable housing available for all households. No mitigation is needed. The existing Housing Element provides a blueprint for making affordable, safe housing available to all City residents. Implementing this and the policies in the updated General Plan will continue to benefit housing availability and safety.

Impact 3.10.2: Existing and future housing stock could deteriorate and require maintenance or other action to meet General Plan housing standards and correct or prevent blight.

Conclusion: As the planning period proceeds, a portion of the housing stock will likely deteriorate, resulting in potentially significant direct and cumulative impacts. Some housing stock has already presumably deteriorated below City, state, and federal housing standards. This problem will grow as additional population growth and development proceeds, unless proper planning policies, controls, and funding are implemented. The existing Housing Element provides for rehabilitation of existing substandard housing and maintenance of housing standards for new development. Implementation of the provisions of the existing

Housing Element will address this impact and reduce it to a less than significant level.

3.11 TRANSPORTATION AND CIRCULATION

3.11.1 Setting

Settings for Transportation and Circulation are found in the following General Plan sections:

- 2.4.1 Introduction
- 2.4.2 Purpose
- 2.4.3 Study Area
- 2.4.4 Streets and Highways
- 2.4.5 Existing Street System
- 2.4.6 Roads of Regional Significance
- 2.4.7 Existing 1988 General Plan
- 2.4.8 Existing Traffic Conditions
- 2.4.9 Level-of-Service
- 2.4.10 Existing Traffic Volumes
- 2.4.11 Existing Level of Service
- 2.4.12 Existing Classified System Pattern
- 2.4.13 Connectivity
- 2.4.14 Transit

Existing 1990 Circulation Element

The City of Livingston updated its current Circulation Element in 1990 based on the rerouting of Highway 99 through the City. The projected future year levels of service resulting from implementation of the 1990 General Plan suggest that all major streets will be operating at a level of service (LOS) C or better in the year 2020. Figure 3-2 identifies the projected 2020 traffic volumes based on implementation of the 1990 Circulation Element; Table 3-3 depicts the 2020 volumes and LOS for roadways at the buildout of the existing General Plan. The current level of service for each roadway segment is illustrated in General Plan Figure 2-3.

Model Documentation, Merced County Regional Transportation model



Merced County Association of Governments (MCAG) operates and maintains a computerized Regional Transportation model (model). It is

Existing General Plan

Figure 3-2

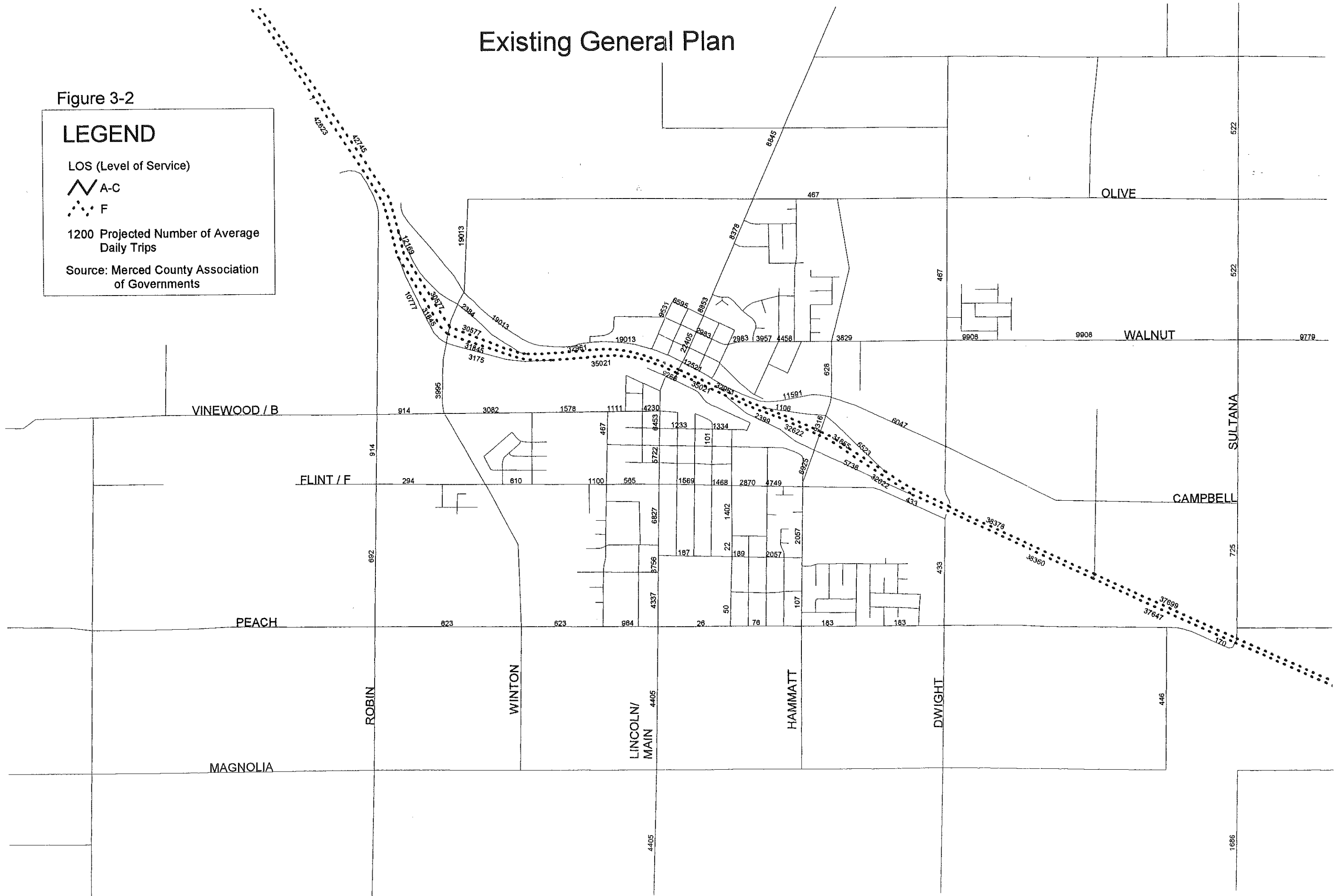
LEGEND

LOS (Level of Service)

 A-C
 F

1200 Projected Number of Average Daily Trips

Source: Merced County Association of Governments



used to forecast future traffic volumes and other travel characteristics for the road system in Merced County. The model is the best and most accepted method for forecasting future traffic volumes based on proposed land uses. It provides a vast majority of the required air quality, planning and engineering information for future years within Merced County. The model was created to evaluate traffic impacts resulting from urban and rural development using the MINUTP transportation modeling software due to its capabilities in forecasting, and because it is widely used by other valley councils of governments. The MCAG traffic model serves as a planning tool which allows staff to forecast, quantify, and evaluate potential traffic impacts of new development.

The MCAG model is calibrated to the year 1990. It incorporates all of Merced County as well as the southern portion of Stanislaus County and the northern portion of Madera County. The model uses housing and employment data to produce vehicle trips and distribute them along a road network. Housing and employment data are broken down into traffic analysis zones (TAZs).

The model has been updated and reflects all current existing adopted general plans.

All programmed and planned highway improvements are included in model runs occurring after the improvement's completion date. Programmed but not yet constructed projects include:

- SH 99 Campus/Healy interchange and upgrade to freeway
- SH 99 Westside/Central interchange and upgrade to freeway
- SH 99 Sultana interchange and upgrade to freeway
- Campus Parkway from SH 99 to UC Merced site

"Florida Level of Service Standards" were used as the basis for the model's Levels of Service. The base assumptions, for the portion of the model outside the study area, are the same as those used in the 1998 Regional Transportation Plan (RTP). The model run for the existing General Plan is based on this model. The model run for the General Plan update was prepared by modifying the land use in the study area to reflect the projected population and the proposed acreages of each category of land use. Additionally, the network was modified to reflect the proposed circulation system. Functional classifications of several roads were changed, and Winton Parkway was extended to the north and the south.

Certain streets classified by the existing General Plan as collectors or arterials have no LOS threshold data and are still given a projected average daily trip value (ADT). The LOS is evaluated by MCAG by comparing the traffic volume to the LOS threshold for a particular

location. Many streets actually have no threshold data; where this is the case, the LOS is simply assigned to be B. When the model was developed, it was found that many streets would have volumes well under the LOS D threshold even at buildout, so no specific comparison is performed.

The LOS determination is made after the model run. What affects the volumes is the capacity class of the street and the number of lanes. The capacity class is one of these classifications: freeway, expressway, arterial, collector, local. Different kinds of arterials and collectors are not accounted for. The capacity class and lanes for the streets were modified to match the proposed circulation system.

Additional information on the model can be found in Appendix D.

3.11.2 Impact Evaluation Criteria

Transportation and circulation needs are closely tied to the location and distribution of land uses. Appendix G of the *CEQA Guidelines* states that, “a project will have a significant effect on the environment if it will cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.”

The standard used to evaluate the functioning of roadways is Level of Service (LOS). LOS measures operating conditions at an intersection or along a roadway segment in relation to traffic volume. LOS ranges from A to F, with LOS A reflecting free traffic flow with few, if any delays, while LOS F represents nearly total circulation gridlock for that intersection or roadway segment.

For EIR purposes, the model computed average daily vehicular trips through the end of 2020 for both the existing General Plan and the General Plan update.

3.11.3 Impacts and Mitigation Measures

Impact 3.11.1: Growth and development under the General Plan has the potential to result in a significant impact on established Levels of Service. Table 3-4 presents traffic volumes and levels of service for the General Plan update.

Projects: In order for the street and highway system to develop as outlined in the future system map and to maintain the desired levels of service, street improvement projects are proposed within the scope of the 2020 urban area and listed in Figure 3-2.

**Table 3-3
2020 Circulation System Based on
Existing General Plan**

Street	Segment	Future Facility	Right-Of-Way	Facility Type	Future Volume	LOS D Capacity/Threshold	Level of Service
Livingston - Cressey Road	Eucalyptus - Olive	2 lane	N/A	Arterial	8845	9400	B
	Olive - Swan	2 lane	80'	Arterial	8378	33000	B
	Swan - Front	2 lane	80'	Arterial	22405	33000	B
Main Street	Front - B	2 lane	80'	Arterial	9266	33000	B
	C - D	2 lane	80'	Arterial	6543	33000	B
	D - F	2 lane	80'	Arterial	5281	33000	B
	F - I	2 lane	80'	Arterial	5722	33000	B
	I - Park	2 lane	80'	Arterial	6827	33000	B
	Park - J	2 lane	80'	Arterial	3713	33000	B
	J - Peach	2 lane	80'	Arterial	3756	33000	B
			2 lane	80'	Arterial	4337	33000
Robin Avenue	B - F	2 lane	70'	Collector	914	N/A	B
	F - Peach	2 lane	70'	Collector	692	N/A	B
Winton	99 Overcrossing	2 lane	80'	Arterial	17196	N/A	B
	99 - B	2 lane	80'	Arterial	3995	N/A	B
Hammatt	Olive - Walnut	2 lane	80'	Arterial	N/A	N/A	B
	Walnut - Campbell	2 lane	80'	Arterial	628	N/A	B
	Campbell - 99	2 lane	80'	Arterial	12787	N/A	B
	Overcrossing	2 lane	80'	Arterial	9316	N/A	B
	99 Overcrossing	2 lane	80'	Arterial	6925	N/A	B

**Table 3-3
2020 Circulation System Based on
Existing General Plan**

Street	Segment	Future Facility	Right-Of-Way	Facility Type	Future Volume	LOS D Capacity/Threshold	Level of Service
D	D - Park	2 lane	80'	Arterial	2057	N/A	B
	Park - Peach	2 lane	80'	Arterial	107	N/A	B
	Livingston-Cressey - Dwight	2 lane	80'	Arterial	467	N/A	B
Walnut	Campbell/Davis - Livingston-Cressey	2 lane	80'	Arterial	9531	N/A	B
	Livingston-Cressey - Old Hammatt	2 lane	80'	Arterial	2983	31000	B
	Old Hammatt - East	2 lane	80'	Arterial	3957	31000	B
Campbell	East - Hammatt	2 lane	80'	Arterial	4458	31000	B
	Hammatt - Dwight	2 lane	80'	Arterial	3829	31000	B
	Winton - Davis	2 lane	80'	Arterial	19013	N/A	B
Vinewood/B	Davis - East	2 lane	80'	Arterial	12521	N/A	B
	East - Hammatt	2 lane	80'	Arterial	11591	N/A	B
	Hammatt - Dwight	2 lane	70'	Collector	6047	N/A	B
F Street	Winton - Briarwood	2 lane	80'	Arterial	3082	N/A	B
	Briarwood - Prusso	2 lane	80'	Arterial	1578	N/A	B
	Prusso - Main	2 lane	80'	Arterial	1111	N/A	B
	Robin - Winton	2 lane	N/A	Unclassified	294	N/A	B

**Table 3-3
2020 Circulation System Based on
Existing General Plan**

Street	Segment	Future Facility	Right-Of-Way	Facility Type	Future Volume	LOS D Capacity/Threshold	Level of Service
	Winton - Briarwood	2 lane	80'	Arterial	610	N/A	B
	Briarwood - Prusso	2 lane	80'	Arterial	1100	N/A	B
	Prusso - Main	2 lane	80'	Arterial	565	N/A	B
	Main - 5 th	2 lane	80'	Arterial	1569	N/A	B
	5 th - 7 th	2 lane	80'	Arterial	1468	N/A	B
	7 th - 8 th	2 lane	80'	Arterial	2870	N/A	B
	8 th - Hammatt	2 lane	80'	Arterial	4749	N/A	B
	Hammatt - Dwight	2 lane	60'	Unclassified	N/A	N/A	B
Peach	Robin - Winton	2 lane	60'	Unclassified	623	N/A	B
	Winton - Prusso	2 lane	80'	Arterial	623	N/A	B
	Prusso - Main	2 lane	80'	Arterial	964	N/A	B
	Main - 7 th	2 lane	80'	Arterial	26	N/A	B
	7 th - Hammatt	2 lane	80'	Arterial	76	N/A	B
	Hammatt - Dwight	2 lane	80'	Arterial	183	N/A	B
Freeway 99	Northbound 99	2 lanes	N/A	Freeway	30577	23550*	F
Winton Interchange	On-ramp	1 lane	N/A	N/A	12169	N/A	
	Off-ramp	1 lane	N/A	N/A	2384	N/A	
	Southbound 99	2 lanes	N/A	Freeway	31845	23550*	F
	On-ramp	1 lane	N/A	N/A	3175	N/A	
	Off-ramp	1 lane	N/A	N/A	10777	N/A	
Hammatt Interchange	Northbound 99	2 lane	N/A	Freeway	31855	23550*	F
	On-ramp	1 lane	N/A	N/A	1106	N/A	
	Off-ramp	1 lane	N/A	N/A	6523	N/A	

Table 3-3
2020 Circulation System Based on
Existing General Plan

Street	Segment	Future Facility	Right-Of-Way	Facility Type	Future Volume	LOS D Capacity/ Threshold	Level of Service
Robin Avenue	Southbound 99	2 lane	N/A	Freeway	32622	23550*	F
	On-ramp	1 lane	N/A	N/A	5738	N/A	
	Off-ramp	1 lane	N/A	N/A	2399	N/A	
	B Street - F Street	2 lane	70'	Collector	914	N/A	B
	F Street - Peach	2 lane	70'	Collector	692	N/A	B
Prusso Street	B Street - F Street	2 lane	70'	Collector	467	N/A	B
First Street	B Street - Peach Avenue	2 lane	70'	Collector	N/A	N/A	B
7 th Street	F Street - H Street	2 lane	70'	Collector	1402	N/A	B
	H Street - Park Street	2 lane	70'	Collector	22	N/A	B
	Park Street - Peach	2 lane	70'	Collector	50	N/A	B
Olds Avenue	Walnut Avenue - Olive Avenue	2 lane	70'	Collector	N/A	N/A	B
	Peach Avenue - F Street	2 lane	70'	Collector	433	N/A	B
Dwight Way	Walnut Avenue - Olive Avenue	2 lane	70'	Collector	467	N/A	B
	Olds Avenue - Dwight Way	2 lane	70'	Collector	N/A	N/A	B
Unnamed Street between Olive and Walnut	Olds Avenue - Dwight Way	2 lane	70'	Collector	N/A	N/A	B

**Table 3-3
2020 Circulation System Based on
Existing General Plan**

Street	Segment	Future Facility	Right-Of-Way	Facility Type	Future Volume	LOS D Capacity/ Threshold	Level of Service
B/C Streets	Main Street - 7 th Street	2 lane	70'	Collector	1233-1334	N/A	B
Unnamed Street north of Park Street alignment	Hammatt - Dwight	2 lane	70'	Collector	N/A	N/A	B
Park Avenue	Main Street - 7 th	2 lane	70'	Collector	167	N/A	B
	7 th - 8 th	2 lane	70'	Collector	189	N/A	B
	8 th - Hammatt	2 lane	70'	Collector	2057	N/A	B

* Uses a LOS D threshold of 47,100 ADT for both directions, representing a Group 2 freeway west of Dwight Avenue.

In addition to the previously listed street improvements, the following intersections may require signalization to maintain the desired Level of Service.

Livingston-Cressey Road/Walnut
Livingston-Cressey Road/Campbell*

Main/B
Livingston-Cressey Road/Olive
Main/F
Main/Park
Main/Peach

Hammatt/Walnut
Hammatt/Campbell*
Hammatt/F
Hammatt/Peach

Robin/B
Robin/F
Robin/Peach

Dwight/Olive
Dwight/Walnut
Dwight/Campbell
Dwight/Peach

Factors that influence the signalization of intersections include vehicular volume, interruption of traffic flow, pedestrian volume, closeness to schools, and accident occurrence. Based on projected traffic volumes alone, the intersections above marked with an asterisk (*) are anticipated to need traffic signals by 2020. Other intersections may require signalization if the factors listed above result in sufficient warrants. The determination of where and when signalization will occur will be based on the eleven warrants listed in the CalTrans Traffic Manual. A Traffic Signalization Impact Fee Program is an appropriate mechanism to include as minimum intersections listed above.

Estimate Of 2020 Traffic: The MCAG 2020 model was used to project the estimated future daily traffic and future level of service on the planned roadway system. Figure 3-3 shows the projected traffic volumes on the future roadway network for 2020 with the implementation of the proposed 1999 General Plan. Table 3-4 shows the projected Level of Service for the planned Livingston land use and circulation system in the year 2020 with the implementation of the proposed 1999 General Plan.

With the completion of the General Plan the analysis shows that all segments of the City's street system will operate at or better than LOS C. This performance is anticipated with construction of the planned street improvements outlined above.

Regional Transportation Issues: The results of the future year 2020 with the implementation of the proposed 1999 General Plan level of service analysis suggest that the majority of the proposed roadways will function appropriately. The one route with segments projected to operate below the adopted standards is Highway 99. Highway 99 between the Merced River and Sultana Drive is projected to operate at a LOS F by 2020 with the implementation of the 1999 proposed General Plan. This issue is one of a regional nature. The City of Livingston acknowledges that SH 99 will require improvements to accommodate future volumes and intends to cooperate with CalTrans, the Merced County Association of Governments, and the County of Merced in developing a means for maintaining an acceptable LOS for SH 99. However, the City is only one jurisdiction in the regional area impacting this state route. The regional impact from growth occurring in all the communities north and south on SH 99 should be analyzed further. The City recognizes the solutions for these improvements lie outside the City's jurisdiction. A multi-agency approach should be implemented to address this regional issue.

Three SH 99 overpasses connect Livingston across SH 99. Winton Parkway, Main Street, and Hammatt Avenue are two lane undivided roadways. These overpasses allow adequate room for pedestrians or bikes without intrusion into the traffic stream.

Adequate capacity is projected to exist for the next twenty years. However, individual projects and long-term growth indicate a need to address SH 99 corridor planning. To resolve the SH 99 corridor issues detailed above, Livingston may participate in a joint SH 99 Corridor Study along with CalTrans and MCAG to determine the best solutions and funding options for the segment, overpass, and interchange problems. This study should encompass ramp intersections as well. The solutions to the segment, overpass, interchange and ramp intersection problems will result in an operating LOS C.

Bicycle and Pedestrian: The community will see expanded bicycle and pedestrian facilities in the future. Bicycle activity is expected to increase over the life of the General Plan update. The circulation element includes a bikeway plan to accommodate future growth patterns. A Bike Plan Map showing locations of potential bike lanes is provided in General Plan Figure 4-3.

Conclusion: Out of all of the affected arterials and collectors, including Campbell Boulevard, Peach Avenue, Main Street, B Street, Olive Avenue, Robin Avenue, Winton Parkway, etc., there are only two locations where the proposed General Plan 2020 traffic volumes are above 10,000. These locations are:

- Hammatt Avenue between F St. and Campbell Boulevard = 13,126 ADT
- Winton Parkway, between SR 99 and B Street = 10,183 ADT

All the other locations will be at LOS B regardless of the LOS threshold, because of their relatively low volumes. None of these locations is affected either, because they are two lanes and their LOS threshold for D is much higher.

The existing General Plan is the same as the 1998 Regional Transportation Plan. The General Plan update actually shows less traffic on state facilities in Livingston than the existing General Plan, both because of a lower population projection and because the improved circulation diverts some traffic that would otherwise use the freeway.

The regional model uses average daily traffic volumes and is not calibrated to produce peak hour volumes.

Dealing as it does with both land that is currently urbanized as well as land that is not currently developed, the Circulation Element serves different purposes in these two broad areas. Within the existing urbanized area, the Circulation Element identifies classifications and standards for streets already in place. In many cases, the streets are already developed to these standards. In other cases, public works improvement projects will be needed at some time in the future to satisfy traffic demands on streets which are adequate for today's needs, but will prove to be inadequate for future traffic.

Table 3-4 shows that all city-operated roadway segments will operate at an acceptable Level of Service at full buildout of the General Plan update by the year 2020. According to the MCAG model, SH 99 will operate at LOS D and F in the year 2020. However, this level of service is associated with through traffic and is projected to occur with or without the project.

The portion of the projected Level of Service for SH 99 that is attributable to the growth of Livingston is a significant impact that can be mitigated to a less than significant level. As growth and development progress in Livingston, increasing pressure on the roadway system could result in both direct and cumulative impacts to LOS at various intersections and road segments. The Circulation Element establishes development standards that will minimize impacts associated with growth. This Element is also explicitly designed to be implemented with the Land Use Element, specifically 3.2.B.1, 4 through 6, will guide new development in a manner that minimizes driving distances between residential areas and employment centers. Policies 3.3.A.2 through 4 establish criteria for commercial land uses that will provide for logical distribution of land uses, reducing trip distances. Implementation of these General Plan objectives and will therefore reduce the impact to a less than significant level.

Impact 3.11.2: Growth under the General Plan will impact the roadway system and transportation in general. This will make it increasingly difficult for public agencies to fund necessary expansion and improvement of the transportation system to accommodate growth and maintain roadway safety standards.

**Table 3-4
2020 CIRCULATION SYSTEM BASED ON PROPOSED 1999 GENERAL PLAN**

Street	Segment	Future Facility	Geometrics Median	Facility Type	Future Volume	LOS D Capacity	Level of Service
Livingston - Cressey Road	Eucalyptus - Olive	2 lane	84'	Arterial	5660	9400	B
	Olive - Swan	2 lane	84'	Arterial	2891	33000	B
	Swan - Front	2 lane	84'	Arterial	7080	33000	B
Main Street	Front - B	2 lane	84'	Arterial	6846	33000	B
	B - F	2 lane	84'	Arterial	4465	33000	B
	F - I	2 lane	84'	Arterial	6620	33000	B
	I - J	2 lane	84'	Arterial	3503	33000	B
	J - Peach	2 lane	84'	Arterial	3983	33000	B
	Peach - Magnolia	2 lane	84'	Arterial	3971	15800	B
Robin Avenue	B - F	4 lane	84'	Collector	226	N/A	B
	F - Peach	4 lane	84'	Collector	226	N/A	B
Winton	Olive - 99	4 lane	84'	Arterial	1637	N/A	B
	99 Overcrossing	2 lane	N/A	Arterial	8048	N/A	B
	99 - B	4 lane	84'	Arterial	10183	N/A	B
	B - F	4 lane	84'	Arterial	3983	N/A	B
	F - Peach	4 lane	84'	Arterial	2060	N/A	B
Hammatt	Olive - Walnut	4 lane	84'	Arterial	1163	N/A	B
	Walnut - Campbell	4 lane	84'	Arterial	4385	N/A	B
	Campbell - 99	4 lane	84'	Arterial	13126	N/A	B
	99 Overcrossing	2 lane	N/A	Arterial	13126	N/A	B

Table 3-4
2020 CIRCULATION SYSTEM BASED ON PROPOSED 1999 GENERAL PLAN

Street	Segment	Future Facility	Geometrics Median	Facility Type	Future Volume	LOS D Capacity	Level of Service
99 - D	99 - D	2 lane	84'	Arterial	13126	N/A	B
	D - Park	2 lane	84'	Arterial	3328	N/A	B
	Park - Peach	2 lane	84'	Arterial	1643	N/A	B
Dwight	Olive - Walnut	4 lane	84'	Collector	1163	N/A	B
	Walnut - Campbell	4 lane	84'	Collector	4385	N/A	B
	Southern Pacific Ave - Peach	4 lane	84'	Collector	1047	N/A	B
Olive	Winton - Livingston-Cressey Road	4 lane	84'	Collector	1637	N/A	B
	Livingston-Cressey - Dwight	4 lane	84'	Collector	1358	N/A	B
Davis/Walnut	Campbell - Livingston-Cressey	2 lane	84'	Collector	6545	N/A	B
	Livingston-Cressey - Old Hammatt	2 lane	84'	Collector	3219	N/A	B
	Old Hammatt - East	2 lane	84'	Collector	3219	31000	B
Campbell	East - Dwight	2 lane	84'	Collector	6890	31000	B
	Winton - Davis	2 lane	84'	Arterial	8466	N/A	B
	Davis - Old Hammatt	2 lane	84'	Arterial	1920	N/A	B
Vinewood/B	Old Hammatt - East	2 lane	84'	Arterial	5299	N/A	B
	East - Hammatt	2 lane	84'	Arterial	6183	N/A	B
	Hammatt - Dwight	2 lane	84'	Arterial	7496	N/A	B
Winton - Briarwood - Prusso	Robin - Winton	4 lane	84'	Arterial	8749	N/A	B
	Winton - Briarwood	4 lane	84'	Arterial	3312	N/A	B
	Briarwood - Prusso	4 lane	84'	Arterial	1585	N/A	B

**Table 3-4
2020 CIRCULATION SYSTEM BASED ON PROPOSED 1999 GENERAL PLAN**

Street	Segment	Future Facility	Geometrics Median	Facility Type	Future Volume	LOS D Capacity	Level of Service
F Street	Prusso - Main	2 lane	84'	Arterial	3176	N/A	B
	Robin - Winton	4 lane	84'	Collector	2538	N/A	B
	Winton - Prusso	2 lane	84'	Collector	2538	N/A	B
	Prusso - Main	2 lane	84'	Collector	1552	N/A	B
	Main - 4th	2 lane	84'	Collector	3276	N/A	B
	4th - 7th	2 lane	84'	Collector	3168	N/A	B
	7th - 8th	2 lane	84'	Collector	4110	N/A	B
	8th - Hammatt	2 lane	84'	Collector	5942	N/A	B
	Hammatt - Dwight (Southern Pacific Ave.)	4 lane	84'	Collector	1554	N/A	B
	Peach	Robin - Prusso	4 lane	84'	Arterial	2431	N/A
Prusso - Main		4 lane	84'	Arterial	2708	N/A	B
Main - 7th		4 lane	84'	Arterial	1393	N/A	B
7th - Hammatt		4 lane	84'	Arterial	3255	N/A	B
Hammatt - Dwight		4 lane	84'	Arterial	1891	N/A	B
Freeway 99		Northbound, North of Livingston	4 lane	84'	Freeway	41296	23550*
	Southbound, North of Livingston	4 lane	84'	Freeway	40853	23550*	F
	Northbound, South of Livingston	4 lane	84'	Freeway	35892	23550*	F
	Southbound, South of Livingston	4 lane	84'	Freeway	34930	23550*	F

**Table 3-4
2020 CIRCULATION SYSTEM BASED ON PROPOSED 1999 GENERAL PLAN**

Street	Segment	Future Facility	Geometrics Median	Facility Type	Future Volume	LOS D Capacity	Level of Service
Winton Interchange	Northbound	4 lane	N/A	Freeway	32752	23550*	F
	On-ramp	1 lane	N/A	N/A	8544	N/A	N/A
	Off-ramp	1 lane	N/A	N/A	1014	N/A	N/A
	Southbound	4 lane	N/A	Freeway	33417	23550*	F
	On-ramp	1 lane	N/A	N/A	1183	N/A	N/A
	Off-ramp	1 lane	N/A	N/A	7436	N/A	N/A
Hammatt Interchange	Northbound	4 lane	N/A	Freeway	29821	23550*	D
	On-ramp	1 lane	N/A	N/A	3955	N/A	N/A
	Off-ramp	1 lane	N/A	N/A	6286	N/A	N/A
	Southbound	4 lane	N/A	Freeway	29821	23550*	D
	On-ramp	1 lane	N/A	N/A	5457	N/A	N/A
	Off-ramp	1 lane	N/A	N/A	4780	N/A	N/A

Notes:

LOS "D" Theoretical Capacity based on proposed geometrics and Florida Tables (1992 Version) Capacity Standard LOS "C"

* Uses a LOS D threshold of 47,100 ADT for both directions, representing a Group 2 freeway west of Dwight Avenue.

Conclusion: Along with significant growth-induced impacts to the roadway system will come direct and cumulative growth-induced demand for funds to make necessary roadway and transportation system improvements to ensure that roadway safety standards and levels of service are maintained. Funding of these improvements by development is facilitated by Public Services and Facilities Element objectives and policy 9.1.3, 4, 9, and 9.2.A.2 Implementation of these policies and standards will reduce the fiscal impacts of growth and development on transportation but coordination between levels of government agencies should be enhanced to address regional traffic issues in a more comprehensive manner.

Mitigation Measure 3.11.1: Policy 6 is added to Section 4.5 of the Plan:

Livingston shall participate in a joint SH 99 Corridor Study with CalTrans and MCAG to determine the solution and funding options for the improvements needed to maintain an acceptable LOS on SH 99 through Livingston. The solutions to the segment problems will result in an operating LOS C.

Effectiveness of Measure: This measure will reduce potential impacts to a less than significant level.

3.12 PUBLIC SERVICES AND UTILITIES

3.12.1 Setting

The existing setting for this topic has been presented in the following General Plan sections:

- 2.5.1 Water
- 2.5.2 Sanitary Sewer
- 2.5.4 Schools
- 2.5.6 Other Public Facilities
- 2.5.7 Health Services
- 2.5.8 Public Transportation
- 2.5.9 Postal Services
- 2.5.10 Solid Waste and Hazardous Waste Collection, Disposal and Management
- 2.6.1 Existing Park and Recreation Facilities and Programs

3.12.2 Impact Evaluation Criteria

Appendix G of the *CEQA Guidelines* lists a number of significant environmental effects of projects that are associated, directly or indirectly, with public services and utilities, including inducement of substantial growth or concentration of population (which can result from development of new public facilities,

infrastructure, or utilities lines in an area where they previously were absent); or extension of a sewer trunk line with capacity to serve new development.

The State Legislature and voters recently passed the Leroy Greene School Facilities Act of 1998 (SB50) and associated financing through Proposition 1A, according to Section 65996 of the Government Code SB 50 and Proposition 1A funds are deemed to “provide full and complete school facilities mitigation...”. Significant impacts may occur if school facilities are not provided in a timely manner; yet, the school district and the State have the exclusive responsibility for mitigation of this impact.

3.12.3 Impacts and Mitigation Measures

Impact 3.12.1: Growth and development under the General Plan may strain existing public services and facilities and utilities and create demand for expanded services and facilities.

Conclusion: This impact could be directly and cumulatively significant. In the absence of adequate planning, there would soon be a shortfall of urban service capacity and other necessary, often legally mandated services. As noted above, school impacts have been deemed by the state to be mitigated by the passage of the Greene Act. Solid waste facilities used by the City of Livingston are considered to be adequate for an additional 30-35 years. Other public facilities discussed in the General Plan sections provided are not subject to significant environmental impact under the General Plan update.

Sewer and water services may be impacted, however, by the growth anticipated in the Plan update. The following analysis generally estimates the current and future water and sewer demand.

Water. The City’s seven full-time wells each produce an average of 1300 gallons per minute (gpm) for a total production of 9,100 gpm or 13.1 million gallons of water per day (mgd).

City Public Works staff has determined that the average per capita demand for water is 0.15 gpm, or 1,575 gpm per average water production day. The City’s one-million gallon storage tank is used to store water pumped during off-peak time and provide it during peak demand periods.

During the peak pumping day in the summer, the city’s 1,910 residential, 108 commercial, and two industrial water customers demand 4,860 gpm (7 mgd) triple the average daily demand.

Subtracting peak demand (4,860 gpm) from the wells’ production capacity (9,100 gpm) results in a gross surplus of production of 4,420 gpm (6.1 mgd). A net surplus is derived by reducing this amount by an additional 1500 gpm, to

represent the typical commercial and industrial development fire flow requirement. This results in a current net surplus of 2,920 gpm (4.2 mgd).

Based on the current per capita demand, by 2020 the City of Livingston's population will require an average of 3,450 gpm (5 mgd) for residential uses. Future industrial and commercial land uses' water requirements will vary greatly but for the purposes of this analysis are estimated to require an average of 1,500 gallons per day per acre. The 305 acres of planned commercial uses and 672 acres of planned industrial uses, results in an average daily demand of 1,018 gpm (1.4 mgd). Adding an additional 1,500 gpm for industrial fire flow, the average demand for water by 2020 is estimated to be 5,968 gpm (8.6 mgd).

Using the current peak demand of triple average daily demand, the City of Livingston's water requirements may reach 26 mgd by 2020. Subtracting the current surplus of 4.2 mgd results in a corrected demand of 21.6 mgd.

Depending on the long-term production of the existing wells and the actual water demand of future growth, eleven additional wells may be needed. Additional storage tanks may be used to manage future peak water demand.

Wastewater. The wastewater treatment capacity of the two plants owned and operated by the City is 7.8 mgd. The plant east of Highway 99 is equipped for primary treatment only and has a capacity of 6 mgd and an average daily inflow of 4 mgd from Foster Farms. Future users here will be limited to contributing effluent that is compatible with this plant's treatment limitations. The plant west of 99 has a secondary treatment capacity of 1.8 mgd and an inflow of 0.9 mgd. The treated water disposal issue currently under resolution is the limiting factor for this plant and once resolved, this plant may operate at its permitted capacity. At that time, the City of Livingston will have a surplus of 0.9 mgd of secondary treatment and 2 mgd of primary treatment.

Based on a current per capita wastewater generation of 100 gpd, the residential population of the City of Livingston can be expected to generate 2.3 mgd by the year 2020. Again, with the qualification that commercial and industrial land use wastewater generation rates will vary widely, 977 acres of commercial and industrial development is expected to generate 1000 gallons per day per acre for 0.97 mgd. This results in an estimated wastewater treatment demand of 3.3 mgd by 2020.

As noted, the eastern wastewater treatment plant is limited to primary treatment. A portion of the planned industrial land uses in the north end of the city may take advantage of this level of treatment but others will likely need to send their wastewater to the western plant, across the railroad and the freeway. A conduit for a sewer main is now inside the Winton overpass, but a main will need to be installed to convey wastewater across SH 99.

The city's north-south growth orientation in the 2020 phased growth boundary will lessen the demand on the sanitary sewer crossings of the freeway until the collection system can be built to convey the wastewater from the area east of Dwight Way.

Objectives 9.1.A, B, and C delineate the city's policy toward urban services and development and are summarized as follows. It is the policy of the City that new growth shall pay its own way. Long range planning shall be performed by a master plan for the development and funding of necessary services and utilities (including but not limited to storm drainage, water and sanitary facilities) which shall be developed and adopted. Funding can be through the formation of an assessment district, entering into deferral agreements or direct developer funding of improvements. Facilities and services shall be coordinated with the policies and land use distribution of the General Plan.

Potential impacts are reduced to a less than significant level by policies in the General Plan. These include 9.1.17-22 which require that findings be made by the Public Works Department to document that an adequate supply of water and sewer capacity is available to serve each development prior to approval by the City Council and that conditions of approval are implemented with each development prior to issuance of a building permit. These services operate under permit issued by the State Regional Water Quality Control Board and the Department of Health Services Office of Drinking Water. Standards established as conditions of operation will be used to make the findings required by policies set forth in the General Plan. Implementation of these policies will result in evaluations of capacity to serve as new development is proposed, reducing potential impacts associated with growth of the city to a less than significant level.

Impact 3.12.2: Along with impacts to public services and facilities as described above will come impacts related to the ability of the City to provide funding for such facilities.

Conclusion: This impact could be directly and cumulatively significant but is reduced to a less than significant level by implementation of General Plan policies and standards listed in Public Services and Facilities Element (Objective 9.1.B, policy 9.1.2, 3, 4, 8-13, 16 and 9.2.A.2) and the Open Space, Conservation and Recreation Element (policies 5.3.A.6, 8, 28, 29) as well as the policies discussed in Impact 3.12.1.

These will provide planning mechanisms to ensure that adequate services exist for new and existing urban uses. This will mitigate this impact to a less than significant level.

Impact 3.12.3: The General Plan may result in the extension of a sewer trunk line with capacity to serve new development.

Conclusion: The General Plan recognizes development constraints resulting from limited capacity of the wastewater treatment plant. The land use map responds to this by designating industrial reserve north of SH 99 to preclude development of this area until sewer collection facilities are in place. For the same reason, the area east of Dwight Way is not included in the 2020 plan area until collection facilities can be constructed to serve it. Because of this acknowledgement of limits and the arrangement of the land use plan to accommodate logical growth with service capacity, this is not considered to be a potentially significant environmental impact.

CHAPTER FOUR
EVALUATION OF ALTERNATIVES

4.0

EVALUATION OF ALTERNATIVES

4.1 ALTERNATIVES TO THE PROJECT

CEQA requires that alternatives to the proposed project be discussed in the EIR. The value of such discussion is to inform public decision-makers of the different environmental impacts which may be associated with each potential alternative, and to enable a reasoned judgement to be made as to which alternative to the proposed project may be environmentally superior. The analysis of this section is consistent with *CEQA Guidelines* Section 15126.6.

As noted in CEQA, "because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."

"The range of potential alternatives to the proposed project," state the *CEQA Guidelines*, "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 effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record."

CEQA Guidelines discussion observes that the range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

4.2 DISCUSSION OF ALTERNATIVES

The following sections present a description of the alternatives considered and an analysis of the alternatives in the context of the *CEQA Guidelines*. This EIR includes an evaluation of the following alternatives: No Project (which is required to be addressed), Urban Reserve, Infill Development, Modified Southern Boundary, Existing Downtown, and the F Street, D Street and B Street Downtown alternatives. These alternatives are summarized in the next section and compared with the proposed project. This chapter concludes with an analysis of the comparative environmental superiority of the various alternatives, as required by CEQA.

There is little difference between the proposed project and the alternatives as none change Uniform Building Code (UBC) standards, nor proposes different building and safety standards for development.

4.2.1 No Project Alternative

Under this scenario, "no project" is taken to mean that the City would retain its existing General Plan and none of the update alternatives were found to be acceptable. Another perspective on the No Project alternative is summarized in the book, *What Every CEQA Practitioner Needs to Know* as, "whereas the existing environmental setting or baseline is the physical conditions before a project commences, the No Project alternative is the physical conditions likely to occur if the project is not approved."

Under the No Project alternative, the following impacts may remain significant unless mitigated by other City of Livingston review processes, including environmental review:

- Potential impacts associated with construction in proximity to an abandoned gas, oil, or water well;
- Air quality impacts resulting from lack of General Plan-level construction-related mitigation measures to minimize PM10, possibly resulting in continuing activity which contributes to the district's non attainment status;
- Drainage impacts increase as no policies exist to require the update of the *Storm Drain Collection System Study and Master Plan*;
- Noise impacts may result due to lack of specific standards to evaluate new development; lack of specific standards for review and evaluation of development may result in light and glare impacts as the city grows. These could be addressed through public or private action against a resulting nuisance, but its prevention before the development occurs has a greater public benefit;
- Land use impacts associated with non-contiguous urban growth and sprawl may result due to lack of an effective set of policies and standards to control the timing and location of urbanization; absent standards for fire and law enforcement levels of service these services may be impacted;
- Housing/jobs imbalance would likely continue as policies which reduce this impact would be absent;

- Circulation-generated impacts may accrue due to unenhanced street connectivity and lack of minor collector streets; and
- Lack of an industrial reserve may result in demand for sewer collection and wastewater treatment facilities in excess of their capacity.

4.2.2 Reduced Project Area Alternative

This alternative would update the General Plan elements but would preserve the existing Sphere of Influence, rather than extending it to the 2050 phased growth boundary as shown on the proposed project.

The following significant impacts would be reduced through reduction of the Project Area because it is assumed that without the growth established by the General Plan update, development will occur more slowly:

- Air quality impacts would be reduced in proportion to the reduction of the planned urban area. Policies regarding short- and long-term air quality emission controls found in the General Plan update would be included in this alternative to mitigate these impacts;
- Circulation impacts would be similarly reduced in proportion to the lack of growth in the City;
- Public Facility impacts would be reduced or postponed as demands for these services by new growth will be lower.

However, to the extent that development could occur anyway within the unincorporated area around the City under the governance of Merced County, the potential exists that other impacts identified in Chapter Three could still occur, but over a longer time frame. Without the additional commercial- and industrially-designated land within the 2020 phased growth boundary, Livingston lacks sufficient area for development of new, job-generating business and industry, which is necessary for effective jobs/housing balance. This alternative would also impair the ability of the city to undertake at least some of the public service improvements designed to mitigate environmental impacts; by limiting development, capitalization using development impact fees are also reduced. Therefore, this alternative will not meet Plan objectives.

4.2.3 Infill Development

In comparison with the No Project alternative and the Reduced Project Area alternatives, the Infill Development alternative assumes that the City finds the existing General Plan is adequate without revision. The City would continue to build out under the current general plan using *only existing vacant land within the city limits* for all future development. Unincorporated lands within the existing Sphere of Influence would develop only under County zoning and land use controls. This alternative has similar environmental effects as the Reduced Project Area alternative in that planned growth is reduced considerably and potential impacts, mitigated by the General Plan policies, are

equally minimized. And like Reduced Project Area alternative, this alternative does not meet the goals of the General Plan update in providing for improved jobs/housing balance, greater control by the City of urban growth in the Livingston Sphere of Influence.

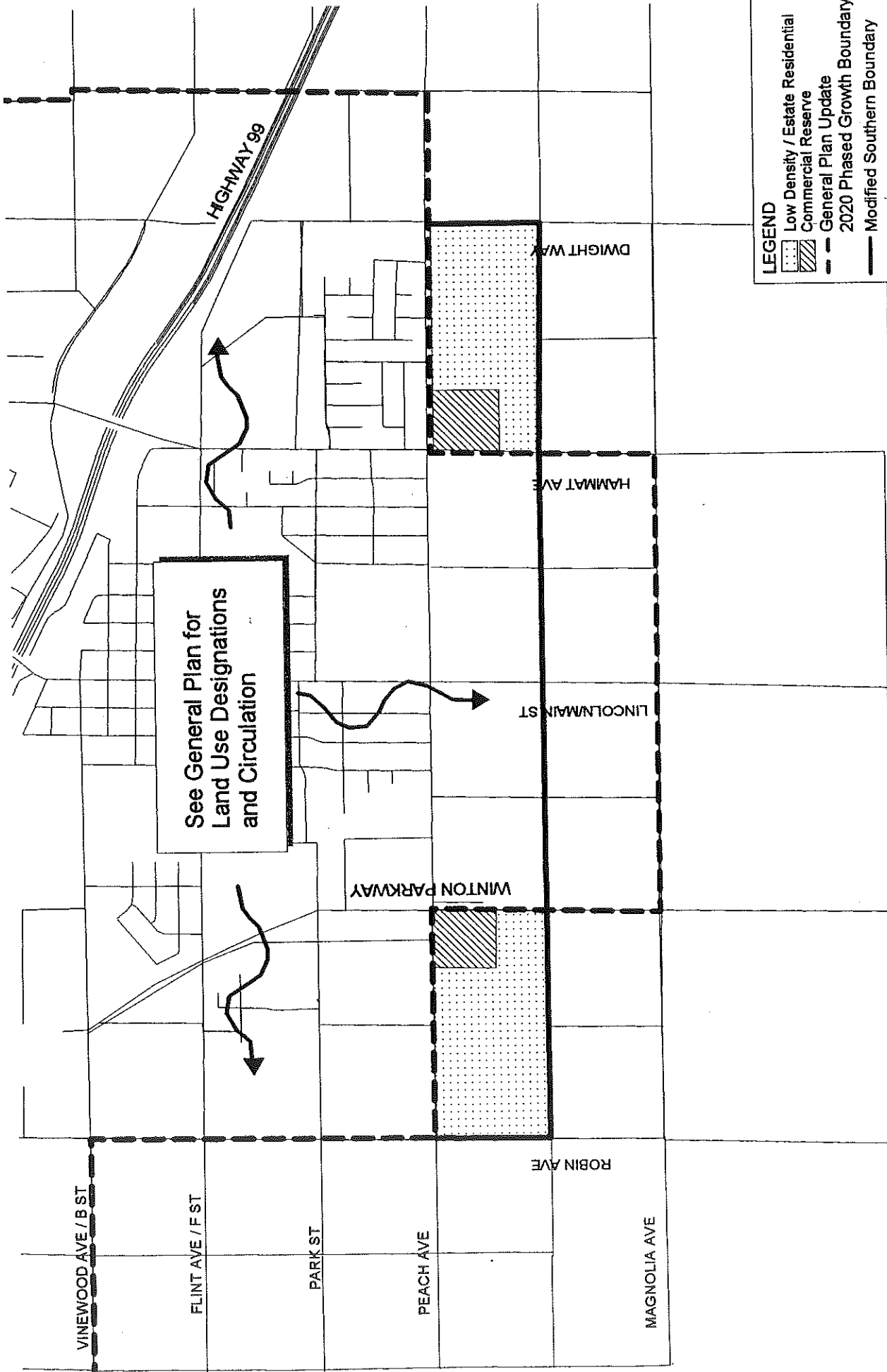
4.2.4 Modified Southern Boundary

This alternative uses the proposed General Plan land use and policy structure but would place the southern 2020 phased growth boundary currently proposed on Magnolia Avenue at a point approximately halfway between Peach Avenue and Magnolia Avenue. The corresponding low density land uses would be "swapped" with land out of the 2020 boundary with the effect of squaring the southern boundary of the 2020 phased growth area between Dwight Way and Robin Avenue along this line 1500 feet south of Peach Avenue. This alternative would not change the overall acreage of the 2020 phased growth area. Please refer to Figure 4-1.

This alternative would have a limited effect on aesthetics as it relates to the city's southern urban boundary. General Plan update policy 6.1.4 states, "identify and use natural and man-made edges such as local roadways and waterways, as urban development limits for growth phasing lines." Edges established along these "hard," that is, typically linear, permanent, and visual features, define and reinforce the visual difference between urban and rural land uses and are easily seen by the general public. An edge along a public right-of-way, such as that proposed along Winton Parkway, Magnolia Avenue, and Hammatt Avenue, functions as a daily reminder of an urban/rural boundary. Because it reinforces a feeling of distinctness between land uses, it is valuable from a planning perspective and as a feature of the City's identity. In contrast, urban edges that are not along these features do not contribute to the distinction of the urban to rural transition.

There is little practical environmental difference between the General Plan update and this alternative if the urban boundary is simply used as an administrative boundary between city and county. But a hard edge has aesthetic value as a depiction of the limits of the urban area and as the exercise of a public policy of controlling urban growth.

There are no substantial differences between the environmental impacts of this alternative with that of the proposed General Plan. This alternative remains largely consistent with proposed policy 6.1.4 because it would use the planned minor collector system as the edge of the urban area rather than classified streets. The effect would be to limit dedication and improvement of half streets mainly to minor collectors in this area.



LEGEND

- Low Density / Estate Residential
- Commercial Reserve
- 2020 Phased Growth Boundary
- Modified Southern Boundary

Modified Southern Boundary Alternative

Figure 4-1

4.2.5 Existing Downtown Alternative

This alternative uses the proposed General Plan land use and policy structure but retains the existing downtown land use pattern south of SR 99. Please refer to Figure 4-2. Table 4-1 presents data on this and the other downtown alternatives. This data illustrates the relative differences between the proposed General Plan and the downtown alternatives for acreage, jobs, land use demand, and potentially non-conforming residential uses.

This alternative would not pose any significant environmental impacts not already considered in the EIR but is not consistent with the community's expressed aspiration for a civic center. Projections for office and professional square footage are almost double that permitted by this alternative. These land uses would be able to develop outside the downtown in commercially designated properties. This has the potential to reduce downtown's role as a focal point for these uses, contrary to current community expressions.

4.2.6 F Street Downtown Alternative

This alternative uses the proposed General Plan land use and policy structure but limits the expansion of the downtown civic center to north of F street. Rezoning will be required to facilitate the eventual conversion of property from residential and industrial to downtown commercial zoning. Change in the land uses would be the result of private market forces, the Redevelopment Agency, or a parking district. Please refer to Figure 4-3.

Although this alternative would provide an additional 3.5 acres of planned office and professional land uses in comparison to the Existing Downtown alternative, it has much in common with the previous alternative, sharing both its environmental neutrality, its divergence with the community's expression for a civic center, and its inability to accommodate the projected demand for office and professional land uses to the downtown.

**Table 4-1
Downtown Land Use Alternative Comparison Chart**

<u>Alternative</u>		Percentage of projected Downtown commercial
<u>General Plan Update</u>		
Net Acreage	36.3	
Gross Acreage	29.04	
Square footage	395,307	105
No. of employees	718.74	
No. parcels	164	
No. non-conforming residences	92	
<u>Existing Downtown Alternative</u>		
Net Acreage	20.5	
Gross Acreage	16.4	
Square footage	223,245	59
No. of employees	405.9	
No. parcels	83	
No. non-conforming residences	15	
<u>F Street Alternative</u>		
Net Acreage	26.5	
Gross Acreage	21.2	
Square footage	288,585	76
No. of employees	524.7	
No. parcels	123	
No. non-conforming residences	54	
<u>D Street Alternative</u>		
Net Acreage	35.5	
Gross Acreage	28.4	
Square footage	386,595	102
No. of employees	702.9	
No. parcels	167	
No. non-conforming residences	90	
<u>B Street</u>		
Net Acreage	29.2	
Gross Acreage	23.36	
Square footage	317,988	84
No. of employees	578.16	
No. parcels	115	
No. non-conforming residences	44	

Notes: Assumptions for acreage and number of employees is from the ADE discussion paper attached to this EIR as Appendix E: Net Acreage of city block; Gross Acreage is 80% of net acres; Square footage is estimated to be 25% of the net; No. of employees is estimated to be one per 550 sq. ft; Percentage column is square footage / projected demand.



Quad Knopf

Existing Downtown Alternative

Figure 4-2



F Street Alternative

Figure 4-3

4.2.7 D Street Downtown Alternative

The D Street Downtown alternative uses the proposed General Plan land use and policy structure but expands the downtown civic center along D Street east and west. Implementation tasks similar to the F Street alternative would be needed for D Street. Please refer to Figure 4-4.

Like the F Street Downtown alternative, this poses little additional environmental difference with the proposed project. It is consistent with the goal of reinforcing downtown and permits sufficient land use designations to provide office and professional uses well into the planning period. Implementation of this alternative would be facilitated by the Redevelopment Agency, or a parking district, like F Street alternative. Impact to local circulation may result by the replacement of industrial uses with office/professional uses as non-residential traffic filters south to F Street. This is not expected to be significant as the existing surface street system remains to convey drivers out to Main Street. It could be further reduced as well by implementation of traffic control by means of signage or physical alteration or reparcelization of the downtown to control traffic and reduce pass-through trips.

4.2.8 B Street Downtown Alternative

The B Street Downtown alternative uses the proposed General Plan land use and policy structure but expands the downtown civic center along B Street west of Main Street. Implementation tasks required by the F and D Street alternatives would be needed here as well. Please refer to Figure 4-5.

Like the previous downtown alternatives, this alternative presents little additional environmental differences with the proposed project. The expansion of downtown westward would result in less conversion of existing land uses as much of the property is now vacant. Circulation would be facilitated by the growth of B Street between Main Street and Winton Parkway. The B Street alternative would need to be designed to present no net increase in hazard to pedestrians, in particular the elementary school children on the south side of B Street.

4.3 CONCLUSIONS

In accordance with the *CEQA Guidelines*, all reasonable project alternatives have been evaluated for their comparative environmental superiority. The alternatives range in scope and location but can be divided into three groups.

- The first group, No Project, Reduced Project Area, and Infill (nos. 4.2.1, 2, and 3) relate to the scope and direction of the update process. They are alternatives to the overall general plan update and to the 2020 urban boundary proposed in the project.

- The next group, composed solely of the Modified Southern Boundary (no. 4.2.4), is focused on changes to the southern boundary of the 2020 phased growth boundary and has no other effect on the policies of the project or the rest of the urban area.
- The last group is the most specific. The Existing Downtown, F Street, D Street and B Street Alternatives (nos. 4.2.5 through 8), present options to the configuration of the planned downtown commercial area to meet the needs of the community in the planning horizon.

These groups are independent of each other. The first group presents what may be called the "classic" alternatives to the project; variations of the General Plan scope and extent. The second and third groups provide alternative configurations that have been introduced and assessed during the plan update process.

The City Council will have the opportunity to select the proposed General Plan update or an alternative from each of the groups.

Based on this evaluation, it has been determined that no single alternative exhibits environmental superiority in comparison to the proposed project while maintaining the objectives of the project. The No Project alternative for the General Plan is environmentally inferior and would fail to meet the project's objectives. The Reduced Project Area and Infill alternative each possess characteristics similar to No Project in that growth of the area between the City Limits and the Sphere of Influence are not controlled by the City and are essentially variations of the No Project alternative.

Modified South Boundary alternative presents no additional impacts and is environmentally neutral in comparison with the proposed General Plan. The Existing Downtown and F Street Downtown alternatives have some limited environmental benefit over the proposed General Plan by virtue of their compact civic form but fall short of the projected demand for office and professional land uses. This may have an impact on the centrality of downtown as a long-term office/professional focal point for Livingston but the environmental implications are less than significant since adequate commercially-designated lands remain in the project area.

B Street Downtown alternative and the D Street Downtown alternative are closer to the goals of the community and present no substantive difference with the General Plan, though traffic would need to be monitored as the alternative is implemented to ensure that traffic levels remain consistent with plan policies and standards.

The proposed project with mitigation measures proposed in this EIR, remains the environmentally superior project, as it provides the fewest environmental impacts with the greatest potential for Livingston's economic development.



Quad Knopf

D Street Alternative

Figure 4-4



B Street Alternative

Figure 4-5

CHAPTER FIVE
MANDATORY CEQA ANALYSES

5.0

MANDATORY CEQA ANALYSES

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Since the phrase "significant effect on the environment" occupies such a critical role in the preparation and review of an EIR, the following definition, as contained in Section 15382 of the State *CEQA Guidelines*, is provided for reference:

"Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The environmental effects of adopting and implementing the General Plan update on selected aspects of the environment are discussed in detail in Chapter Three of this EIR. All but three of the impacts identified in that chapter as significant or potentially significant can be mitigated to a level that is less than significant through the adoption and implementation of mitigation measures recommended in Chapter Three. The loss of agricultural land in the Sphere of Influence and incremental impacts on air quality and traffic have been identified as significant and unavoidable impacts of the General Plan update.

Other unavoidable impacts attributable to implementation of the proposed project have either been determined to be less than significant, or are mitigated to less than significant levels by measures in existing plans.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

The following excerpt from *CEQA Guidelines* Section 15126.2(c) defines the nature of this analysis:

Uses of non-renewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or non-use thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Development of the Project Area will commit non-renewable resources during construction, and ongoing utility services provided to it. Energy resources and building materials consumed during construction will essentially be irreversible and irretrievable. Substantial amounts of energy and other natural resources will be consumed during the life of the General Plan. The proposed project will provide additional housing, public service infrastructure and economic development, along with the effects addressed in this EIR.

5.3 GROWTH-INDUCING IMPACT OF THE PROPOSED PROJECT

CEQA Guidelines Section 15126.2(d) characterizes the treatment of growth-inducing impacts as follows:

[An EIR should] discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A classic example of the growth-inducing impact is construction of a wastewater treatment facility in a previously undeveloped area that may be intended to serve a specific development, but which, by virtue of the service it provides, might remove a barrier to the development of adjacent lands as well.

The General Plan update explicitly recognizes that growth and development are inevitable and, in fact, desirable. The City has structured the General Plan update to achieve and

sustain growth and development to foster economic growth and diversification, while simultaneously providing levels of urban services needed by the future population.

As noted, CEQA implicitly recognizes that development of new utility infrastructure and public services has the potential to induce growth in a manner otherwise not anticipated. This General Plan update provides for new facilities where such facilities and services are absent or will be provided as a condition of approval for new development. The inducement of growth is tempered under the General Plan because, by constraints established through plan policies, development will be confined in most cases to contiguous areas within the 2020 phased growth boundary. This will prevent "leap-frog" development and urban sprawl.

The General Plan update is explicit regarding those areas that are open to eventual development and those that are to be preserved as open space or agricultural land. Those areas to be developed will be fully served by public services and facilities, including an effective and efficient transportation system. Provisions are included for a jobs/housing balance to improve the economy and minimize vehicle miles traveled.

Because the General Plan update recognizes annual growth rates as shown in its Table 2-3, it must be concluded that the City recognizes growth as beneficial. Therefore, a determination that the growth-inducement of the General Plan update is significant and adverse must include a finding that the General Plan update would induce growth beyond the degree desired by the City, and this is not the case.

The *State General Plan Guidelines* (Office of Plan and Research) discusses growth management in relation to General Plan updates. It lists several principles that have been defined by state and federal courts that must be observed in establishing a growth management system, including:

- Local government must act within the powers delegated to them by the California Constitution and state statutes.
- Regulations using the police power must promote the public's welfare.
- A local government's actions cannot discriminate against individuals or groups on the basis of race, religion, age, or economic status.
- Local governments cannot enact regulations which directly prohibit immigration or discriminate against newcomers.
- Land use controls must allow for some reasonable use of private property.
- A landowner whose property is subject to an overly restrictive land use regulation may be entitled to just compensation, even if the restriction is a temporary one.

Although these principles were developed primarily as a result of legal challenges to attempts by local governments to *limit* growth, they nevertheless should apply equally to any attempt by a local government to manage growth, whether it seeks to limit or induce growth.

The General Plan update is therefore consistent with the State's growth management principles.

The *General Plan Guidelines* cited provide examples of growth management techniques that can be used by local governments in their general plan updates. They include:

- Establishment of geographic limits to growth (i.e., urban limits and service areas)*
- Annexation policies*
- Adequate public facilities requirements*
- Environmental performance standards*
- Limits on the annual number of development permits
- Transfer of development credits
- Public acquisition of open-space lands*
- Purchase of development rights
- Housing subsidies
- Development impact fees*
- Preferential assessment of agricultural, timber, and other open-space lands

Those growth management techniques that are incorporated into the General Plan update are marked with an asterisk (*). Like the principles listed, these growth management techniques were developed primarily for those local governments that wished to *limit* rather than *induce* growth through their general plans. However, many of these techniques enable the local government to manage growth whether the objective is to limit or induce growth. These techniques help the local government to confine such growth to areas deemed appropriate for development, preserve and protect open space, and provide for public services and infrastructure to serve new development.

It also is relevant that the City retains its authority to deny any development proposal that is found to be growth-inducing if it violates the parameters established by the General Plan update. Conversely, the City retains the power to approve such projects when it is perceived that the public benefits of the project override the growth-inducing impact. In short, the City is well-equipped, both through the General Plan and its police power, to regulate growth as it deems appropriate and in the best interests of the public.

It is concluded that, despite the tendency of the General Plan to stimulate growth and development, the General Plan update is growth-accommodating rather than growth-inducing, because it will carefully regulate growth to achieve the desired benefits, while preserving and protecting significant portions of the City as open space with a rural atmosphere. Also, the General Plan update provides for accommodation of new growth with adequate housing, jobs, and public services. It further is concluded that the General Plan

update provides appropriate mechanisms to carefully regulate growth within the framework of the legal principles for growth management that results from judicial decisions.

5.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the State *CEQA Guidelines* requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant, and were therefore not discussed in detail in the EIR.

The following potential effects were determined based on the written responses to the Notice of Preparation, comments made during public hearings and workshops and the evaluation of impacts in Chapter Three:

- Incompatibility with existing land use in the vicinity.
- Cumulatively exceed official regional or local population projections.
- Seiche, tsunami, or volcanic hazard.
- Landslides or mudflows.
- Unique geologic or physical features.
- Alter air movement, moisture, or temperature, or cause any change in climate.
- Create objectionable odors.
- Hazards to safety from design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment).
- Insufficient parking capacity on-site or off-site.
- Hazards or barriers for pedestrians or bicyclists.
- Rail, waterborne or air traffic impacts.
- Locally designated species (e.g. heritage trees).
- Locally designated natural communities (e.g. oak forest, coastal habitat, etc).
- Wetland habitat (e.g. marsh, riparian and vernal pool).
- Conflict with adopted energy conservation plans.
- Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State.
- Exposure of people to existing sources of potential health hazards.
- Increased fire hazard in areas with flammable brush, grass, or trees.
- Power or natural gas.
- Communications systems.
- Septic tanks.
- Solid waste disposal.
- Affect a scenic vista or scenic highway.
- Have demonstrable negative aesthetic effect.

- Disturb paleontological resources.
- Disturb archaeological resources.
- Affect historical resources.
- Have the potential or cause a physical change which would affect unique ethnic cultural values.
- Restrict existing religious or sacred uses within the potential impact area.

5.5 CUMULATIVE IMPACTS

CEQA Guidelines Section 15130 calls for the following discussion of the cumulative impacts of the proposed project:

(a) An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(c). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

(1) As defined in Section 15355, 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. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

(2) When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.

(3) An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

(4) An EIR may determine that a project's contribution to a significant cumulative impact is de minimus and thus is not significant. A de minimus contribution means that the environmental conditions would essentially be the same whether or not the proposed project is implemented.

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary to an adequate discussion of significant cumulative impacts:

(1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency;

1. When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.

2. "Probable future projects" may be limited to those projects requiring an agency approval for an application which has been received at the time the notice of preparation is released, unless abandoned by the applicant; projects included in an adopted capital improvements program, general plan, regional transportation plan, or other similar plan; projects included in a summary of projections of projects (or development areas designated) in a general plan or a similar plan; projects anticipated as later phase of a previously approved

project (e.g. a subdivision); or those public agency projects for which money has been budgeted.

3. Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.

(2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

(3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

(c) With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis.

(d) Previously approved land use documents such as general plans, specific plans, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(e), in a certified EIR for that plan.

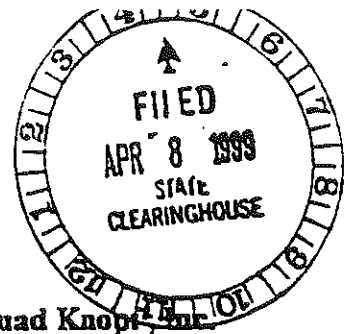
(e) If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided in Section 15183(j).

This EIR has identified unavoidable air quality and traffic impacts and loss of agricultural lands as significant cumulative impacts resulting from the project. Where mitigation was feasible, measures in the form of plan policies or standards shall be implemented as conditions of approval for future projects.

APPENDIX A

**NOTICE OF PREPARATION
RESPONSES TO THE NOTICE OF PREPARATION**

99042027



Subject: Notice of Preparation of a Draft Environmental Impact Report

Lead Agency:

Consulting Firm:

Agency Name: City of Livingston
Address: 1416 C Street
City, State, Zip: Livingston, CA 95334
Contact: David Hanham
Associate Planner

Firm Name: Quad Knott, Inc.
Address: 5110 W. Cypress Avenue
City, State, Zip: Visalia, CA 93277
Contact: David E. Fey, AICP
Senior Planner

The City of Livingston will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by our agency when considering permits or other approvals for the project.

The project description, location, and the potential environmental effects are contained in the attached materials.

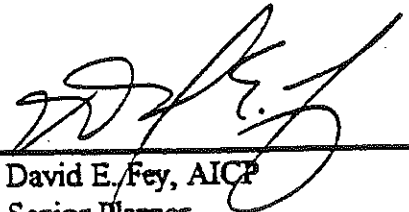
Due to the time limits mandated by State law, your response must be sent at the earliest possible date but *not later than 30 days* after receipt of this notice.

Please send your response to Mr. Hanham, at the address shown above. We will need the name for a contact person in your agency.

Project Title: City of Livingston General Plan Update EIR
Project Location: City of Livingston, Merced County

Project Description: The proposed General Plan update study area is approximately 4,900 acres in size and contains a mixture of residential, agricultural, commercial, public facilities and industrial land uses. The city of Livingston is establishing twenty year growth boundaries to guide future growth within the City and its planning area.

Date: April 8, 1999

Signature: 
David E. Fey, AICP
Senior Planner
(559) 733-0440

California Department of Transportation
District 10
1352 West Olive Avenue
Fresno, CA 93778

Charter Communications
2946 Stanislaus St.
Riverbank, CA 95367

Dept. of Fish and Game Fresno Office
1234 E. Shaw Ave.
Fresno, CA 93710

Evan's Telephone Company
4918 Taylor Court
Turlock, CA 95382

Jilton Solid Waste Company
1722 Mono Dr.
Modesto, CA 95354

Livingston Chamber of Commerce
PO Box 434
Livingston, CA 95334

Law Offices of Nelson Gomez, Livingston
City Attorney
PO Box 1039
Hughson, CA 95326

Gary Davis, Livingston City Engineer
PO Box 1033
Ceres, CA 95307

Livingston City Manager
1416 C Street
Livingston, CA 95334

Livingston Department of Public Works
PO Box 308
Livingston, CA 95334

Livingston Planning Department
PO Box 308
Livingston, CA 95334

Livingston Police Department
PO Box 308
Livingston, CA 95334

Livingston Recreation and Community
Services
PO Box 308
Livingston, CA 95334

Livingston Union School District
922 "B" Street
Livingston, CA 95334

Merced County Administrative Office
2222 "M" Street
Merced, CA 95340

Merced County Agriculture Commission
2222 "M" Street
Merced, CA 95340

Merced County Association of
Governments
369 West 18th Street
Merced, CA 95340

Merced County Clerk
2222 "M" Street
Merced, CA 95340

Merced County Farm Bureau
2222 "M" Street
Merced, CA 95340

Merced County Fire Department
2222 "M" Street
Merced, CA 95340

Merced County Library
2222 "M" Street
Merced, CA 95340

Merced County Local Agency Formation
Commission
2222 "M" Street
Merced, CA 95340

Merced County Planning & Development
2222 "M" Street
Merced, CA 95340

Merced County Public Works
2222 "M" Street
Merced, CA 95340

Merced County Water Agency
2222 "M" Street
Merced, CA 95340

Merced Irrigation district
720 W 20th Street
Merced, CA 95340

Merced Union High School District
P.O. Box 2147
Merced, CA 95341

Merced County Mosquito Abatement
District
P.O. Box 909
Merced, CA 95341

Natural Resources Conservation Service
2135 Wardrobe Ave., Suite C
Merced, CA 95340

Pacific Gas and Electric Company,
Environmental Services
1524 N. Carpenter
Modesto, CA 95351

Central Valley Regional Water Quality
Control Board
3614 E. Ashlan Avenue.
Fresno, CA 93726

San Joaquin Valley Unified APCD
250 West Nees, #112
Fresno, CA 93711

Southern San Joaquin Valley
Archaeological Information Center
9001 Stockdale Highway
Bakersfield, CA 93311-1099

State of California Division of Oil and Gas
801 "K" Street
Sacramento, CA 95814

U.S. Army Corps of Engineers
1325 J Street
Sacramento, CA 95814

State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

NOTICE OF SCOPING MEETING
FOR THE CITY OF LIVINGSTON GENERAL PLAN UPDATE
DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Livingston is preparing an environmental impact report (EIR) for its General Plan update.

The proposed General Plan update includes approximately 4,900 acres and contains a mixture of residential, agricultural, commercial and industrial land uses. The City is establishing long-range urban growth boundaries and urban reserves to guide future growth within the City and its Sphere of Influence.

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, a Notice of Preparation has been issued. The Comment Period for the Notice of Preparation will end on May 8, 1999. By this date, commenting agencies should provide the City of Livingston with specific detail about the scope and content of the environmental information which must be included in the draft EIR.

In order to expedite the consultation, a meeting has been scheduled to assist the City of Livingston in determining the scope and content of the environmental information of the EIR. Any party concerned with the environmental effects of the General Plan update is invited to attend and comment on the project.

The meeting will be held at the following time and place:

April 14, 1999
1:30 p.m.
Livingston City Hall
1416 C Street
Livingston, California

For further information contact David Hanham, Associate Planner, City of Livingston, (209) 394-8041.



Gray Davis
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research

1400 TENTH STREET SACRAMENTO, CALIFORNIA 95812-3044

NOTICE OF PREPARATION

April 9, 1999

To: Reviewing Agencies
Re: City of Livingston General Plan Update EIR
SCH# 99042020

Attached for your review and comment is the Notice of Preparation (NOP) for the City of Livingston General Plan Update EIR 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 this notice. 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:

David E. Fey
Quad Knopf, Inc
5110 W. Cypress Avenue
Visalia, CA 93277

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,

A handwritten signature in cursive script that reads "Mosie Boyd".

Mosie Boyd
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

NOP Distribution List

S = sent by lead agency
X = sent by SCH

Resources Agency

- Nadell Cayou
Resources Agency
1020 Ninth Street, Third Floor
Sacramento, CA 95814
916/327-1722 Fax 916/327-1648
- Susie Beitzler
Dept. of Boating & Waterways
1620 S Street
Sacramento, CA 95814
916/445-6281 Fax 916/327-7250
- Elizabeth A. Buchs
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219
415/904-5200 Fax 415/904-5400
- William Albern
State Coastal Conservancy
1330 Broadway, Suite 100
Oakland, CA 94612
510/286-1015 Fax 510/286-0470
- Ken Frott
Dept. of Conservation
801 K Street, MS 24-02
Sacramento, CA 95814
916/445-8733 Fax 916/324-0948
- Allen Robertson
Dept. of Forestry & Fire Protection
1416 Ninth Street, Room 1516-24
Sacramento, CA 95814
916/657-0300 Fax 916/653-8957
- Hans Krawtzenberg
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
916/653-6624 Fax 916/653-9824
- Beth Wells
Resource Management Division
Dept. of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0401
916/653-6725 Fax 916/657-3355
- Paul Bruner
Reclamation Board
1316 Ninth Street, Room 1601
Sacramento, CA 95814
916/653-5434 Fax 916/653-5805
- Steve McAdams
S.F. Bay Conservation & Dev. I. Comm.
30 Van Ness Avenue, Room 2011
San Francisco, CA 94102
415/557-3686 Fax 415/657-3767
- Noshell Grayson
Department of Water Resources
1070 Ninth Street, Third Floor
Sacramento, CA 95814
916/327-1722 Fax 916/327-1648
- Health & Welfare**
- Wayne Hubbard
Dept. of Health/Drinking Water
601 N. 7th Street, PO Box 94232
Sacramento, CA 94234 7320
916/445-2519 Fax 916/327-6092

- Donald Koch (Region 1)
Department of Fish and Game
601 Locust Street
Redding, CA 96001
530/225-2363 Fax 530/225-2381
- Bunky Curtis (Region 2)
Department of Fish & Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
916/358-2898 Fax 916/358-2912
- Brian Hunter (Region 3)
Department of Fish and Game
P.O. Box 47
Yountville, CA 94599
707/944-5518 Fax 707/944-5563
- George Nukes (Region 4)
Department of Fish and Game
1234 East Shaw Avenue
Fresno, CA 93710
559/445-6152 Fax 559/445-6607
- Sandy Peterson (Region 5)
Department of Fish and Game
Habitat Conservation Program
4949 Viewridge Avenue
San Diego, CA 92123
619/467-4234 Fax 619/467-4299
- Cheryl Avents (Region 6)
Department of Fish and Game
Habitat Conservation Program
330 Golden Shore, Suite 30
Long Beach, CA 90802
562/590-5159
- Alan Pickard (Inyo & Mono)
Department of Fish and Game
Habitat Conservation Program
407 West Line Street, Room 8
Bishop, CA 93514
760/872-1129
- Independent Commissions/Agencies**
- Greg Newhouse
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814
916/654-5000 Fax 916/654-3882
- Debbie Treadway
Native American Heritage Comm.
915 Capitol Mall, Room 364
Sacramento, CA 95814
916/653-4082 Fax 916/657-5390
- Andrew Bernasdale
Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
415/703-3231 Fax 415/703-1184
- Betty Silva
State Lands Commission
1070 Howe Avenue, Suite 100-5
Sacramento, CA 95825
916/574-1872 Fax 916/574-1885
- Gerald R. Zimmerman
Colorado River Board
770 Fairmont Avenue, Suite 100
Glenville, CA 91203-1035
818/543-4676 Fax 818/543-4685
- Tahoe Regional Planning
P.O. Box 1038
Zephyr NV 8
707/568-4537 Fax 707/568-4577

- John Rowden, Manager
Office of Emergency Services
11030 White Rock Road, Ste.110
Rancho Cordova, CA 95670
916/464-1014 Fax 916/464-1019
- Debby Eddy
Delta Protection Commission
P.O. Box 530
Walnut Grove, CA 95690
916/776-2290 FAX 776-2293
- Department of Transportation
District Centers**
- Deborah Hartman
Caltrans, District 1
P.O. Box 3700
Eureka, CA 95502
707/445-6412 Fax 707/441-5883
- Vicki Roe
Local Development Review
Caltrans, District 2
P.O. Box 496073
Redding, CA 96049-6073
530/225-3089 Fax 530/225-3271
- Jeff Palmvann
Caltrans, District 3
P.O. Box 942874 MS-41
Sacramento, CA 94274-0001
916/327-3859 Fax 916/323-7669
- Joan Finney
Caltrans, District 4
P.O. Box 23660
Oakland, CA 94623-0660
510/286-5572 Fax 510/286-5513
- Lawrence Newland
Caltrans, District 5
50 Higgins Street
San Luis Obispo, CA 93401-5415
805/549-3683 Fax 805/549-3077
- Marc Birnbauem
Caltrans, District 6
P.O. Box 12616
Fresno, CA 93778-2616
559/488-4260 Fax 559/488-4088
- Stephen J. Buswell
Caltrans, District 7
120 South Spring Street, 1-10C
Los Angeles, CA 90012
213/897-4429 Fax 213/897-9210
- Mike Sims
Caltrans, District 8
464W. 4th Street, 7th Floor
San Bernardino, CA 92401-1400
909/383-4808 Fax 909/383-5936
- Robert Rubank
Caltrans, District 9
500 South Main Street
Bishop, CA 93314
760/872-0689 Fax 760/872-0678
- Phil Jones
Caltrans, District 10
P.O. Box 2048
Stockton, CA 95201
209/948-7783 Fax 209/948-7906
- Lou Salazar
Caltrans, District 11
P.O. Box 83406, MS 6-5
San Diego, CA 92186-5406
619/688-3140 Fax 619/688-4299

- Aileen Kennedy
Caltrans, District 12
2501 Pullman St.
Santa Ana, CA 92705
949/724-2239 Fax 949/724-2392
- Business, Transportation, & Housing**
- Sandy Hensard
Caltrans - Division of Aeronautics
P.O. Box 942874 MS-40
Sacramento, CA 94274-0001
916/654-5314 Fax 916/653-9531
- Lt. Deonita Brunstie
California Highway Patrol
Office of Special Projects
2555 1st Ave.
Sacramento, CA 95818
916/657-7222 Fax 916/452-3151
- Ron Helgeson
Caltrans - Planning
P.O. Box 942874
Sacramento, CA 94274-0001
916/653-9966 Fax 916/653-0001
- State and Consumer Services**
- Robert Sloppy
Dept. of General Services
400 R Street, Suite 5000
Sacramento, CA 95814
916/324-0214 Fax 916/445-3556
- California Environmental Protection Agency**
- Mike Tollstrup
Air Resources Board
2020 I. Street (PO Box 2815)
Sacramento, CA 95814 (938)4-2815
916/323-8473 Fax 916/445-5023
- Jennie Blakeslee
Calif. Waste Management Board
8800 Cal Center Drive
Sacramento, CA 95826
916/255-4708 Fax 916/255-4216
- Diane Edwards
State Water Resources Control Board
Division of Clean Water Programs
P.O. Box 942412
Sacramento, CA 94244-2120
916/227-4572 Fax 916/227-4349
- Phil Zentner
State Water Resources Control Board
Division of Water Quality
P.O. Box 944213
Sacramento, CA 94244-2130
916/657-0912 Fax 916/657-2388
- Mike Falkenstein
State Water Resources Control Board
Division of Water Rights
908 P Street, 3rd Floor
Sacramento, CA 95814
916/657-1377 Fax 916/657-1485
- Dept. of Toxic Substances Control
CEQA Tracking Center
400 P Street, Fourth Floor
P.O. Box 806
Sacramento, CA 95812-0806
916/324-3119 Fax 916/324-1788

- North Coast Region (1)
5550 Skyline Blvd., Suite A
Santa Rosa, CA 95403
707/576-2220 Fax 707/523-0135
- San Francisco Bay Region (2)
Environmental Document Coordinator
1515 Clay Street, Suite 1400
Oakland, CA 94612
510/622-2300 Fax 510/622-2460
- Central Coast Region (3)
81 Higuera Street, Suite 206
San Luis Obispo, CA 91401-5477
805/549-3147 Fax 805/543-0397
- Los Angeles Region (4)
CEQA Coordinator
320 West 4th Street, Suite 200
Los Angeles, CA 90013
213/576-6660 Fax 213/576-6640
- Central Valley Region (5)
3445 Roubidoux Road, Suite A
Sacramento, CA 95827-3033
916/255-3000 Fax 916/255-3015
- Fresno Branch Office
3614 East Ashlan Avenue
Fresno, CA 93726
559/445-5116 Fax 559/445-5910
- Redding Branch Office
415 Kallierest Drive
Redding, CA 96002
916/224-4845 Fax 916/224-4857
- Eubank Region (6)
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
530/542-5400 Fax 530/544-2271
- Victorville Branch Office
15428 Civic Drive, Suite 100
Victorville, CA 92392-2159
760/241-6383 Fax 760/241-7308
- Colorado River Basin Region (7)
73720 Fred Waring Drive, #100
Palm Desert, CA 92260-2564
760/782-7495 Fax 760/341-6820
- Santa Ana Region (8)
3737 Main Street, Suite 500
Riverside, CA 92501-3339
909/782-4130 Fax 909/781-6288
- San Diego Region (9)
9771 Clairmont Mesa Blvd., Suite D
San Diego, CA 92174-1324
619/467-2952 Fax 619/571-6972
- Other: _____
- Other: _____

Regional Water Quality Control Board

- North Coast Region (1)
5550 Skyline Blvd., Suite A
Santa Rosa, CA 95403
707/576-2220 Fax 707/523-0135
- San Francisco Bay Region (2)
Environmental Document Coordinator
1515 Clay Street, Suite 1400
Oakland, CA 94612
510/622-2300 Fax 510/622-2460
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909/782-4130 Fax 909/781-6288
- San Diego Region (9)
9771 Clairmont Mesa Blvd., Suite D
San Diego, CA 92174-1324
619/467-2952 Fax 619/571-6972
- Other: _____
- Other: _____



DEPARTMENT OF PUBLIC WORKS

PAUL A. FILLEBROWN

Director

LINCOLN CLENDENIN

Assistant Director

STEPHEN J. HAMILTON

Deputy Director

ROAD DIVISION

715 MARTIN LUTHER KING JR. WAY
MERCED, CALIFORNIA 95340
TELEPHONE (209) 385-7601
FAX NO. (209) 722-7690

April 23, 1999

David E. Fey, AICP
Quad Knopf, Inc.
5110 W. Cypress Avenue
Visalia, CA 93277

SUBJECT: CITY OF LIVINGSTON GENERAL PLAN UPDATE

Dear Mr. Fey:

The Merced County Department of Public Works has reviewed the proposed General Plan Update for the City of Livingston, prepared by Quad Knopf, Inc. and submitted to us on April 8, 1999. As you may have expected, our primary concern is limited to aspects of the Circulation Element.

The Plan proposes to significantly expand the existing limits of the City's Sphere of Influence. Several additional segments of existing County roadways will be encompassed by the new boundary, making them susceptible to proposed Policies and Standards adopted by the City. The Plan specifies certain roadway design standards and proposed right-of-way widths for the various classifications of roadways. A conflict occurs when the City's adopted policies differ from those of the County for roadways located within the City's Sphere of Influence.

Section 4.2.A.11, of the proposed City's General Plan Update, entitled, "Roadway Classification, Standards" (Policies and Standards), stipulates:

Right-of-way essential to the circulation system should be dedicated and/or developed to the appropriate extent and width when a zone change to a greater density, division of property or development occurs. The City shall have Merced County apply the same requirements within the Livingston Sphere of Influence.

The problem is two-fold:

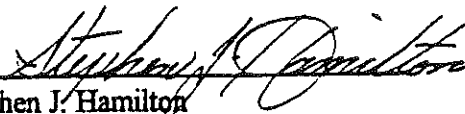
1. This proposed Livingston General Plan policy requests that right-of-way be "dedicated and/or developed" whenever a "zone change to a greater density, division of property or development occurs". The County General Plan policy stipulates that right-of-way dedication or improvements are not required for Zone Changes or for Minor Subdivisions of property zoned A-1 or A-2. Most all of the County property within the proposed Sphere of Influence is currently zoned as such.

2. The proposed General Plan Update will upgrade the classification of several roadways within the City's Sphere of Influence. Section 4.2.A.15 and 24 proposes the right-of-way widths for the various classifications of roads (Arterial's, 92'-110'; Collector's 84'). The Merced County Plan has different classifications for nearly all of these roadways. Accordingly, the County has proposed widths less than that sought by the City. The County's typical procedure for such conflicts has been not to ask developers to dedicate more than the County's General Plan requirements, but to require that a building set-back be reserved for the additional width proposed by the City.

If you have any questions regarding this matter, please do not hesitate to contact us.

Sincerely,

PAUL A. FILLEBROWN
DIRECTOR OF PUBLIC WORKS

By 
Stephen J. Hamilton
Deputy Director - Roads Division

SJH:SEL:jag

RAWPALETTERS\MULTILET\LIV-GEN.PLN



MERCED COUNTY
FIRE DEPARTMENT

735 MARTIN LUTHER KING JR. WAY
MERCED, CALIFORNIA 95340
TELEPHONE (209) 385-7344
FAX (209) 725-0174

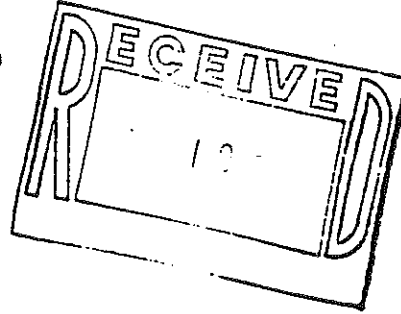


IN COOPERATION WITH THE
CALIFORNIA DEPARTMENT OF FORESTRY
AND FIRE PROTECTION

CANDACE GREGORY
Fire Chief
(209) 966-3622

STANLEY F. CRAIG
Deputy Fire Chief
(209) 966-3622

May 4, 1999



David Hanham
Associate Planner
City of Livingston
1416 C Street
Livingston, CA 95334

Dear Mr. Hanham;

Please find enclosed comments on the City of Livingston General Plan Update EIR.

The Merced County Fire Department appreciates the opportunity to provide input on this important process.

If you have any questions on this comments and recommendations, please contact Tom Wells, Merced County Fire Marshal, at 209-385-7344.

Sincerely,

Candace Gregory
Fire Chief

TW
Enclosure

Livingston Draft General Plan

The Fire Protection Section of the Safety Element of the Livingston Draft General Plan states that the Objective is "An effective and well-trained Fire Department that will protect the community from fire dangers." The Merced County Fire Department agrees with this objective and offers the following comments on the Policies and Standards as stated in the Draft document, page 10-2.

- 1. The City shall maintain fire department volunteer staffing of one volunteer per 500 residents.***

Comment: The population of the City of Livingston is projected to increase to 22,440 by the year 2018, the life of this General Plan. This would give a volunteer company size of 44 Paid Call Firefighters. A company of this size would be beyond the ability of the career firefighters to effectively manage. A company of this size would also be larger than the present facility could house.

Recommendation: Two or more companies should be formed as the population increases and call volume dictates to keep the size of the companies within manageable limits and County Policy.

- 2. The standard of one fire company for every 15,000 residents shall be used to evaluate fire protection services.***

Comment: The Merced County Fire Department feels that the ratio of one company to 15,000 residents is too high. The present ratio is one company to approximately 10,000 residents and the Livingston Station is consistently the busiest in the County. Increasing this ratio by 50% would increase the workload on both career and Paid Call Firefighters to unacceptable levels.

Recommendation: Strive to maintain the present ratio of one fire company to 10,000 residents.

- 3. The City's fire service response goal shall be six minutes from "tone-out" to arrival at scene.***

Comment: The Fire Department feels this is a realistic goal. Most areas within the boundary of the study can be reached in this time frame.

- 4. The City shall maintain a reliable water system that meets the fire protection needs of the community.***

Comment: An adequate water supply is essential to the successful fire protection system of any community and should be included in any development plans.

- 5. The City shall enforce the municipal code as it pertains to the abatement of fire hazards relating to existing buildings, structures, and weed control.***

Comment: A proactive fire prevention and education program will enhance the effectiveness of the Fire Department and should be instituted citywide.

- 6. The City shall support local, state and federal programs designed to inform and educate the public concerning fire prevention and suppression.***

Comment: See comment # 5.

- 7. The City will coordinate with Merced County in the provision of fire protection services to ensure the maximum level of protection for all residences, commercial establishments and industries within the planning area.***

Comment: The Merced County Fire Department and the Livingston Fire Department have shared a long standing cooperative relationship to the benefit of both agencies. This relationship should continue in the future.

8. *The City will encourage the installation of private fire alarms and fire suppression systems.*

Comment: See comment # 5.

9. *The City will encourage local and regional institutions to develop fire prevention and suppression.*

Comment: See comment # 5.

10. *The City will encourage the community to become involved in promoting state and federal fire protection programs in school and civic functions.*

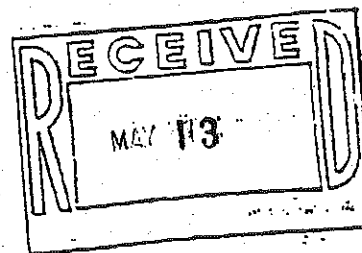
Comment: See comment # 5.

DEPARTMENT OF CONSERVATION

801 K Street, MS 24-02
Sacramento, CA 95814
(916) 445-8733 Phone
(916) 324-0948 Fax
(916) 324-2555 TDD



May 10, 1999



Mr. David Hanham, Associate Planner
City of Livingston
1416 C Street
Livingston, CA 95334

Subject: Notice of Preparation (NOP) for the City of Livingston General Plan Update,
Merced County

Dear Mr. Hanham:

The Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Division) has reviewed the above referenced project. The Division supervises the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. We offer the following comments for your consideration.

There is one plugged and abandoned well within the project boundaries. The well identified as Starlyn Oil Co., "Ben Bartlett" 1, is located in Section 23, Township 6 South, Range 11 East, MD B&M. The NOP indicates that the well location will be zoned for industrial use.

In the future, if any structure is to be located over or in the proximity of a previously plugged and abandoned well, the well may need to be plugged to current Division specifications. If the construction of any structure over or in the proximity of the well could result in a hazard, the State Oil and Gas Supervisor is authorized by Section 3208.1 of the Public Resources Code to order the reabandonment of previously plugged and abandoned wells. If reabandonment is necessary, the cost of operations is the responsibility of the owner of the property upon which the structure will be located.

Also, if any plugged and abandoned or unrecorded wells are damaged or uncovered during excavation or grading, remedial plugging operations may be required. If such damage or discovery occurs, the Division's district office in Coalinga must be contacted to obtain information on the requirements for, and approval to perform remedial operations.

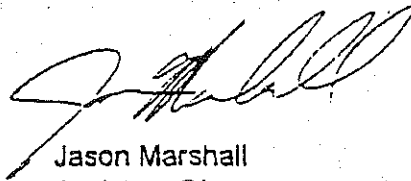
The possibility for future problems from oil and gas wells that have been plugged and abandoned, or reabandoned, to the Division's current specifications are remote. However, the Division suggests that a diligent effort be made to avoid building over any

plugged and abandoned well. If construction over an abandoned well is unavoidable, an adequate gas venting system should be placed over the well.

Prior to commencing operations, the project applicant should consult with the Division for information on the well located in the project area. The Division also requests that wells within, or in close proximity to project boundaries are accurately plotted on all future maps of this project, and a legible copy of the final project map is submitted to the Division office in Coalinga.

Thank you for the opportunity to comment on the NOP. If you have any questions about our comments, or require technical assistance or information, please contact Richard Curtin at the Coalinga district office: 466 North Fifth Street, Coalinga, CA 93210; phone (209) 935-2941.

Sincerely,



Jason Marshall
Assistant Director

cc: Richard Curtin
Division of Oil, Gas, and Geothermal Resources, Coalinga
Linda Campion
Division of Oil, Gas, and Geothermal Resources, Sacramento

DEPARTMENT OF TRANSPORTATION

P.O. BOX 2048 (1976 E. CHARTER WAY)
 STOCKTON, CA 95201
 TDD 209-948-7773
 (209) 948-3929



May 25, 1999

10-Mer-99-Various
 Livingston General Plan
 Administrative Draft

Mr. David Hanham
 Associate Planner
 City of Livingston
 1416 C Street
 Livingston, CA 95334

Dear Mr. Hanham:

Thank you for the opportunity to review the Livingston General Plan Administrative Draft. Transportation Planning has circulated this document through our normal interdepartmental review process. We offer the following comments:

Please reference our letter to you dated May 14, 1998. These comments are valid and still apply. If you have questions or wish to discuss this project further please contact me at (209) 948-3929.

Sincerely,

DEBBIE HOY
 Associate Transportation Planner
 Regional Planning Coordinator

Attachment

Bcc: C Yamzon
 F Miranda
 B Bender
 F Weishaar
 D Shafer

Post-It [®] Fax Note	7671	Date	5/25/99	# of pages	3
To	David Jay	From	Debbie Hoy		
Co./Dept.		Co.	Caltrans		
Phone #		Phone #	948-3929 (209)		
Fax #	539-733-7821	Fax #	948-7164		

DEPARTMENT OF TRANSPORTATION

P.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201
TDD 209-948-7773
209-948-3975



May 14, 1998

**10-Mer-99-Various
Livingston General Plan Update**

Mr. David Hanham
City of Livingston
P.O. Box 308
Livingston, CA 95334

Dear Mr. Hanham:

Thank you for the opportunity to review the Livingston General Plan Update. Transportation Planning has circulated this document through our normal interdepartmental review process. We offer the following comments:

- Though the project development may not be specific at this point, the proposed General Plan Update does in fact have many potential traffic impacts. Traffic impacts resulting from increased densities will impact State Route 99. In order to adequately address the potential impacts due to the proposed rezoning, traffic projections should be prepared. This analysis should include the following:
 - Trip generation, distribution and assignment. Documentation should include source and methodology of the data that is presented.
 - ADT, AM and PM peak hour volumes on all significantly affected streets and highways, including freeway ramps and crossroads, and controlling intersections. Traffic volumes should be presented for existing and future conditions, the latter for a cumulative build and no-build scenario that includes all approved developments in the area. The coverage should include all traffic that would affect the facilities evaluated and should not be limited to projects under the jurisdiction of the lead agency.
 - Traffic impacts should be evaluated in terms of a Level of Service (LOS) analysis that is consistent with the most recent version of the Highway Capacity Manual (HCM), or by a uniform methodology which is consistent with the HCM.
 - Proposed mitigation should include highway improvements and modal alternates and any proposed funding mechanisms.
- If growth in this area increases traffic to the level that improvement(s) are needed at State highway access point(s), these improvements should be built to State standards.
- Any work within State right of way will require an encroachment permit. Please direct the applicant to include the affected portion of the State right of way in their environmental studies. This avoids the delay of a separate environmental review for the encroachment permit. You and the applicant should review the need for cultural resource, biological resource, and hazardous waste studies in our right of way. Review agencies and interest groups frequently challenge Caltrans permits on these issues. Please provide Caltrans with either (1) appropriate studies done by qualified professional staff, or (2) the rationale for your CEQA determination that these issues are not of concern in the State right of way. This will expedite our review of the encroachment permit.

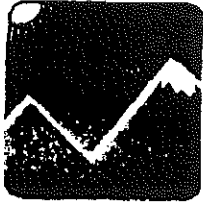
Mr. D. Hanham/5/14/98
Livingston General Plan Update
Page 2

If you have questions or wish to discuss this further, please contact me at (209)
948-3975.

Sincerely,

CARLOS YAMZON
Acting Senior, Transportation
Planning Branch "B"

cc: P Cavanaugh
F Weishaar



San Joaquin Valley
Air Pollution Control District

June 8, 1999

David E. Fey, Senior Planner
Quad Knopf
5110 West Cypress Avenue
P.O. Box 3699
Visalia, CA 93278

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE LIVINGSTON GENERAL PLAN AND COMMENTS REGARDING THE DRAFT GENERAL PLAN

Dear Mr. Fey:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the proposed project and offers the following comments:

The San Joaquin Valley's air quality has been designated nonattainment by the EPA and by the Air Resources Board (ARB) for O₃ (ozone) and PM-10 (fine particulate matter, dust). The Federal Clean Air Act (CAA) and the California Clean Air Act require areas that are designated nonattainment to reduce emissions until standards are met.

I. Notice of Preparation

The District recommends that the air quality section of the DEIR have three main components. **Section one** should provide a description of the regulatory environment and existing air quality conditions impacting the San Joaquin Valley. **Section two** should provide estimates of existing emissions and projected pollutant emissions related to any increases in population, vehicle use, and construction activities along with an analysis of the effects of these increases. **Section three** should identify and discuss all feasible mitigation measures which, after implementation, will reduce the air quality impacts generated by this project.

Section 1: Regulatory Environment and Existing Air Quality

The District has several sources of information available to assist with the existing air quality and regulatory environment section of the DEIR. The District's ***Guide for Assessing and Mitigating Air Quality Impacts*** contains discussions regarding the existing air quality conditions and trends of the San Joaquin Valley Air Basin, including those pollutants of particular concern: ozone, PM-10, and carbon monoxide. In

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9321
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2370
(661) 326-6900 • FAX (661) 326-6985

addition, it provides an overview of the regulatory environment governing air quality at the federal, state, and regional levels. The *PM-10 Attainment Demonstration Plan - May 15, 1997* contains information and control strategies for PM-10. In addition, the District can provide air monitoring data and other relevant information.

Section 2: Existing and Projected Emissions Levels

The growth-inducing and cumulative impacts analyses should take into consideration the existing and planned development both within the project area and in the surrounding areas. The District recommends the use of the URBEMIS 7G modeling program to calculate the pollutant emissions resulting from motor vehicle trips generated by this development project.

Additionally, the DEIR should quantify emissions that are individually small but cumulatively significant sources of pollution. This includes, but is not limited to, emissions from natural gas combustion for space and water heating and emissions from gas-powered lawn and garden maintenance equipment. Emission factors for these sources of pollution are available from the South Coast Air Quality Management District **CEQA Air Quality Handbook**, the Sacramento Metropolitan Air Quality Management District, and from this District.

Section 3: Mitigation Measures

Mitigation measures must be included in the DEIR that reduce the emissions of reactive organic gases (ROG), nitrogen oxides (NO_x), carbon monoxide, and PM-10 to the maximum extent feasible. Site design and building construction measures that would reduce air quality impacts should be included. In addition, Transportation Control Measures (TCM) should be stressed to the maximum extent feasible. District staff should be consulted for input on appropriate TCMs.

II. Draft General Plan

Based on the draft document provided, it appears that policies and standards have been included that address and promote alternative modes of transportation. Incorporating a mix of land uses and infrastructure designed to encourage pedestrian, bicycle, and transit use will collectively reduce the reliance on the motor vehicle and reduce mobile source emissions. To further assist local governments in adopting general plans complete with policies aimed at improving the air quality in the San Joaquin Valley, the District recommends the use of our guidance document titled Air Quality Guidelines for General Plans. This document includes goals, policies, and programs that when adopted in a general plan will reduce vehicle trips and miles traveled and improve air quality. This document is available upon request from the District.

Section 2.7.7 Climate and Air Quality

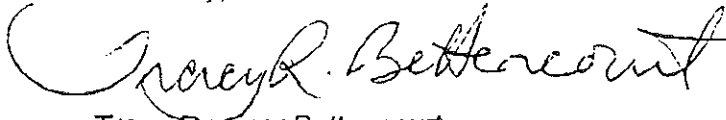
The last paragraph on page 2-62 contains two incorrect references to state and federal 2-hour ozone standards. There is no 2-hour ozone standard at either the state or federal level. Please replace all "2-hour" references with "1-hour."

Section 4.2 Roadway Classification, Standards

Policy, Standard 8 on page 4-3 states, "New street developments in areas of urban expansion should not be limited to a "grid system." More efficient and varied street layouts should be encouraged, wherever possible." In fact, one of the most efficient street patterns is the "grid system." The grid system or a modified grid system allows for the shortest trip lengths, dispersed traffic volumes, and encourages pedestrian, transit, and bicycle traffic and should be utilized to the maximum extent feasible. For additional information street design, please refer to the District's Air Quality Guidelines for General Plans.

Thank you for the opportunity to comment. If you have any questions, please feel free to contact me at (209) 557-6400.

Sincerely,

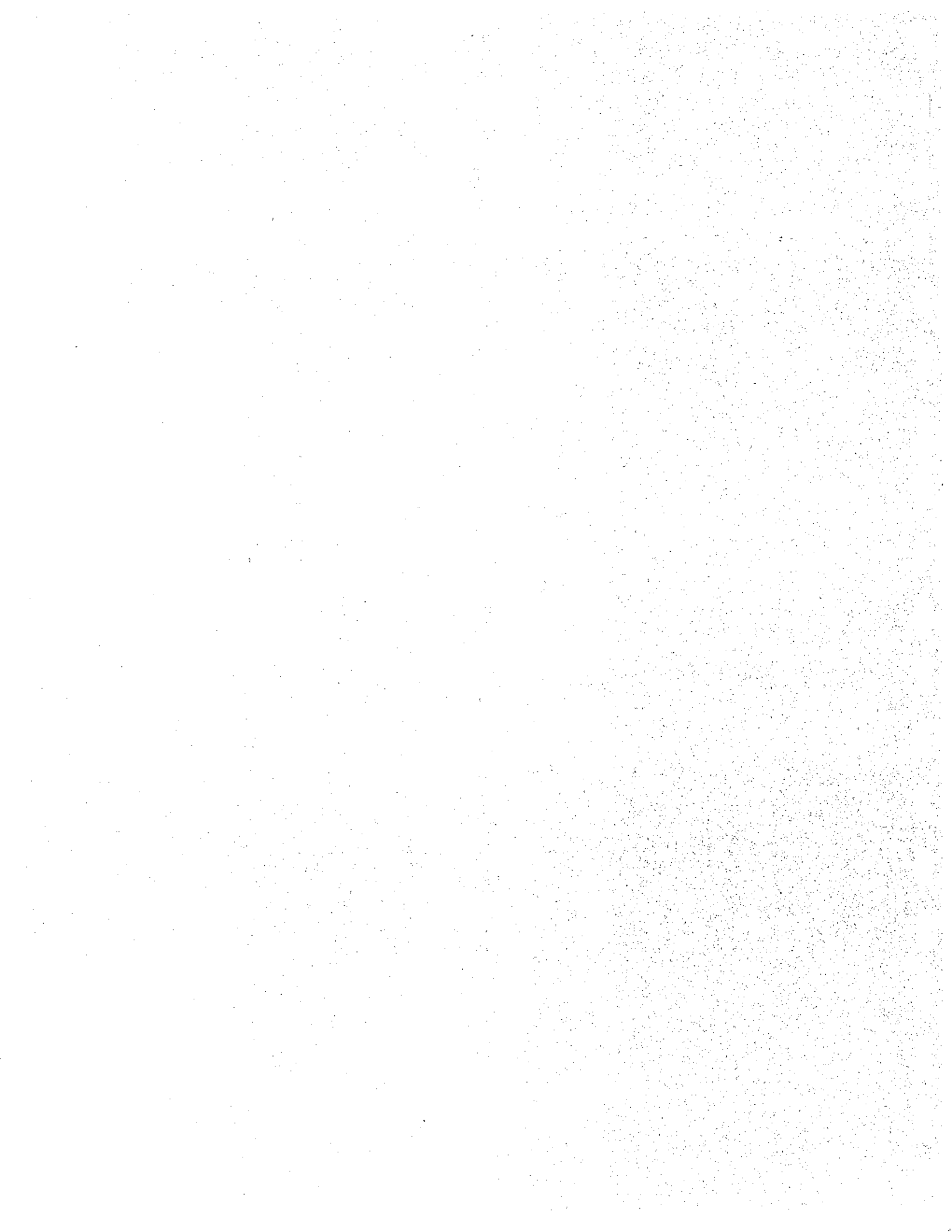


Tracy Roemer Bettencourt
Environmental Planner
Northern Region

APCD REF # 990296

APPENDIX B

**DRAFT GENERAL PLAN UPDATE
(UNDER SEPARATE COVER)**



APPENDIX C

**LIST OF PERSONS CONTACTED, PERSONS
PREPARING DEIR, AND DOCUMENTS
CONSULTED**

**APPENDIX C
LIST OF PERSONS CONTACTED,
PERSONS PREPARING DEIR, AND DOCUMENTS CONSULTED**

CEQA Guidelines Section 15129. Organizations and Persons Consulted. "The EIR shall identify all federal, state, or local agencies, other organizations, and private individuals consulted in preparing the draft EIR, and the persons, firm, or agency preparing the draft EIR, by contract or other authorization."

David Hanham, Associate Planner, City of Livingston Community Development Department.

Moise Boyd, Project Analyst, State Clearinghouse, Governor's Office of Planning and Research, Sacramento, California.

Stephen J. Hamilton, Deputy Director, Merced County Department of Public Works, Merced, California.

Candace Gregory, Fire Chief, Merced County Fire Department, Merced, California.

Jason Marshall, Assistant Director, Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Sacramento, California.

Tracy Bettencourt, Environmental Planner, Northern Region, San Joaquin Valley Unified Air Pollution Control District, Modesto, California.

Debbie Hoy, Associate Transportation Planner, State of California Department of Transportation Region 10, Stockton, California.

Gary Petty, City of Livingston Public Works Director, Livingston, California.

Gary Davis, P.E., Garcia-Davis-Ringler Engineering, Ceres, California.

Bob King, Planner III, Merced County Planning Department, Merced, California.

Joanne Kipps, Engineer, Central Valley Regional Water Quality Control Board, Fresno, California.

Gary Philbrick, Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Coalinga, California.

PERSONS PREPARING DEIR

Quad Knopf, Inc.

Stephen Peck, AICP, Project Manager.
David E. Fey, AICP, Senior Planner.
Lisa Dock, Graphics.
Patrick Keenan, Graphics.
Wes Rhodehammel, Biologist.
Waring Laurentine, Biologist.

Subconsultants

Applied Development Economics, Doug Svensson, Principal, Berkeley, California.
Brown-Buntin Inc., Bill Thiessen, Principal, Visalia, California.
Merced County Association of Governments, Robert Beckler, Rich Green, Matt Fell, Merced, California.

DOCUMENTS CONSULTED

- 1996 Regional Transportation Plan*, Merced County Association of Governments, Merced, California, 1996.
- 1998 CEQA Guidelines Revisions: What Every CEQA Practitioner Needs to Know*, prepared by Maureen F. Gorsen, General Counsel, California Resources Agency, October, 1998.
- City/County Population Estimates, with Annual Percent Change, January 1, 1998 and 1999*, State of California, Department of Finance. Sacramento, California, May 1999.
- California Department of Fish and Game Natural Diversity Data Base*, Cressey 7.5 minute USGS quadrangle summary, Merced County.
- California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California*, Cressey 7.5 minute USGS quadrangle summary, Merced County.
- City of Livingston Downtown Revitalization Plan*, Valley Planning Consultants, June, 1993.
- City of Livingston General Plan*, Valley Planning Consultants, Merced, California, 1988, including revisions to the Circulation Element, 1990.
- City of Livingston General Plan Update, Preliminary Development Forecasts/Community Concern Summary*, Quad Knopf and Applied Development Economics, April, 1998.

City of Livingston General Plan Update, Draft Background Report, Quad Knopf. Visalia, California, October, 1998.

City of Livingston General Plan Update, Constraints and Opportunities Summary, Quad Knopf. Visalia, California, November, 1998.

City Of Livingston Parks And Recreation Master Plan 1994-2003, Floyd Davis P.E., August 1993.

City of Livingston Sewer Collection System Study and Master Plan, Storm Drain Collection System Study and Master Plan, and Water Distribution System Study and Master Plan, Lew-Garcia-Davis, Ceres, California, December 1992.

EIR for a Wastewater Treatment Facility, Winton Sanitary District, Jorgensen-Tolladay Engineers, Merced California, February 1976.

Facilities Master Plan/Development Fee Justification Study, Livingston Union School District, Michael Paoli and Associates, Fresno, California, January, 1996.

Five-Year Facility Plan, Merced Union High School District, March 1996.

Guide for Assessing and Mitigating Air Quality Impacts, San Joaquin Valley Unified Air Pollution Control District, August, 1998.

Memorandum to Tim Kerr, Livingston City Manager from Valley Planning Consultants regarding Forecast for Redevelopment Agency, February 1997.

Merced County Year 2000 General Plan, County of Merced, December, 1990.

State General General Plan Guidelines, Office of Planning and Research, 1998.

Soil Survey, Merced Area, California, United States Department of Agriculture, Soil Conservation Service, Series 1950, No. 7, issued July, 1962.

Soil Candidate Listing For Prime Farmland And Farmland Of Statewide Importance, Merced County, California Department Of Conservation, Farmland Mapping And Monitoring Program, U.S. Department Of Agriculture, Natural Resources Conservation Service, July, 1995.

Transportation and Land Development, Institute of Transportation Engineers, 1988.

Traffic Manual, California Department of Transportation, April, 1992.

APPENDIX D

**MERCED COUNTY ASSOCIATION OF
GOVERNMENTS
TRAFFIC MODEL INFORMATION**



Merced County Association of Governments

369 W. 18th Street • Merced, CA 95340 • Phone (209)723-3153 • FAX (209)723-0322

June 7, 1999

David E. Fey, AICP
Quad Knopf
P.O. Box 3699
Visalia, CA 93277
fax (559) 733-7821

Subject: Livingston General Plan Traffic Modeling

Dear David,

Enclosed you will find documentation of the methodology used in the MCAG regional traffic model.

As to the individual questions you relayed to me in your email of June 2, 1999, I have the following responses:

What modeling methodology was used?

Please see the attached document.

What LOS methodology was used?

Also attached is the "Florida Level of Service Standards" which was used as the basis for the regional model's Levels of Service.

What assumptions were used?

The base assumptions, for the portion of the model outside the study area, are the same as those used in the 1998 Regional Transportation Plan (RTP). The model run for the "existing" general plan is based on this model. The model run for the "proposed" general plan was prepared by modifying the land use in the study area to reflect the the projected population and the proposed acreages of each category of land use. Additionally, the network was modified to reflect the proposed circulation system. Functional classifications of several roads were changed, and Winton Parkway was extended to the north and the south.

Does the model reflect existing general plan and general plan update land use distributions and densities?

Yes. All existing adopted general plans are incorporated in the model. The most recent adoption of a general plan update was the City of Merced in 1995.

Do either of the model runs include planned highway improvements?

All programmed and planned highway improvements are included in model runs occurring after the improvement's completion date. Programmed but not yet constructed projects include:

- SR 99 Campus/Healy interchange and upgrade to freeway
- SR 99 Westside/Central interchange and upgrade to freeway
- SR 99 Sultana interchange and upgrade to freeway
- Campus Parkway from SR 99 to UC Merced site

What effect on state facilities may result from either/both model runs?

The existing general plan is the same as the 1998 RTP. The proposed general plan actually shows less traffic on state facilities in Livingston, both because of a lower population projection than the old plan, and because the improved circulation (Winton Parkway "loop") diverts some traffic that would otherwise use the freeway.

A breakdown of am and pm peak hour volumes?

The regional model uses average daily traffic volumes and is not calibrated to produce peak hour volumes, so I do not have this breakdown.

I hope that this information will prove useful to you and will provide what Caltrans is asking for. If you have any additional questions, please call or email.

Sincerely,



Matthew Fell
Associate Planner

Model Documentation

Merced County Regional Transportation Model

I. Introduction

In 1990, the Merced County Association of Governments (MCAG) contracted with Dowling and Associates to create a travel demand model for use in the county of Merced. This model was created to evaluate traffic impacts resulting from urban and rural development. MCAG chose to use the MINUTP transportation modeling software due to its capabilities in forecasting, and because it is widely used by other valley COG's. The MCAG traffic model serves as a planning tool which allows staff to forecast, quantify, and evaluate potential traffic impacts of new development.

The MCAG model is calibrated to the year 1990. It incorporates all of Merced county as well as the southern portion of Stanislaus county and the northern portion of Madera county. The model uses housing and employment data to produce vehicle trips and distribute them along a road network. Housing and employment data are broken down into traffic analysis zones (TAZs).

II. Zone System

The MCAG model contains 579 zones and 14 gateways or cordons. 521 zones are in the Merced county portion of the model, 53 are in Stanislaus county and 5 are in Madera county. The zones within Merced county are based on Census geography or local general plans in most areas. Those in Stanislaus county are from the Stanislaus Area Association of Governments (SAAG) model and have not been updated since their creation. The zones in Madera county are based on Census geography. Two maps showing the TAZ boundaries for the zones within Merced county should be attached to this document.

The 14 gateways are:

- State Route 152 westbound to Santa Clara county.
- Interstate 5 in north of the city of Patterson in Stanislaus county.
- State Route 99 north of the city of Turlock in Stanislaus county.
- Los Cerritos Road near Turlock Lake.
- La Grange Road (County Highway J59) at the Stanislaus county line.
- Merced Falls Road at the Mariposa county line.
- Hornitos Road at the Mariposa county line.
- State Route 140 at the Mariposa county line.
- Le Grand Road at the Mariposa county line.
- State Route 145 at State Route 41 in Madera county.
- State Route 99 south of the city of Madera in Madera county.
- State Route 145 south of the city of Madera in Madera county.
- Santa Fe Grade in the city of Dos Palos at the Fresno county line.
- Interstate 5 at the Fresno county line.

III. Highway Network Development

The road network for the MCAG model contains all of the roads on the Merced county regional road system as well as many locally significant arterials and collectors. Most links are coded as two directional with the exception of the freeway portions of State Route 99 and all of Interstate 5. These facilities use parallel directional links to simulate freeway conditions.

The MINUTP road network was created from the MCAG Geographic Information System (GIS). Selected roads were converted into the coordinate system used by MINUTP, while maintaining the distances generated from the GIS.

The free-flow speeds used in the model network are based on posted speed limits, empirical observation and local knowledge. Speeds were not altered in the calibration process.

The roadway types and lane capacities used in the model are as follows:

Freeway	2,000 cars per lane per hour.
Highway/Expressway	1,800 cars per lane per hour.
County Road	900 cars per lane per hour.
Arterials	750 cars per lane per hour.
Collectors	500 cars per lane per hour.
Local	350 cars per lane per hour.
Freeway Ramps	1,500 cars per lane per hour.
Merced City Ramps	500 cars per lane per hour.
Centriod Connectors	10,000 cars per lane per hour.

Road network improvements for future years are fiscally constrained and are updated as necessary to be in agreement with the latest Merced County Regional Transportation Plan.

IV. Transit Network Development

The level of transit ridership in Merced county represents less than 0.5% of all trips made. Future projections indicate that transit ridership will remain low through 2010. As a result, no transit element was added to the MCAG transportation model.

V. Demographic/Land Use Data Input

There are two types of land uses that are used in the model for the zones within Merced county; housing units and employees. These units are distributed by TAZ.

The MCAG population and employment projections were last adopted in 1994. The population projections are taken from the U.S. Department of Finance and are broken down by local jurisdiction using market-based methodology. The 1994 employment projections were derived using a sophisticated, market-based methodology. Three employment forecasts were derived based on anticipated market demand. First, twelve sectors of wage and salary jobs were forecasted; second,

external market jobs resulting in out-going commutes were forecasted; finally, self-employment was forecast.

The population in the Merced county region is projected to increase an average of 2.8% per year which is similar to population increases during the 1980's.

The employment level for the agriculture sector was assumed to continue growing slightly until 2000 at which time it is assumed to drop off slightly as urbanization occurs. Military employment is assumed to be non existent after 1995 due to the closure of Castle Air Force Base.

The employment growth for the retail sector was assumed to increase at higher than average rates based on a multi-county linear regression analysis that suggested the Merced region was historically under served by the retail sector. During the early 1990's, a large number of new, major retail opportunities occurred in the region, giving validation to the regression analysis.

Housing units are broken down into single family and multi family dwelling units. Single family units are assumed to have a density of 10 or less units per acre while multi family units are assumed to have a density of more than 10 units per acre. Population and housing data have been updated since the original creation of the model and are based on the 1990 census.

The employee units are broken down into six categories of employment: Agricultural, industrial, retail, office, school and military. The number of students enrolled in schools is also considered as a seventh category. The data for the location of employers and the number of employees was derived from local employment surveys, local knowledge and data from various other agencies within the county. Employee data was assigned to TAZs where known locations could be identified and were assumed in TAZs based on local general plan designations.

A land use model was not used for future forecasts. Separate land use scenarios are not used for the build and no build scenarios.

VI. Trip Generation

A. Trip Purposes

The MCAG model uses 7 trip purposes; 4 internal and 3 external. The internal purposes are Home-based Work, Home-based Shop, Home-based Other and Non Home-based. The external purposes are Internal-External (I-X), External-Internal (X-I) and External-External (X-X).

B. I-X and X-I Trips

The I-X and X-I trips are those that have one end within the modeling area and one end at a cordon. Since the MCAG model incorporates portions of Stanislaus and Madera counties, an I-X or X-I trip does not necessarily have an end in Merced county. Also trips that have an end in Merced county may have the other end outside of Merced county without leaving the modeling area.

I-X and X-I trips are controlled at the cordons with count data from Caltrans in the base year. Between 8% and 12% of the trips generated per zone can be I-X trips up to the control amount set at each cordon. X-I trips originate at each cordon and are distributed through out the modeling area by the same trip distribution curves used by the other internal purposes.

C. External (X-X) Trips

External trips were generated using data supplied by Caltrans from their State Wide Model.

D. Special Generators

The current MCAG model does not use special generators.

VII. Trip Distribution

A. Impedance

The MCAG model uses congested speed as the impedance factor for trip distribution. Through a series of iterations, free flow speeds are reduced as the volume to capacity (V/C) ratio increases. The final iteration distributes trips based on the congested speeds of the previous iteration.

VIII. Mode Choice

Mode choice is not used in the current MCAG model.

IX. Traffic Assignment

The traffic assignment module of the MCAG model uses constrained speed for link impedance. This comes from multiple iterations, and uses the constrained speed from the second iteration as the impedance for the final iteration.

Highway assignment is accomplished using a three iteration equilibrium process and is not capacity constrained. There is no transit element in the assignment model.

X. Pricing

Pricing is not used in the MCAG model.

XI. Peak Hour Factor

The MCAG model is an average daily traffic (ADT) model only. There are no peak hour factors used.

XII. Feedback Mechanisms

There are no feedback mechanisms used in the MCAG model.

XIII. Model Validation

The MCAG model is validated for the year 1990. 138 week day counts were taken on regionally significant roads in September and October of 1990. Also Caltrans counts were used on all of the state highways.

Seven screenlines were used in the validation process. These screenlines are listed below.

1. North/South at the Stanislaus county line.
2. East to West south of Hwy. 140.
3. North-east to south-west at the Fresno and Madera county lines.
4. South to north west of Hwy. 165.
5. West to east north of Bear Creek in Merced city.
6. South to north east of G St. in Merced city.
7. North westerly arc around Merced city.

The MCAG model generates vehicle trips. Vehicle occupancy is indirectly accounted for in the trip generation rates and cannot easily be changed or identified. Trip generation rates address trips per household based on census data.

Currently, the MCAG model is not altered to exactly match the vehicle miles of travel (VMT) estimated by the Highway Performance Monitoring System (HPMS) because the count data used in the model is considered to be much better than that used in the HPMS. As stated above, 138 regionally significant counts, Caltrans highway counts and 7 screenlines were used to validate the model. Up until 1993, the HPMS sample set is only based on 53 count locations, most of which are not considered to be regionally significant. Currently, HPMS estimates 4.89 million VMT for 1990 and the MCAG model estimates 5.10 million VMT.

FLORIDA'S LEVEL OF SERVICE STANDARDS AND GUIDELINES MANUAL FOR PLANNING

EXECUTIVE SUMMARY

Level of service standards and generalized level of service tables are essential for transportation planning. Two significant developments occurred since 1985 warranting the development of new level of service standards and generalized tables. First, like many other states, Florida has passed significant growth management legislation. Compliance with level of service criteria is regarded as the keystone to the legislation's success. Second, the Transportation Research Board published the new Highway Capacity Manual in 1985. Major changes, especially for urban arterials, make generalized tables based on the 1965 edition obsolete.

In November 1988 the Florida Department of Transportation adopted a policy on Operating Level of Service Standards for the State Highway System (see following table). The standards incorporate (1) the direct correlation between urban size and acceptance of some highway congestion as a tradeoff for other urban amenities, (2) the different roles the state's facilities provide, and (3) local flexibility in determining Special Transportation Areas. They also reinforce the growth management concepts of urban infill and infrastructure concurrent with the impact of development. The tables were developed in cooperation with each of the Florida Department of Transportation districts, other state agencies, metropolitan planning organizations, regional planning councils, professional organizations, and local governments. Thus, the standards reflect a broad consensus on land-use/transportation relationships. The standards are to be used by central and district offices for developing long-range transportation plans, programs, policies, procedures, and guidelines; for providing technical assistance; for reviewing and commenting on local government comprehensive plans and developments of regional impact; and for reporting system conditions on the State Highway System.

Equally important as adopting level of service standards is having an easy to use measurement technique. Nationwide, the Florida Department of Transportation is the leader in developing generalized level of service tables based on the 1985 Highway Capacity Manual. The two following generalized level of service maximum volumes tables are recommended for broad planning applications and as a general guide to determine highway level of service and through lane requirements. These two tables and the planning computer models from which they were derived should not be used for corridor or intersection design where more refined techniques exist.

The values shown in the tables are based on the definitions and measurement techniques of the 1985 Highway Capacity Manual. A major new concept in the

1985 Highway Capacity Manual is that signalization characteristics (e.g., number of signals per mile, "green" time) are equally important as roadway characteristics (e.g., number of roadway lanes) in determining arterial levels of service. The tables reflect this increased emphasis. The tables are also based on actual Florida traffic, roadway and signalization data, making the tables applicable throughout Florida. However, it is recognized that traffic characteristics vary by area and facility. Thus, unlike the operating level of service standards, the generalized tables are not statewide standards; rather, they are guidelines on the measurement of highway level of service.

Florida's level of service standards and generalized level of service tables represent the state-of-the-art in highway planning applications. Together they implement growth management concepts and emphasize the importance of managing access on the State Highway System.

The level of service standards table and the generalized level of service tables were developed as stand alone documents. However, because level of service analysis and its applications are complicated, additional information on their use is needed. This manual discusses in detail the use of the standards and generalized tables. It is designed to address most of the questions which might arise from the tables. Each section of this manual is also designed to stand alone; thus, there is some redundancy in the sections. Users of this document who are interested in a specific aspect of level of service are encouraged to glance through the table of contents for the topic. For a more complete understanding of the standards and generalized tables, the entire document should be reviewed. A section titled Contacts for Additional Information is also provided. The Florida Department of Transportation welcomes comments on the level of service standards and generalized tables.

STATEWIDE MINIMUM ACCEPTABLE OPERATING LEVEL OF SERVICE STANDARDS FOR THE STATE HIGHWAY SYSTEM¹

Roadway Type ²	Existing Urbanized Areas ³	Other Existing Cities ⁴	Transitioning Urbanized or Incorporated Areas ⁵	Rural Areas ⁶
Freeways	D	C	C	C
Principal Arterials	D	C	C	C
Minor Arterials & Others	E	D	D	D
	SPECIAL CONSIDERATIONS			
	Special Transportation Areas ⁷	Parallel to Exclusive Transit Facility ⁸	Constrained Facility ⁹	Backlogged Facility ¹⁰
Freeways	D	D	Maintain ¹¹	Maintain & Improve
Principal Arterials	E	E	Maintain	Maintain & Improve
Minor Arterials & Others	E	E	Maintain	Maintain & Improve

1 - The operating levels of service designate lowest quality design hour (30th highest hour) operating conditions from the present through a 20-year planning horizon. These standards are to be used for general planning applications and should not be used for detailed design or traffic operation analyses. For corresponding traffic volumes for each level of service, consult the Department's level of service maximum volumes tables.

The following table gives the general relationship between the level of service letters (A,B,C,D,E, and F) and the average travel speed during the peak hour on typical sections of freeways and arterial highways in Florida.¹³

AVERAGE TRAVEL SPEED DURING THE PEAK HOUR

LEVEL OF SERVICE	FREEWAYS/INTERSTATE HIGHWAYS (IN MILES PER HOUR)	ARTERIAL HIGHWAYS (IN MILES PER HOUR)
A	greater than 59	greater than 34
B	from 57 to 59	from 28 to 34
C	from 54 to 56	from 22 to 27
D	from 46 to 53	from 17 to 21
E	from 30 to 45	from 13 to 16
F	less than 30	less than 13

Explanatory footnotes 2-13 are on the back.

STATEWIDE MINIMUM ACCEPTABLE OPERATING LEVEL OF SERVICE
STANDARDS FOR THE STATE HIGHWAY SYSTEM (cont.)

2. Roadway type is based on functional classification categories as presented in Chapter 334 F.S.; freeways are fully controlled limited access principal arterials.
3. An area consisting of an incorporated place and adjacent densely settled surrounding area that together have a minimum population of 50,000. These areas are initially established by the U.S. Bureau of Census with the decennial census and for transportation purposes adjusted slightly by MPO's/FDOT/FHWA. For transportation planning purposes, the present day boundaries may be updated by an MPO using U.S. Bureau of Census urbanized area criteria.
4. Any incorporated city outside an existing urbanized area.
5. Existing generally undeveloped areas projected to become parts of urbanized areas or other cities (see footnotes 3 and 4) in the next approximately 20 years. In general, these boundaries may be obtained from the urbanized boundaries established by MPO's using U.S. Bureau of Census urbanized area criteria in urbanized areas and from "urban" land use boundaries in the future land use map of local government comprehensive plans developed by local governments for other areas.
6. Areas currently and projected in the next approximately 20 years not having urban or urbanized characteristics described in footnotes 3, 4 and 5.
7. Compact geographic areas in which growth management considerations outweigh the Department's policy of operating the State Highway System at the minimum acceptable levels of service appearing in this table. Conceptually, STAs may include central business districts, outlying business districts, Area-wide Developments of Regional Impact and regional activity centers; they do not apply to whole cities or to strip development along individual highway corridors.
8. Roadways generally parallel to and within one half mile of a transit facility operating on exclusive transit facility and serving home/work trips. Currently this category includes Tri-County Commuter Rail and Metrorail. Highway with exclusive bus lanes could be included. Downtown people mover facilities and highways with high occupancy vehicle lanes are not included.
9. A roadway, regardless of transportation needs, which is constrained from adding at least two additional through lanes. Physical constraints primarily involve intensive land use development adjacent to the roadway making expansion cost prohibitive or when the Department's maximum through lane standards are already achieved. Only if the constrained facility is not currently operating at a minimum acceptable operating speed, does the maintain standard apply.
10. A roadway which is not constrained, is not scheduled for major capacity improvements in the Department's 5-Year Work Program and which does not currently meet the minimum acceptable levels of service appearing in this table.
11. The Department and local governments will commit to not further degrade operating conditions of the roadway below the current average travel speed.
12. The Department and local governments will commit to not further degrade operating conditions of the roadway below the current average travel speed until the roadway is upgraded. After roadway or operational improvements are made, the roadway should operate at or above the adopted minimum standards.
13. Level of service criteria and definitions are obtained from the 1985 Highway Capacity Manual.

**GENERALIZED DAILY LEVEL OF SERVICE MAXIMUM VOLUMES
FOR FLORIDA'S URBAN/URBANIZED (5,000+) AREAS**
(Valid for use from January 1989 through December 1990)

TWO-WAY ARTERIALS

Group A (0.0 to 0.75 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A	B	C	D	E
2 Undiv.	13,700	15,000	15,600	16,500	17,400
4 Dv.	28,800	31,900	33,000	34,900	36,700
6 Dv.	45,400	48,100	49,700	52,400	55,200

Group B (0.76 to 1.5 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A	B	C	D	E
2 Undiv.	9,000	13,700	14,500	15,300	16,100
4 Dv.	20,000	29,700	31,000	32,500	34,000
6 Dv.	30,600	45,100	46,700	48,900	51,200

Group C (1.6 to 2.5 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A ^m	B	C	D	E
2 Undiv.	—	10,200	13,500	14,800	15,700
4 Dv.	—	22,800	29,500	31,700	33,400
6 Dv.	—	35,100	45,000	47,900	50,300

Group D (2.6 to 3.5 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A ^m	B ^m	C	D	E
2 Undiv.	—	—	9,200	13,700	15,400
4 Dv.	—	—	20,100	30,200	33,200
6 Dv.	—	—	30,700	46,300	50,200

Group E (3.6 to 4.5 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A ^m	B ^m	C ^m	D	E
2 Undiv.	—	—	—	12,300	14,800
4 Dv.	—	—	—	28,300	32,100
6 Dv.	—	—	—	39,500	48,800

Group F (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level of Service				
	A ^m	B ^m	C ^m	D	E
2 Undiv.	—	—	—	10,300	14,800
4 Dv.	—	—	—	22,900	32,100
6 Dv.	—	—	—	34,900	48,000

Group G (more than 4.5 signalized intersections per mile and within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level of Service				
	A ^m	B ^m	C ^m	D	E
2 Undiv.	—	—	—	13,100	15,400
4 Dv.	—	—	—	29,300	33,700
6 Dv.	—	—	—	45,200	51,200

DIVIDED/UNDIVIDED ADJUSTMENTS

(after corresponding two-way arterial volume indicated percent)

Lanes	Median	Left Turn Bays	Adjustment Factor
2	Divided	Yes	+ 5%
2	Undivided	No	- 15%
Multi	Undivided	Yes	- 5%
Multi	Undivided	No	- 20%

FREEWAYS

Group 1 (within urbanized area over 500,000 and leading to or within 5 miles of primary city central business district)

Lanes	Level of Service				
	A	B	C	D	E
4	27,800	42,800	61,100	73,800	78,300
6	41,700	64,300	91,600	110,700	119,000
8	55,500	85,700	122,200	147,600	158,700
10	69,400	107,100	152,700	184,500	198,400

Group 2 (within urbanized area over 50,000 and not in Group 1)

Lanes	Level of Service				
	A	B	C	D	E
4	21,400	33,000	47,100	56,900	61,100
6	32,100	49,500	70,600	85,300	91,700
8	42,800	66,000	94,200	113,700	122,300
10	53,500	82,500	117,700	142,200	152,900

Group 3 (within non-urbanized areas)

Lanes	Level of Service				
	A	B	C	D	E
4	17,100	26,300	37,600	45,400	48,800
6	25,600	39,500	56,300	68,000	73,200
8	34,100	52,700	75,100	90,700	97,500

ONE-WAY ARTERIALS

Group D (less than 3.6 signalized intersections per mile)

Lanes	Level of Service				
	A ^m	B	C	D	E
2	—	9,800	14,800	16,900	18,000
3	—	14,900	22,700	25,600	27,200
4	—	19,800	30,800	34,300	36,300

Group E (3.6 to 4.5 signalized intersections per mile)

Lanes	Level of Service				
	A ^m	B ^m	C	D	E
2	—	—	13,300	18,200	17,600
3	—	—	20,300	24,800	26,800
4	—	—	27,100	33,300	35,600

Group F (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes	Level of Service				
	A ^m	B ^m	C	D	E
2	—	—	10,900	15,600	17,700
3	—	—	18,600	23,900	26,800
4	—	—	22,400	32,400	35,900

Group G (more than 4.5 signalized intersections per mile and within primary city central business district of urbanized area over 500,000)

Lanes	Level of Service				
	A ^m	B ^m	C	D	E
2	—	—	13,300	17,200	18,300
3	—	—	20,400	26,200	27,700
4	—	—	27,600	35,200	37,100

TWO-WAY COLLECTORS AND LOCAL STREETS
(signalized intersection analysis)

Lanes	Level of Service				
	A ^m	B ^m	C	D	E
2	—	—	7,700	11,600	12,900
4	—	—	16,200	24,300	26,400
6	—	—	24,900	37,200	40,100

* The table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are average daily traffic maximum volumes (based on peak hour volumes) for levels of service as are based on the 1985 Highway Capacity Manual and Florida traffic data. Roadways with more than the number of lanes shown should be treated on a case by case basis. The table's input value assumptions and level of service criteria appear on the back.

** Cannot be achieved.

GENERALIZED MINIMUM LEVEL OF SERVICE MAXIMUM VOLUMES FOR FLORIDA'S URBAN/URBANIZED (5000+) AREAS (cont.)

INPUT VALUE ASSUMPTIONS

	FREEWAYS			TWO-WAY ARTERIALS							ONE-WAY ARTERIALS					COLLECTORS AND LOCALS
	1	Group 2	3	Two-Lane Undivided	A	B	C	D	E	F	G	D	E	F	G	
THROUGH LANE CHARACTERISTICS																
Design level factor (K ₁)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Directional factor (K ₂)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Peak hour factor (PHF)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Predicted turns	NA	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ROADWAY CHARACTERISTICS																
Through lanes	varies	varies	varies	2	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	
Articled classification	NA	NA	NA	•	1	1	1	1	1	1	1	1	1	1	1	
Design speed (mi/hr)	70	70	70	•	45	45	46	40	40	35	30	30	30	30	30	
Maximum saturation flow	2200	2100	2100	1875	1875	1875	1875	1875	1875	1875	1875	1875	1875	1875	1875	
Adjusted saturation flow	2100	2100	2100	1875	1875	1875	1875	1875	1875	1875	1875	1875	1875	1875	1875	
Medians	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Left turn lanes	NA	NA	NA	•	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
SIGNAL CHARACTERISTICS																
Signalized intersection/nd.	NA	NA	NA	•	0.5	1.0	2.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Signal type	NA	NA	NA	•	Act	Act	Act	Act	Act	Act	Act	Act	Act	Act	Act	
Cycle length (C)	NA	NA	NA	120	120	120	120	120	120	120	120	120	120	120	120	
Weighted effective green (G/C)	NA	NA	NA	•	0.43	0.46	0.46	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	

* Same as corresponding input value assumption for two-way divided arterial group.

LEVEL OF SERVICE CRITERIA

	FREEWAYS		ARTERIALS CLASS		COLLECTORS AND LOCALS	
	(v/c)	(mi/hr)	X	W	(mi/hr)	(mi/hr delay)
LOS A	≤ 0.35	≥ 35 mph	≥ 30 mph	≥ 25 mph	≤ 5 sec	≤ 5 sec
LOS B	≤ 0.54	≥ 20 mph	≥ 24 mph	≥ 19 mph	≤ 15 sec	≤ 15 sec
LOS C	≤ 0.77	≥ 22 mph	≥ 18 mph	≥ 13 mph	≤ 25 sec	≤ 25 sec
LOS D	≤ 0.93	≥ 17 mph	≥ 14 mph	≥ 8 mph	≤ 40 sec	≤ 40 sec
LOS E	≤ 1.00	≥ 13 mph	≥ 10 mph	≥ 7 mph	≤ 60 sec	≤ 60 sec

GENERALIZED DAILY LEVEL OF SERVICE MAXIMUM VOLUMES FOR FLORIDA'S RURAL (<5,000) AREAS (valid for use from January 1989 through December 1990)

UNDEVELOPED AREAS AND FREEWAYS

FREEWAYS

Lanes	Level of Service				
	A	B	C	D	E
4	17,100	26,300	37,600	45,400	48,800
6	25,600	39,500	56,300	68,000	73,200
8	34,100	52,700	75,100	90,700	97,500

MULTILANE UNINTERRUPTED HIGHWAYS (less than 1 signalized intersection every 4 miles)

Lanes	Level of Service				
	A	B	C	D	E
4	15,700	22,900	30,900	38,000	47,500
6	23,500	34,200	46,300	57,000	71,200

TWO-LANE UNINTERRUPTED HIGHWAYS (less than 1 signalized intersection every 4 miles)

55 MPH Posted Speed

Lanes	Level of Service				
	A	B	C	D	E
2	2,900	5,800	9,400	15,000	24,200

45 MPH Posted Speed

Lanes	Level of Service				
	A	B	C	D	E
2	—	2,900	7,500	12,300	23,300

INCORPORATED AND DEVELOPED AREAS

(cities, developed but unincorporated areas or roadways influenced by signalized intersections)

TWO-WAY ARTERIALS

Group A (cities or developed areas with no signalized intersections, or roadways with 0.25 to 0.75 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A	B	C	D	E
2 Undiv.	—	—	7,500	11,300	15,100
4 Undiv.	—	—	25,100	27,400	30,100
4 Div.	—	—	26,400	28,800	31,100
6 Div.	—	—	39,900	43,400	48,000

Group B (0.76 to 1.5 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A	B	C	D	E
2 Undiv.	—	—	7,100	10,700	14,200
4 Undiv.	—	—	21,700	26,300	28,700
4 Div.	—	—	24,900	27,700	30,100
6 Div.	—	—	38,300	41,900	46,000

Group C (more than 1.6 signalized intersections per mile)

Lanes/ Divided	Level of Service				
	A	B	C	D	E
2 Undiv.	—	—	—	10,500	13,900
4 Undiv.	—	—	—	25,500	28,400
4 Div.	—	—	—	26,800	30,300
6 Div.	—	—	—	41,100	46,100

COLLECTORS AND LOCAL STREETS (signalized intersection analysis)

Lanes	Level of Service				
	A	B	C	D	E
2	—	—	6,100	9,500	10,800

* The table does not constitute a standard and should be used only for general planning applications. The computer models from which this table was derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or initial design, where more refined techniques exist. Values shown are average daily traffic maximum volumes (based on peak hour volumes) for levels of service and are based on the 1985 Highway Capacity Manual and Florida Traffic Data. Roadways with more than the number of lanes shown should be treated case by case basis. The table's input value assumptions and level of service criteria appear on the back.

— Cannot be achieved.

Source: Florida Department of Transportation, 1988.

GENERALIZED DAILY LEVEL OF SERVICE MAXIMUM VOLUMES FOR FLORIDA'S RURAL (<5000) AREAS (conL)

INPUT VALUE ASSUMPTIONS

	UNDEVELOPED AREAS AND FREEWAYS				INCORPORATED AND DEVELOPED AREAS				
	FREEWAYS	MULTILANE	TWO-LANE		Undivided	TWO-WAY ARTERIALS			COLLECTORS AND LOCALS
			65 mph	45 mph		Group	A	B	
TRAFFIC CHARACTERISTICS									
Design hour factor (K ₉₀)	.131	.131	.102	.102	.102	.102	.102	.102	.102
Directional factor (D)	.605	.605	.605	.605	.605	.605	.605	.605	.605
Peak hour factor (PHF)	.96	.96	.96	.96	.96	.96	.96	.96	.96
Protected turns	NA	NA	NA	NA	.08	.08	.08	.12	.12
ROADWAY CHARACTERISTICS									
Through lanes	4.05	4.0	2	2	2.4	4.0	4.0	4.0	2
Arterial classification	NA	NA	NA	NA	1	1	1	1	NA
Design/feet flow speed	70	NA	56	46	45	45	45	45	NA
Maximum saturation flow	2700	2100	2000*	2000*	1875	1875	1875	1875	1875
Adjusted saturation flow	1800	1650	2000*	2000*	1850	1850	1850	1850	1800
Medians	Yes	Yes	No	No	No	Yes	Yes	Yes	No
L&B turn bays	NA	NA	NA	NA	Yes	Yes	Yes	Yes	Yes
Level Terrain	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Percent no passing	NA	NA	20	40	NA	NA	NA	NA	NA
SIGNAL CHARACTERISTICS									
Signalized intersections/int.	NA	NA	NA	NA	NA	0.5	1.0	2.0	NA
Arrival type	NA	NA	NA	NA	3	3	3	3	NA
Signal type	NA	NA	NA	NA	Pre	Pre	Pre	Pre	Pre
Cycle length (C)	NA	NA	NA	NA	60	60	60	60	60
Weighted effective green (w/C)	NA	NA	NA	NA	NA	.43	.44	.45	.50

* Two-way flow rate.
 ** Same as corresponding input value assumption for two-way divided arterial group.

LEVEL OF SERVICE CRITERIA

	FREEWAYS	MULTILANE HIGHWAYS	TWO-LANE HIGHWAYS	TWO-WAY ARTERIALS	COLLECTORS AND LOCALS
LOS A	(v/c) ≤ 0.35	(v/c) ≤ 0.33	65 mph (v/c) ≤ 0.12	2-lane (average travel speed) ≥ 52 mph	(stopped delay) ≤ 3 seconds
LOS B	≤ 0.54	≤ 0.50	≤ 0.24	NA	≤ 7 seconds
LOS C	≤ 0.77	≤ 0.65	≤ 0.39	≤ 0.25***	≤ 12 seconds
LOS D	≤ 0.93	≤ 0.80	≤ 0.62	≤ 0.50***	≤ 18 seconds
LOS E	≤ 1.00	≤ 1.00	≤ 1.00	≤ 0.75***	≤ 25 seconds
LOS F	> 1.00	> 1.00	> 1.00	≥ 16 mph	> 25 seconds

*** Ratio of volume to level of service E service flow rate.

APPENDIX E

**DISCUSSION PAPER: GROWTH PERMITTED
UNDER THE PROPOSED GENERAL PLAN**

CITY OF LIVINGSTON
GENERAL PLAN UPDATE

GROWTH PERMITTED UNDER THE PROPOSED GENERAL PLAN

The proposed general plan would increase the property available for developed land uses such as housing, retail businesses and industrial plants. Most of this new development would occur on land that is currently used for agriculture, and as the City grows the plan will allow new houses and businesses to be built around the edge of town in a pattern that will improve the quality of the community. The following discussion describes the amount of new growth that the proposed plan would allow. This information will be used to evaluate the environmental and fiscal impacts of the plan.

The discussion compares the proposed development potential for the Year 2020 with existing development in Livingston. It also compares the proposed plan buildout with the land demand projections that were prepared at the outset of the general plan update process. As a starting point for the general plan update, the consultants made projections of the amount of growth that Livingston could be expected to receive over the next twenty years based on market trends. The projections, which are presented in Section 2.4 of the Draft General Plan, provided a guide for city planners to determine how much land should be designated in the general plan to accommodate future growth. The proposed general plan provides more land than the projections indicate in order to allow flexibility for property owners who may or may not wish to develop their property over the next twenty years.

The estimates for the proposed general plan include only those designations intended to develop by 2020. Commercial and public facility reserve designations, which are outside the 2020 planning area, are not included in the analysis, nor is there any consideration of growth in the areas between the 2020 plan area and the City's sphere of influence. There is, however, substantial industrial reserve property within the 2020 planning area, which is included in the development capacity calculations. The calculations do not assume any reuse of currently developed properties, but rather estimate development capacity just for the acreage not currently in a use that is consistent with the proposed general plan designation, for example, agricultural or vacant property that is designated for future development.

All of the following discussion relates to the numbers shown in Table X.

Residential Development

The Existing Development columns in Table X indicate that the City had 2,553 dwelling units and a population of 10,554 as of 1998. Most of these units were in the low density development category. It is estimated that fewer than one hundred were in the medium density range and about 542 were high density units.

The columns labeled New Development Under the Proposed Plan indicate that within the 2020 plan area there is the potential for 4,948 new units, not including any reuse of currently developed residential land. The new development is assumed to occur at about the same density as existing development, except for the medium density category where the proposed density range is slightly lower than the estimate for existing development. The medium density residential category permits densities ranging from 7.6 to 11.9 units per acre. Existing development in this category is estimated to average 12.5 units per acre. For purposes of the development capacity calculations, the midpoint of the allowable range, 9.75 units per acre, has been used.

The new residential development would support growth in the population of about 19,800 persons, for a total of about 30,400 at full buildout. The columns labeled Market Demand Projections, Year 2018, suggest that about 60 percent of this growth would occur by that time.

Commercial Development

The development capacity of commercial land use designations is shown in the middle rows of the table.¹ The proposed general plan would accommodate about 2.4 million sq.ft. of commercial development ranging from large scale community and highway commercial to downtown and neighborhood sites. Livingston currently does not have enough retail businesses to serve its population, and as the population grows, the city should be able to attract a greater selection of stores. This land inventory is fairly consistent with the Year 2018 market projections for downtown and neighborhood commercial businesses, but is substantially more than is needed by Year 2020 for community, highway and service commercial development. In part this is due to the fact that as the City grows out beyond the year 2020, it will need centrally located sites for larger commercial centers. These sites are located within the Year 2020 planning boundary but would not be expected to develop by that time unless the City is successful in developing a regional shopping center that would serve residents of neighboring cities as well as those living in Livingston.

Industrial Development

If fully developed, the industrial land use designations would permit an additional 8.7 million sq.ft. in building space over the existing inventory, including 4.3 million in the reserve category.² This is substantially more than is estimated in the demand projections, but allows the city some flexibility to accommodate large users. Moreover, the Limited Industrial designation, which will accommodate small light industrial businesses, will likely develop more quickly.

Fiscal Impact of the Proposed Plan

¹ The estimates are made assuming the gross acres in the general plan would translate to 80 percent net acres and that building sizes would represent 25 percent of the net acreages.

² The industrial development capacities assume a 40 percent lot coverage ratio rather than the 25 percent used for retail development.

Each kind of land use in the community has a different impact on the revenues and costs of city government. The land use mix created by the proposed general plan will affect the ability of the City to fund services for its growing population. The proposed plan provides the opportunity for Livingston to improve its economic base and commercial development. This would generally have a positive impact on the fiscal health of the community. In particular, commercial development generates sales taxes that for many communities is a major source of revenue to pay for public services for residents in the community. Currently in Livingston, it is estimated that commercial development generate about \$.80 in sales tax revenues per sq.ft. of building space. This is well below state averages, but even at this rate, the additional development potential in the proposed general plan would increase sales tax revenues by \$1.8 million per year, which is nearly 30 percent of the entire City budget this year.

In contrast, residential development often does not pay enough to support all the services the population needs. Home owners pay property taxes, but the City must share much of this revenue with other taxing agencies such as the school district and the County government. In addition, property tax increases are restricted by state law and are not as able as sales taxes to escalate each year to match inflation in the costs of providing services to residents. Thus, as the costs of police, fire protection and park maintenance increase each year, the property tax revenues tend to pay less and less of these costs.

Industrial development usually pays some sales taxes along with its property tax and therefore has a better effect on the City budget than does housing, though not as good as retail businesses. Industrial development typically does not require as many services from the City as do residences, which means that more of the tax revenues paid by these businesses can be used to support services for the population. A primary economic benefit of industrial development is that it provides higher wages for the population, which can then be spent at local retail businesses.

In conclusion, the proposed plan would be expected to help the City fund the services needed by its residents by creating the opportunity for increased sales tax revenues and for increased household incomes created by a stronger job base. Of course, the availability of properly planned property is only one consideration in a businesses' decision to locate in the community. The City will need to be active in its economic development efforts to ensure that the development of the commercial and industrial land in the general plan keeps pace with growth in the population.

Table X
Comparison of Proposed General Plan Buildout with Existing and Projected Development

Land Use Category	Existing Development 1998		New Development Under Proposed Plan Year 2020		Full Buildout Under Proposed Plan Year 2020		Market Demand Projections Year 2018		Market Demand Growth 1998-2018	
	Units	Pop.	Units	Pop.	Units	Pop.	Units	Pop.	Units	Pop.
Residential Total	2,553	10,554	5,000	19,996	7,553	30,551	5,331	22,035	2,778	11,481
Low Density/Estate	1,914	8,455	3,126	13,807	5,040	22,262	3,998	17,661	2,084	9,206
Medium Density	97	323	958	3,186	1,055	3,509	113	376	16	53
High Density	542	1,776	916	3,003	1,458	4,780	1,220	3,999	678	2,222
Commercial Total	290,763	529	2,421,065	4,402	2,711,828	4,931	1,183,743	2,152	892,980	1,624
Community	0	0	372,874	678	372,874	678	163,350	297	163,350	297
Downtown	175,329	319	162,043	295	337,372	613	377,883	687	202,554	368
Highway	65,340	119	732,679	1,332	798,019	1,451	119,790	218	54,450	99
Neighborhood	11,979	22	63,598	116	75,577	137	91,476	166	79,497	145
Service	38,115	69	1,089,871	1,982	1,127,986	2,051	431,244	784	393,129	715
Industrial Total	1,693,831	1,694	8,762,181	8,762	10,456,012	10,456	2,724,765	2,725	1,030,935	1,031
General	1,536,797	1,537	3,230,932	3,231	4,767,729	4,768	2,179,812	2,180	643,015	643
Limited	157,034	157	1,262,369	1,262	1,419,403	1,419	544,953	545	387,919	388
Reserve	0	0	4,268,880	4,269	4,268,880	4,269	0	0	0	0

APPENDIX F

**FUTURE NOISE ANALYSIS BACKGROUND
INFORMATION**

Table 1

**FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet
Brown-Buntin Associates, Inc. (BBA)**

Project #: 98-008
 Description City of Livingston General Plan Buildout
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Even %	Night %	% Med. Trucks	% Heavy Trucks	Speed	Distance
1	Davis Road	Campbell to Livingston-Cressey	6300	90		10	5	5	45*	75
2	Walnut Avenue	Livingston-Cressey to Dwight	7000	90		10	5	5	45	75
3	Campbell Road	Winton to Livingston-Cressey	7500	90		10	5	5	45	75
4		Hammatt to Dwight	6000	90		10	5	5	45	75
5	Highway 99	Robin to Dwight	64000	77		23	5	19.6	65	150
6		East of Dwight	71600	77		23	5	19.6	65	150
7	B Street	West of Winton	10900	90		10	5	5	45	75
8	Winton Parkway	B to Highway 99	10700	90		10	5	5	45	75
9	Main Street	B to Highway 99	7000	90		10	5	5	35	75
10	Livingston-Cressey Road	Hwy. 99 to Davis	8200	90		10	5	5	45	75
11		North of Olive	11100	90		10	5	5	45	75
12	Hammatt Avenue	F to Walnut	6500	90		10	5	5	40	75

Table 2

FHWA-RD-77-108
Brown-Buntin Associates, Inc. (BBA)
Predicted Levels

Project # : 98-008
 Description: City of Livingston General Plan Buildout
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Medium Trucks			Total
			Autos	Medium Trucks	Heavy Trucks	
1	Davis Road	Campbell to Livingston-Cressey	60.1	55.8	60.3	63.9
2	Walnut Avenue	Livingston-Cressey to Dwight	60.6	56.3	60.8	64.4
3	Campbell Road	Winton to Livingston-Cressey	60.9	56.6	61.1	64.7
4		Hammatt to Dwight	59.9	55.6	60.1	63.7
5	Highway 99	Robin to Dwight	67.6	61.9	71.3	73.2
6		East of Dwight	68.1	62.4	71.8	73.7
7	B Street	West of Winton	62.5	58.2	62.7	66.3
8	Winton Parkway	B to Highway 99	62.4	58.1	62.6	66.2
9	Main Street	B to Highway 99	57.4	54.6	59.7	62.5
10	Livingston-Cressey Road	Hwy. 99 to Davis	61.2	56.9	61.4	65.1
11		North of Olive	62.6	58.3	62.8	66.4
12	Hammatt Avenue	F to Walnut	58.8	55.1	60.0	63.2

Table 3

FHWA-RD-77-108
Brown-Buntin Associates, Inc. (BBA)
Noise Contour Output

Project #: 98-008
 Description: City of Livingston General Plan Buildout
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	-- Distances to Traffic Noise Contours --				
			75	70	65	60	55
1	Davis Road	Campbell to Livingston-Cressey	14	30	64	137	295
2	Walnut Avenue	Livingston-Cressey to Dwight	15	32	68	147	317
3	Campbell Road	Winton to Livingston-Cressey	15	33	72	154	332
4		Hammatt to Dwight	13	29	62	133	286
5	Highway 99	Robin to Dwight	114	245	528	1137	2449
6		East of Dwight	122	264	569	1225	2639
7	B Street	West of Winton	20	43	92	198	426
8	Winton Parkway	B to Highway 99	20	42	91	195	421
9	Main Street	B to Highway 99	11	24	51	110	237
10	Livingston-Cressey Road	Hwy. 99 to Davis	16	35	76	163	352
11		North of Olive	20	43	93	200	431
12	Hammatt Avenue	F to Walnut	12	26	57	122	262

APPENDIX G

**DIRECT TRAVEL IMPACT MODEL (DTIM2)
INFORMATION**

I INTRODUCTION

BACKGROUND

This overview document provides a general introduction and description of DTIM2, an updated and enhanced version of the Caltrans Direct Travel Impact Model (DTIM). DTIM2 consists of a system of computer programs that allow the calculation of detailed air pollutant emissions for different onroad vehicle emission scenarios, using travel demand modeling or similar tools to describe vehicle activity on individual roadways. The DTIM2 model is available through Caltrans' Office of Traffic Improvement, along with written instructions and documentation (Fieber et al., 1994a,b).

Over the last twenty years, the coordination of transportation planning and air quality planning has continually increased with regard to both practices and policies. The transportation sector's air pollutant emissions are a significant, and for some pollutants, the dominant contributor to urban concentrations. Pollutants of concern include carbon monoxide (CO), ozone (O₃, which is formed in the atmosphere by reactions of hydrocarbons and nitrogen oxides), nitrogen dioxide (NO₂), and particulate matter (especially small particles less than 10 microns in diameter, known as PM-10). Historically, lead (Pb) has been strongly associated with transportation emissions, but this problem has been nearly completely eliminated through the conversion to unleaded automotive gasoline. Sulfur dioxide (SO₂) is also emitted from gasoline and diesel vehicles due to trace amounts of sulfur in their fuel, but in small amounts relative to other sources.

Decisions regarding local and regional transportation policies, as well as growth rates and land use patterns, are significant factors that control the nature and magnitude of transportation activity. The interactions between such decisions, the emissions from onroad vehicles, and air quality are complex. For this reason, and because the planning horizon for many regional planning and transportation planning efforts can span decades, the federal Clean Air Act Amendments of 1990 (CAAA) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) contain explicit provisions requiring coordination of transportation and air quality planning. To accomplish this, tools and procedures are needed that allow the quantification of the transportation, emission and air quality consequences of alternative regional development scenarios. DTIM2, an update of the Direct Travel Impact Model (Seitz, 1990a,b) is designed to work as an interface between the most sophisticated and detailed tools available to both the transportation and air quality communities.

There are two principal uses of DTIM2: (1) to develop estimates of total onroad vehicle emissions (known as emission inventories) and (2) to investigate the differences in onroad vehicle emissions between different transportation forecast or emission control scenarios.

Federal and state air pollution regulations require the periodic development of emission inventories as part of the air quality planning process. These inventories are used to investigate trends, and are also used in assigning emission budgets under recently promulgated federal conformity regulations (58FR62188 and 58FR63214). The ability of DTIM2 to calculate detailed (hourly, spatially resolved) emissions is required by the dispersion models used in air quality planning.

The ability of DTIM2 to make these detailed calculations is also useful for the investigation of differences between scenarios. For example, the conformity regulations require that comparisons be made of the net effects of Transportation Improvement Programs (TIPs). In addition, for areas exceeding acceptable air pollutant levels, progressive emission reductions must be achieved and documented. DTIM2 provides the means of calculating the individual and combined emission effects of vehicle technology improvements, vehicle fleet turnover, new residential and commercial development, regional growth, transit improvements, transportation network changes, changes in vehicle speeds, trip reduction programs and other transportation control measures, and so on. Thus, DTIM2 provides a needed and valuable resource to planners, regulators, and policymakers who are responsible for developing or reviewing alternative transportation, air quality, and regional plans.

OVERVIEW OF DTIM2

As noted above, DTIM2 is a software tool used to estimate onroad vehicle emissions. It can be used for evaluating the air quality impacts of different transportation alternatives, for conformity analyses, or for preparing detailed emission inventories required for regional air quality models, such as the Urban Airshed Model. DTIM has been used for over a decade in California by Caltrans, the California Air Resources Board (ARB), and local planning agencies for preparing regional emission inventories, especially in conjunction with regional photochemical modeling. Recently, it has also been used outside California as a tool for State Implementation Plan (SIP) inventory preparation and for SIP conformity analyses.

Two basic types of emissions are caused by onroad vehicles: (1) exhaust emissions and (2) evaporative emissions from fuel carried by the vehicle. Exhaust emissions result in hydrocarbons (HC), carbon monoxide (CO), oxides of nitrogen (NO_x), and particulates. Evaporative emissions result in hydrocarbons only. Although not actually emitted from engine tailpipes, particulate matter emissions from tire wear, brakes, and road dust are also sometimes lumped together with exhaust emissions because they occur while vehicles are moving. Onroad vehicle emissions are calculated based upon estimates of vehicle activity and emission rates. The general equation used is:

$$\text{Emissions (grams)} = \text{Activity (miles)} \times \text{Emission Rate (gram/mile)}$$

Activity can include both vehicle miles traveled (VMT) and the number of trip starts and ends. Emission rates are typically disaggregated by the type of emissions, such as exhaust and evaporative emissions. Rates can be expressed as grams of pollutant emitted per unit distance or time, or grams per trip. Both the EPA and the ARB have developed vehicle emission rate models. The ARB model, EMFAC7F (ARB, 1993), has received

regulatory approval for use in California for transportation and air quality planning analyses. The EPA model, MOBILE5a (EPA, 1993), should be used in analyses conducted for regions outside California. Both MOBILE and EMFAC allow specification of the composition of the vehicle fleet, based on model year, age, and mileage accumulation. They also allow specification of average vehicle speed, an important determinant of emission rates.

Different techniques and levels of detail can be employed in preparing regional estimates of vehicle emissions. The EPA has established guidelines for mobile source emission inventory preparation (EPA, 1992) that allow VMT by functional class for a county or other subarea to be used as the measure of vehicle activity. However, the EPA recognizes that transportation models are capable of providing much more detailed information on vehicle activity, and encourages their use for preparing SIP inventories (EPA, 1992). DTIM2 was designed specifically to make use of the detail on vehicle activity available from regional transportation models.

DTIM2 uses information produced by travel demand models to establish roadway link vehicle activity. The hourly traffic volumes and speeds can be provided by transportation models, or they can be calculated within DTIM2 based on temporal distribution data, and a speed processor that assigns speeds based on hourly level of congestion. DTIM2 uses the model predictions of volumes by individual roadway link and trip ends by traffic analysis zone as the basic measure of regional vehicle activity. Because transportation models use a geographic representation of the individual links and zones in a transportation system, DTIM2 can access this information to more accurately distribute emissions spatially than is possible when VMT by county or other subarea is used as the indicator of vehicle activity. Temporal allocation of emissions can be improved if peak and offpeak period transportation model predictions are used. A further benefit of using transportation model data is that when hourly volumes on each roadway link are used to estimate hourly speeds, this critical input to EMFAC or MOBILE may more closely reflect the emission factor models' definition of "average vehicle speed" than will the speeds produced by transportation models for the purpose of calibrating network assignments. All of these factors can have significant effects upon the magnitude of emissions produced in a region. More importantly, subtle interactions between speed, temperature, and the spatial distribution of emissions can affect whether or not the overall air quality impacts of specific projects can be considered beneficial.

CAPABILITIES OF THE CURRENT SYSTEM

The *DTIM2 User's Guide* (Fieber et al., 1994b) provides extensive detail on the current capabilities of the system and the appropriate way to make use of them. In brief, these capabilities include:

- Accepts input from most commonly used transportation models, including MINUTP, TRANPLAN, EMME/2, UTPS, and SYSTEM-II.
- Program is easily transferred between computer platforms. Personal computer, workstation, and mainframe versions are available.

APPENDIX H

EXCERPTS FROM THE SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT'S GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS

being the case, mitigation measures for each project are best identified on a project by project basis.

This section provides separate discussions on mitigating temporary construction emissions and on indefinite operational emissions. The impacts during these two phases are quite different and so call for different mitigation solutions.

6.5.1 Mitigating Construction Impacts

Although the impacts from construction related air pollutant emissions are temporary in duration, such emissions can still represent a significant air quality impact. In some cases, construction impacts may represent the largest air quality impact associated with a proposed project. Construction activities such as grading, excavation and travel on unpaved surfaces can generate substantial amounts of dust, and can lead to elevated concentrations of PM-10. Emissions from construction equipment engines also can contribute to elevated concentrations of PM-10 and CO, as well as increased emissions of ozone precursors.

Fugitive Dust Control Measures. Control measures for construction emissions of PM-10 are listed in Tables 6-2 and 6-3. Table 6-2 summarizes the requirements of a series of SJVUAPCD rules known collectively as Regulation VIII. The purpose of Regulation VIII is to reduce the amount of PM-10 entrained into the atmosphere as a result of emissions generated from anthropogenic (man-made) fugitive dust sources. Compliance with Regulation VIII does not constitute mitigation because it is already required by law. Table 6-3 contains Enhanced and Additional Control Measures that will provide a greater degree of PM-10 reduction than Regulation VIII. The SJVUAPCD will recommend these enhanced and additional measures when project conditions warrant, e.g. potential for impacting sensitive receptors, construction sites of significant size, or any other conditions that may justify additional emission reductions.

As noted previously in Section 4, the SJVUAPCD does not require Lead Agencies to provide detailed quantification of construction emissions. Occasionally, some major construction projects such as large scale pipelines, water projects, mining projects, etc. will require quantification. Similarly, Lead Agencies need not quantify emission reductions from construction-related mitigation measures. The SJVUAPCD's recommended approach to mitigating construction emissions focuses on a consideration of whether all feasible control measures are being implemented. (See Section 4 for further information.) If a Lead Agency chooses to quantify the effect of construction-related mitigation measures, the Lead Agency should use the construction emissions module in URBEMIS 7G or emission factors from the EPA's Compilation of Air Pollution Emission Factors (AP-42).

Table 6-2
Regulation VIII Control Measures for Construction Emissions of PM-10

Regulation VIII Control Measures. - The following controls are required to be implemented at all construction sites.

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported off-site, all material shall be covered , effectively wetted to limit visible dust emissions, *or* at least six inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. *(The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)*
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.

Table 6-3
Enhanced and Additional Control Measures for Construction Emissions of PM-10

Enhanced Control Measures. - The following measures should be implemented at construction sites when required to mitigate significant PM-10 impacts (note, these measures are to be implemented in addition to Regulation VIII requirements):
<ul style="list-style-type: none">• Limit traffic speeds on unpaved roads to 15 mph; and• Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
Additional Control Measures. - The following control measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for any other reason warrant additional emissions reductions:
<ul style="list-style-type: none">• Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site;• Install wind breaks at windward side(s) of construction areas;• Suspend excavation and grading activity when winds exceed 20 mph; and• Limit area subject to excavation, grading, and other construction activity at any one time.

Mitigating Emissions from Construction Equipment. The discussion of construction impacts and mitigation measures in these Guidelines focuses primarily on PM-10 emissions from fugitive dust sources. However, Lead Agencies seeking to reduce emissions from construction equipment exhaust should also consider the mitigation measures in Table 6-4. The SJVUAPCD recognizes that these measures are very difficult to implement due to poor availability of alternative fueled equipment and the challenge of monitoring these activities.

Table 6-4
Construction Equipment Mitigation Measures

Emission Source	Mitigation Measure
Heavy duty equipment (scrapers, graders, trenchers, earth movers, etc.)	<ul style="list-style-type: none"> • Use of alternative fueled construction equipment • Minimize idling time (e.g., 10 minute maximum) • Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use • Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set) • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways • Implement activity management (e.g. rescheduling activities to reduce short-term impacts)

6.5.2 Mitigating Impacts from Project Operation

Air quality impacts from project operations are caused by motor vehicle use related to the project, and by combustion of fuels for space heating, cooking, and landscape maintenance. In the case of industrial projects, the impacts are caused by all of the above sources and by the operation of polluting equipment, devices, and processes used in manufacturing. Mitigation measures identified by the SJVUAPCD to reduce operational air quality impacts are listed and discussed below.

Mitigating Impacts from Motor Vehicles. Several general approaches can be taken to reduce emissions from motor vehicles:

- Reduce vehicle trips. These measures reduce air pollutant emissions by entirely eliminating some of the vehicle trips associated with a project. An example is the provision of bicycle facilities to encourage bicycle use instead of driving.
- Reduce vehicle miles traveled. These measures reduce emissions by reducing the length of vehicle trips associated with a project. An example is the provision of satellite offices/telecommuting centers to reduce the length of employee commute trips.
- Use of low emission vehicles. These measures do not aim to reduce trips or VMT, but rather promote the use of fuels that are less polluting than gasoline or diesel. Examples are the conversion of a vehicle fleet to operate on compressed natural gas and the purchase of an electric vehicle.
- Improve traffic flows/reduce congestion. These measures reduce emissions by reducing traffic congestion and/or reducing stops and starts. This allows vehicles to operate at steady and moderate speeds, and thus lowers pollution per mile traveled. An example is

Engineering

Architecture

Planning

Land Surveying

GIS/GPS

Biology

-
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