SELMA GENERAL PLAN UPDATE

Background Report

June 2008

Quad Knopf

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CHAPTER ONE

INTRODUCTION

CHAPTER ONE - INTRODUCTION

1.1 Project Location and Description

The City of Selma is located in south-central Fresno County in the Central San Joaquin Valley (Figure 1-1). The City is approximately 207 miles north of Los Angeles and 209 miles south of San Francisco. Selma's location, at the intersection of State Highways 99 and 43, makes it a regional hub for Fresno County and neighboring counties. The City's main transportation routes are McCall Avenue, Floral Avenue, Nebraska Avenue (2nd Avenue), Highland Avenue, and South Golden State Boulevard. South Golden State Boulevard (old 99) bisects Selma just east of SR 99. According to the State Department of Finance (DOF), the population was 23,194 as of January 1, 2007. A large portion of the population is employed in agricultural associated jobs, and related industries with the main crop of Selma being raisins. The City's nickname, "Raisin Capital of the World," is well earned, as Selma produces up to 93% of the world's annual raisin crop. The Sphere of Influence (SOI) for the City contains approximately 13 square miles, with the City limits inside of the SOI containing 4.9 square miles (see Figure 1-2).

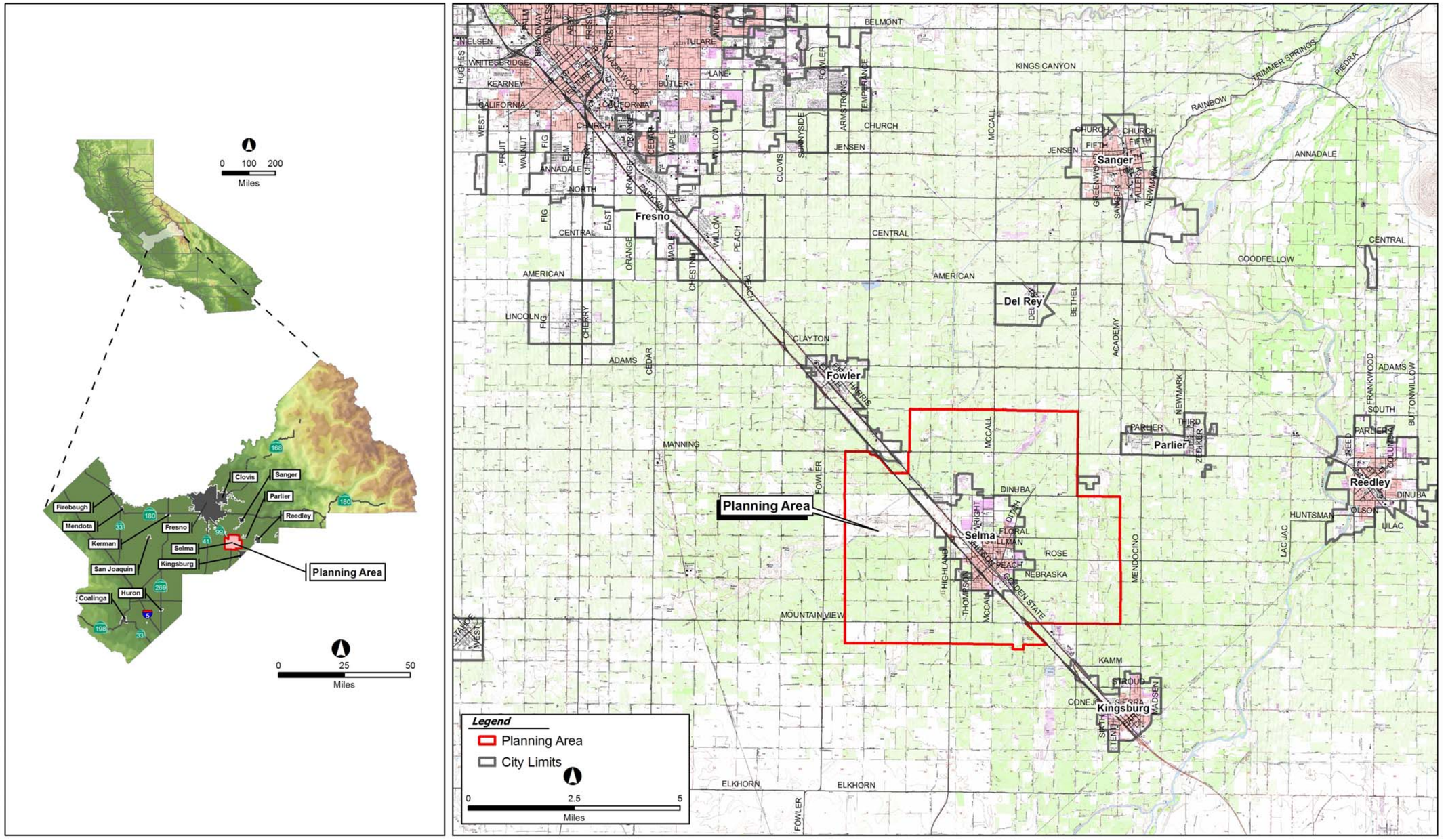
This General Plan Update will cover a 25+ year period, from 2007 to 2035. At that time, Selma could have a population in excess of 69,000 (see Table 2-2).

While many residents cherish the "small town" character of the City, they also find commercial and recreational opportunities limited because of the City's size. 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 Selma residents shopping outside of the City, and increased employment and housing opportunities. The City's public infrastructure will also be evaluated and the means to finance its expansion will be discussed.

The City of Selma's General Plan includes all of the elements mandated by State Government Code. Table 1-1 lists each element and the date it was adopted.

Table 1-1
Selma's General Plan Elements

Element	Date Adopted
Land Use	1997
Circulation	1997
Housing	1993
Noise	1992
Recreation	1989
Open Space/Conservation	1983
Safety, Public Services and Facilities	1983



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REGIONAL AND VICINITY MAP

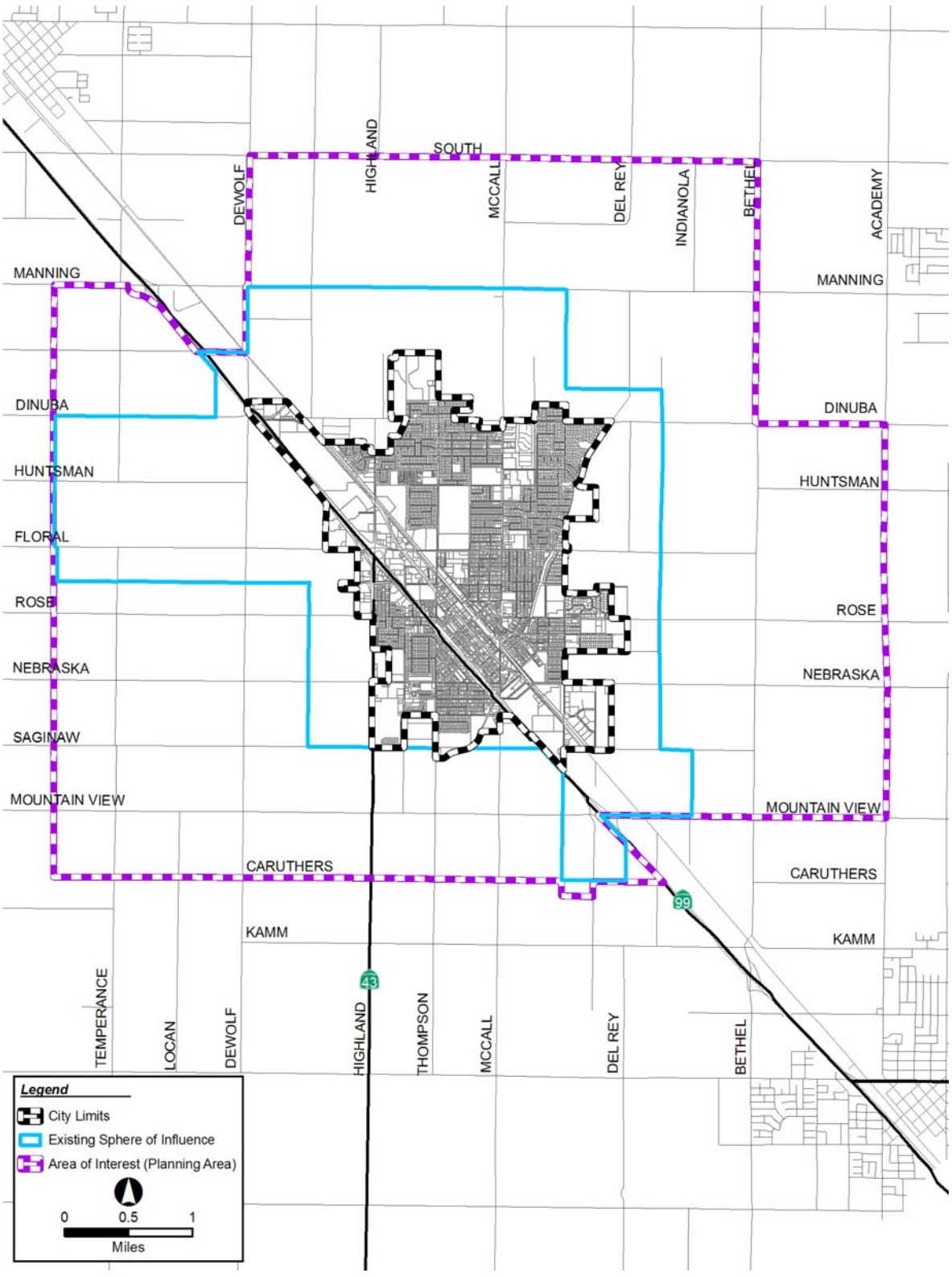
Figure
1 - 1

Figure 1-2 shows the City's current growth boundaries including the City limits and adopted Sphere of Influence. It also shows the Planning Area boundary or Area of Interest (AOI), which is the area of study for this Background Report. Table 1-2 shows the existing General Plan Land Use acreage within the City limits and adopted SOI..

The determination of the Planning Area boundary for the General Plan Update was guided by the following factors:

- Existing extent of development in the area, including unincorporated areas, and contiguous undeveloped parcels
- Selma's proximity to Fowler, Kingsburg, and Parlier
- Location of agricultural land under Williamson Act contract
- Hard edges including major roadways
- Undeveloped areas necessary to square off development boundaries
- Areas within which the City may likely grow over the next 25+ years
- Agricultural areas that are key elements of Selma's economy

The Planning Area includes sufficient area to meet the City's land development needs over the 25+ year planning period. The planning area also encompasses enough territory to enable City review of development proposals that may occur in the County adjacent to the City limits. Its long-range purpose is to serve as the catalyst for future planning discussion and vision. The Planning Area provides sufficient flexibility to review alternative growth scenarios that would focus growth in different sections of the community according to alternatives identified by the community.



Quad Knopf	CURRENT GROWTH BOUNDARIES	Figure 1 - 2

Table 1-2
Existing General Plan Land Use (in Acres)
City Limits and SOI

General Plan Land Use Category	City Limits	SOI
Residential-Very Low Density	33	200
Residential – Low Density	90	490
Residential – Medium Low Density	989	2,017
Residential – Medium Density	136	389
Residential – Medium High Density	78	135
Residential – High Density	11	45
Residential Reserve	6	441
Subtotal Residential	**1,343**	**3,717**
Business Park	1	233
Highway Commercial	5	201
Commercial – Central District	19	19
Commercial – Community	87	126
Commercial – Regional	116	243
Service Commercial	39	39
Commercial – Neighborhood	22	27
Commercial Office	9	11
Subtotal Commercial	**298**	**899**
Light Industrial	240	480
Light Industrial Reserve	1	1,355
Heavy Industrial Reserve	205	496
Planned Medical Development	24	24
Selma Aerodome	0	22
Public Facilities	173	175
Open Space	112	283
Total (All Land Uses)	**2,396**	**7,459**

Note: Right-of-way is estimated based on the total acreage of each boundary subtracted from the land use acreage totals.

CHAPTER TWO

LAND USE

CHAPTER TWO – LAND USE

2.1 Existing Selma General Plan

Used as a guide for orderly development, Selma's Land Use Element designates the general distribution of land for residential, commercial, industrial, and public facilities needed to serve the residents of the City. The Land Use plan includes land outside the City limits and boundary, providing a comprehensive growth and development plan. Figure 2-1 shows the current General Plan land use designations. Table 1-1, in the preceding chapter, shows the distribution of land uses by area as designated in the 1997 General Plan.

2.2 Present City Land Use Controls

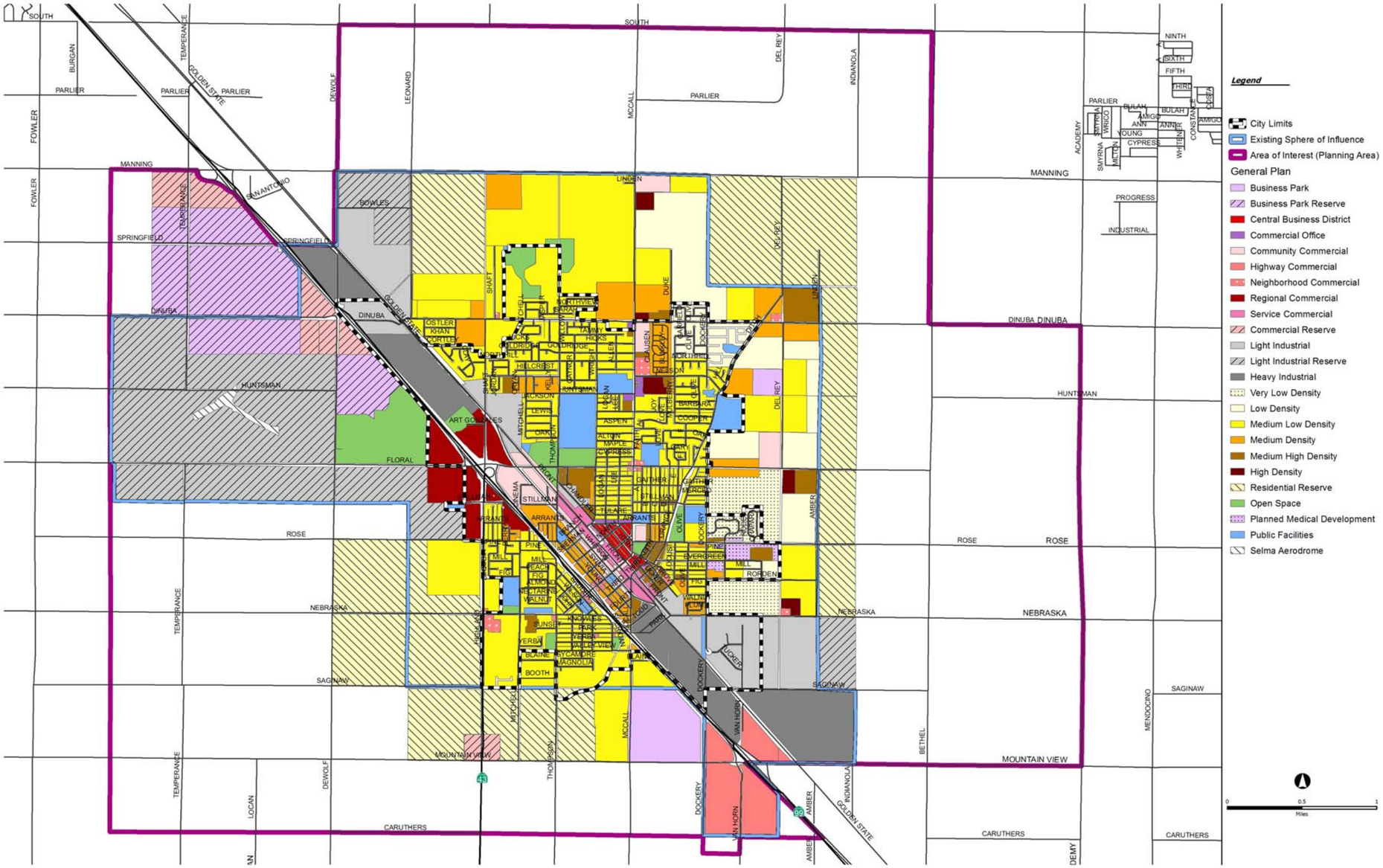
Lands within the City limits are also governed by the Selma Zoning Ordinance. The Zoning Ordinance is used to implement the General Plan. It divides the City into zones and prescribes regulations relating to land use, the size of the building allowed on the land, and the height and intensity of use. Changes to zone boundaries must be consistent with the General Plan. Like the General Plan, the Zoning Ordinance is periodically amended to reflect changes in urban development standards. The Zoning Ordinance should be updated after General Plan adoption or concurrent with General Plan revisions so it is consistent with the General Plan.

2.3 Existing Land Use in the Sphere of Influence

The current SOI contains approximately 13 square miles of which 4 square miles is urbanized land primarily within the current City limits. A windshield survey was conducted in May, 2007 (by Quad Knopf, project consultant) and included all parcels within the SOI in effect at that time. Table 2-1 shows that the existing land uses within the City limits include 1,152 acres of residential, 144 acres of commercial, 292 acres of industrial, 108 acres of park/open space, and 202 acres of public/semi-public facilities. Figure 2-2 illustrates the distribution of these uses. As with most cities in the San Joaquin Valley, the detached single-family home is the predominant residential unit in Selma.

Table 2-1
Existing Land Use (Acres)
Within Selma City Limits, May 2007

Land Use	Acres
Agriculture	4
Commercial	144
Office	22
Industrial	292
Park/Ponding Basin	108
Public/Semi-Public	202
Residential	1,152
Vacant/Undeveloped	186
Total	**2,110**



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EXISTING GENERAL PLAN LAND USE

Figure
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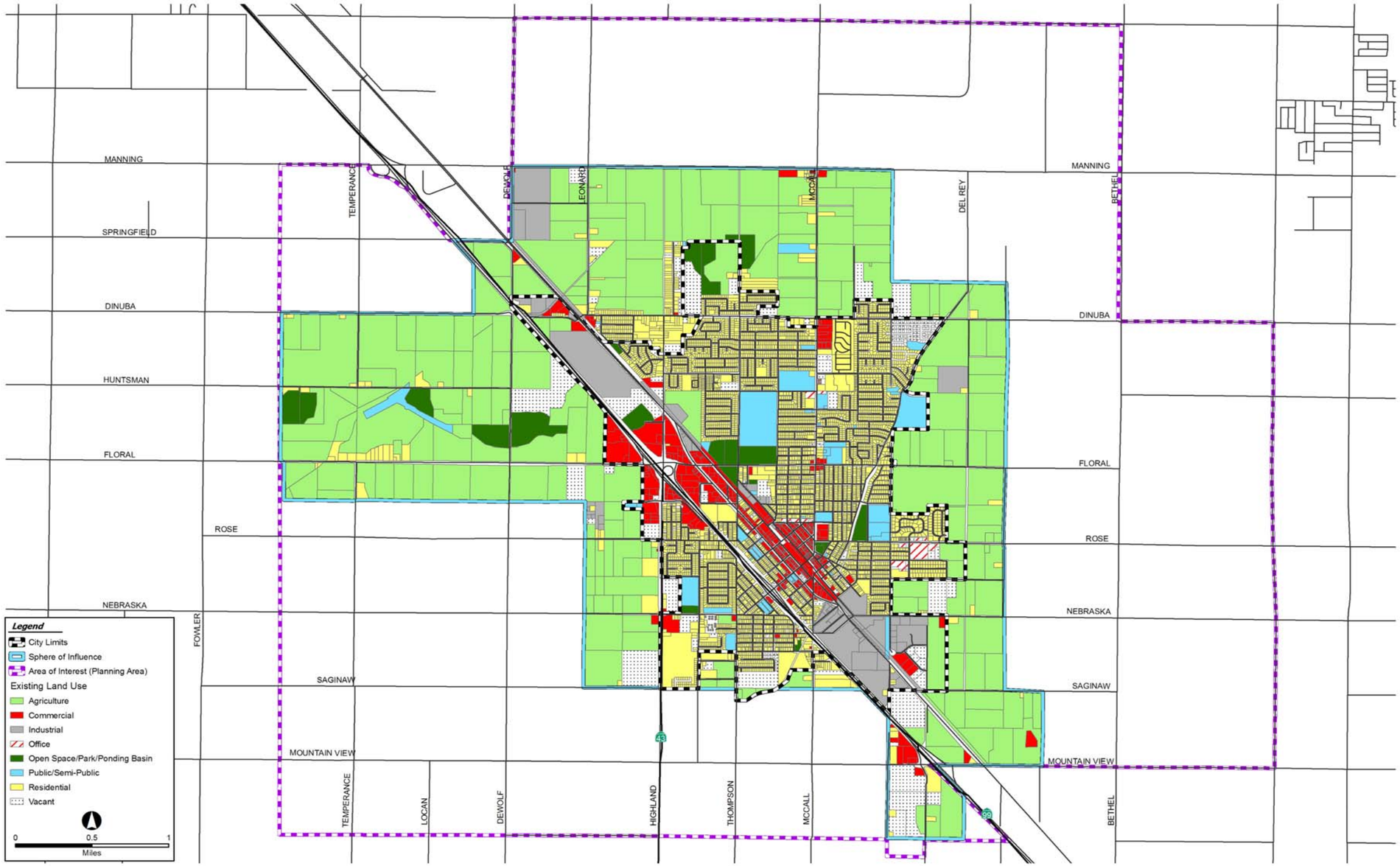

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EXISTING LAND USES

Figure
2 - 2

2.4 Selma Specific Plans

The City of Selma has two adopted Specific Plans and the three additional specific plans are in various stages of development (as of May, 2007). The McCall Avenue Specific Plan was adopted in April, 1979 and the Northwest Specific Plan was adopted in March, 1982 (amended in 1984, 1986 and 1990). The Specific Plans in progress are the Rockwell (Tutelian) Specific Plan, Amberwood Specific Plan and South Selma Specific Plan. Figure 2-3 shows the boundaries of each Specific Plan. The following text summarizes the purpose and objectives of each Plan.

MCCALL AVENUE SPECIFIC PLAN

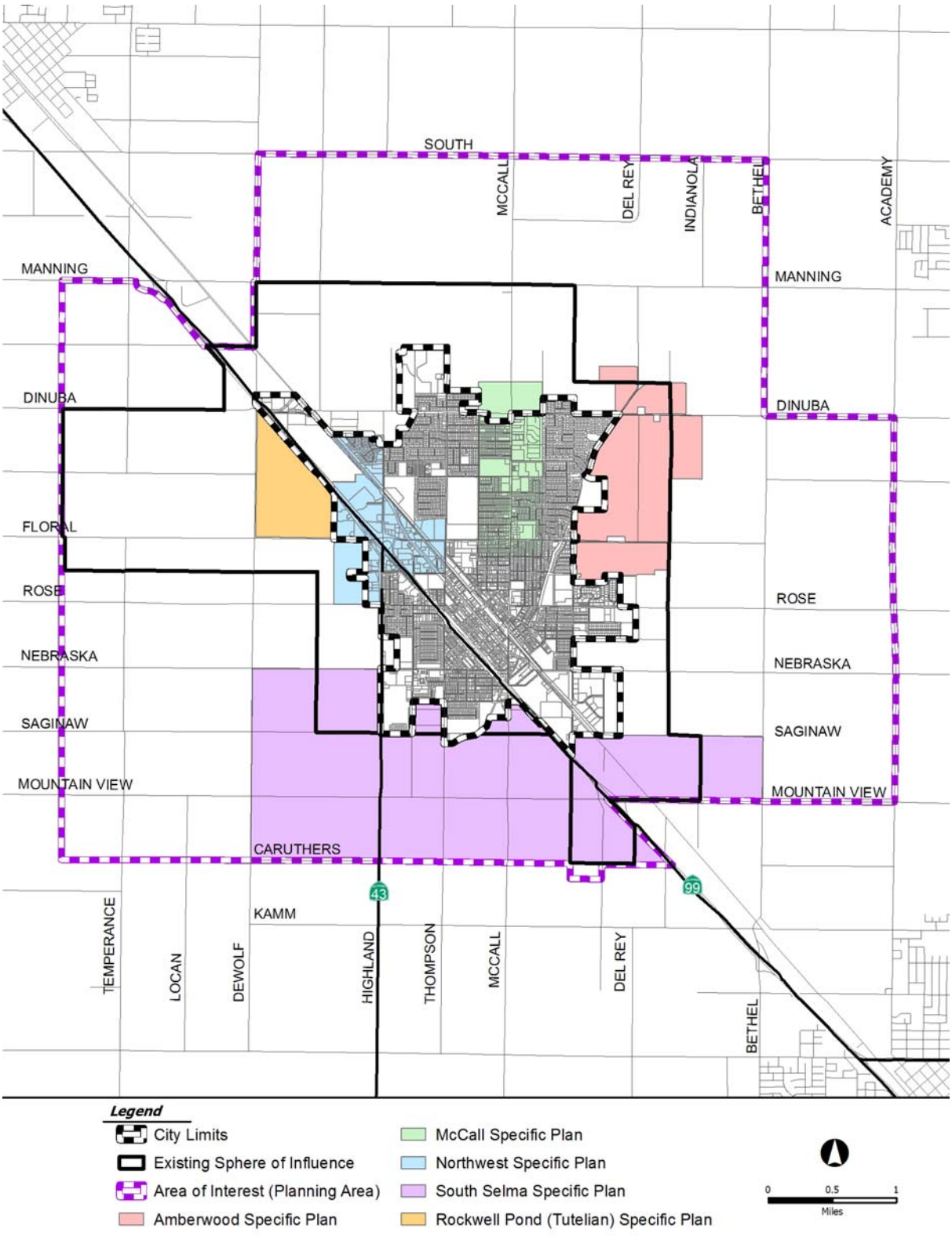
The McCall Avenue Specific Plan sets forth the adopted objectives and policies of the City regarding the existing and future character and quality of urban development within the McCall Avenue Specific Plan area. The major objectives of the Plan are as follows: to protect and enhance the existing, appropriate urban development within the Plan Area; and to encourage new urban development that (1) is harmonious with existing urban development, (2) reflects high standards of design, (3) is compatible with the City's major street system, (4) can be provided necessary urban services by the City and other service entities, and (5) conforms with the City's community-wide planning goals and policies.

The McCall Avenue Specific Plan is generally bounded by Dinuba Avenue on the north, Floral Avenue on the south, the D Street alignment on the east and Wright Avenue on the west. The Plan Area also includes property located at the northeast and northwest corners of the intersection of Dinuba and McCall Avenues and the southeast and southwest corners of the intersection of Floral and McCall Avenues.

NORTHWEST SPECIFIC PLAN

The Northwest Specific Plan sets forth some of the same objectives and policies and was prepared in a similar format as the McCall Avenue Specific Plan with the following additional overall objectives: to encourage new urban development that is compatible with the theme established in the Pioneer Village Historical Museum site; and assure that Federal, State and local financial commitments will be supported by sound planning in the public interest.

The Plan defines the land uses that can be developed on all properties within the Plan Area and prescribes detailed standards for the development of these land uses. The Plan also defines the major streets within the Plan Area and establishes standards and policies to ensure their proper functioning. The Plan also provides a framework for Federal and State financial assistance that will assure a harmonious and attractive environment in concert with Pioneer Village Historical Museum themes.



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SELMA SPECIFIC PLANS

Figure 2 - 3

The Northwest Specific Plan is generally focused around the Highway 99 interchange and Floral Avenue, and the Pioneer Village Historical Museum site. The Plan is envisioned as serving primarily regional and highway commercial needs.

ROCKWELL SPECIFIC PLAN

The Rockwell (Tutelian) Specific Plan is proposed to provide for development of regional commercial, specialty commercial, business-park, residential, and open space land uses. The Plan Area consists of approximately 225 acres adjacent to Northwest Selma. The land use section will propose the general distribution of land uses, including standards for population density and building intensity. The land use section will also contain a zoning consistency matrix that identifies the appropriate zone district for each land use designation. The circulation element will outline major and minor roadways within the Plan Area, and also contain street cross sections of the various roadway types to be located within the Plan.

The Rockwell Specific Plan is located adjacent to and west of the City limits within the City's current SOI. The Plan is generally bounded by Dewolf Avenue on the west, Highway 99 and the City limits on the north and east, and Floral Avenue on the south, taking the shape of a triangular plan form. As of June, 2007 the Rockwell Specific Plan is in Administrative Draft form.

AMBERWOOD SPECIFIC PLAN

The purpose of the Amberwood Specific Plan is to implement the City's General Plan in a comprehensive and orderly fashion by establishing land use, infrastructure, public services, and financing plans to direct future development of the Plan Area. The Plan also ensures a balance between growth and public infrastructure/services such that development within the Plan Area pays its fair share of infrastructure, public facilities, and public service costs, and is fiscally self-supporting.

The vision for Amberwood is based on:

- Compact, mixed-use, mixed-income development;
- A pedestrian-friendly street, sidewalk, and trail system;
- A wide spectrum of housing opportunities;
- Housing that is affordable by design;
- Economically viable and sustainable community patterns; and
- Socially equitable and environmentally sensitive design solutions.

Amberwood comprises approximately 671 acres and is located in northeast Selma immediately east of Selma's City limits with a northern boundary extending past East Dinuba Avenue, eastern boundary extending past South Amber Avenue, southern boundary extending past Floral Avenue, and western boundary extending to Orange Avenue/Dockery Avenue.

The Amberwood Specific Plan, as of May 2007, is in administrative draft form.

SOUTH SELMA SPECIFIC PLAN

The South Selma Specific Plan comprises approximately 2,000 acres and is located adjacent and south of the current City limits and partially within the current SOI. The Plan is generally bounded by Dewolf on the west, the City limits line, Nebraska Avenue, and Saginaw on the north, Bethel on the east, and Caruthers on the south. Currently the Plan consists solely of a Conceptual Land Use Alternatives Map.

2.5 Fresno County General Plan and Zoning Ordinance, Implications

Fresno County is responsible for planning and land use control in the unincorporated areas of the County. The General Plan includes 30 resource, residential, commercial, industrial, and other land use designations that depict the types of land uses that will be allowed throughout the unincorporated County areas.

The County's primary role is to be the protector of prime agricultural lands, open space, recreational opportunities, and environmental quality, and the coordinator of countywide efforts to promote economic development. The County has a direct role in shaping the character of urban development as it continues to manage growth in the existing unincorporated communities and community and specific plan areas. At the same time, the County seeks to support and encourage the cities in their land use planning efforts to ensure that a quality living environment is provided for all existing and future residents of the county (Agriculture and Land Use Element, Fresno County).

The County's Zoning Ordinance is the principal tool for implementing its General Plan. The structure of the Zoning Ordinance parallels the structure of the Land Use Element and contains descriptions of and development standards for the land use categories appearing on the maps. The General Plan is long-term in perspective while the Zoning Ordinance is immediate in its application. The majority of land outside Selma's City limits is zoned AE-20 (Exclusive Agriculture, 20-acre minimum) by the County. These lands are County controlled until such time as they get annexed into the Selma City limits.

2.6 Sphere of Influence

As a planning tool, an SOI is intended to define the area around a city into which new urban development will be extended within the General Plan's planning period, and to accommodate all of the City's land use classifications. It is a boundary line that is recognized by the Local Agency Formation Commission (LAFCo) as the ultimate growth boundary of the community over the life of the General Plan, and all land within the SOI is planned for eventual development in a mixture of urban and urban-related uses.

The SOI is defined in California Government Code Section 56076 as "a plan for the probable physical boundaries and service area of a local agency as determined by" LAFCo. Annexations to the City must be located within the SOI in order to be approved by LAFCo. By State law, the City must be notified of any proposed land use changes within its SOI and be provided an opportunity to comment on the changes.

The Fresno County LAFCo reviews changes to SOI and Planning Area boundaries, annexations to cities and special districts in the County, the adequacy of public services to proposed annexations, and the effect of these actions on prime agricultural land. Applications to amend City limits, for example, are presented to LAFCo, which then approves, approves with conditions, or denies the applications. LAFCo has adopted policies to guide its decision-making.

The conversion of agricultural 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 Fresno County is no different. Selma's planned growth will, at some time, require annexation of County land into the City. During the General Plan Update, the implications of the post-Proposition 13 fiscal environment to the City of Selma can be seen as an opportunity to create a more predictable revenue-expenditure model. Long range planning in the Selma SOI and Area of Interest should occur with a vision shared by both jurisdictions and with a revenue stream that can be relied on for the duration of the agreement. An agreement would permit both parties to focus their limited resources on other matters; its absence would necessitate that the City and County coordinate their planning programs in a piecemeal fashion.

2.7 Estimated Demand for Land 2007 - 2035

The number of residential, commercial and industrial acres needed in the City of Selma through 2035 is based on population projections through 2035 (reference Table 2-2). The California Department of Finance estimates that Selma's January 1, 2007 population was 23,194. Selma's historical annual population growth rate has been over 3%. Using a 4% annual growth rate, the population of Selma could be approximately 69,500 by 2035. This population projection total would require an additional 2,986 acres of residential land, 195 total acres of commercial land (does not include Regional Commercial) needed, and 925 additional acres of industrial land needed.

Table 2-2
Population and Household Projections, 2007 -2035*
City of Selma

	2007	2010	2015	2020	2025	2030	2035
Total Population	23,194	26,090	31,743	38,620	46,987	57,167	69,552
Total Households	6,787	7,562	9,200	11,194	13,619	16,570	20,160
Average Household Size[1]	3.45	3.45	3.45	3.45	3.45	3.45	3.45

Source: 2000 U.S. Census, 2007 Department of Finance
*Population projections assume 4% annual growth rate as determined by City of Selma
[1]From 2000 U.S. Census

The amount of residential land needed by 2035 is based on the projected population in 2035 divided by the average household size (3.45), divided by average dwelling units per acre (assumed to be 4.5). This formula results in approximately 2,986 additional acres of residential land needed by 2035. The amount of commercial and industrial land needed by 2035 to support the projected population is based on the amount of residential acres needed. The total commercial acreage needed takes into account only the amount needed to meet residential needs,

not regional and highway commercial needs. These totals are estimates and subject to change based on a number of factors.

Table 2-3 shows the estimated added land demand between 2007 and 2035. Some of the projected land needed can be found in existing vacant land within the City. Figure 2-4 illustrates the land available for development within the SOI. This includes land that is either currently vacant or undeveloped and agricultural land. Agricultural land within the SOI is considered land available for development because all land within the SOI is currently available to the City for annexation and is thus available to the City for conversion to urban uses within the planning period.

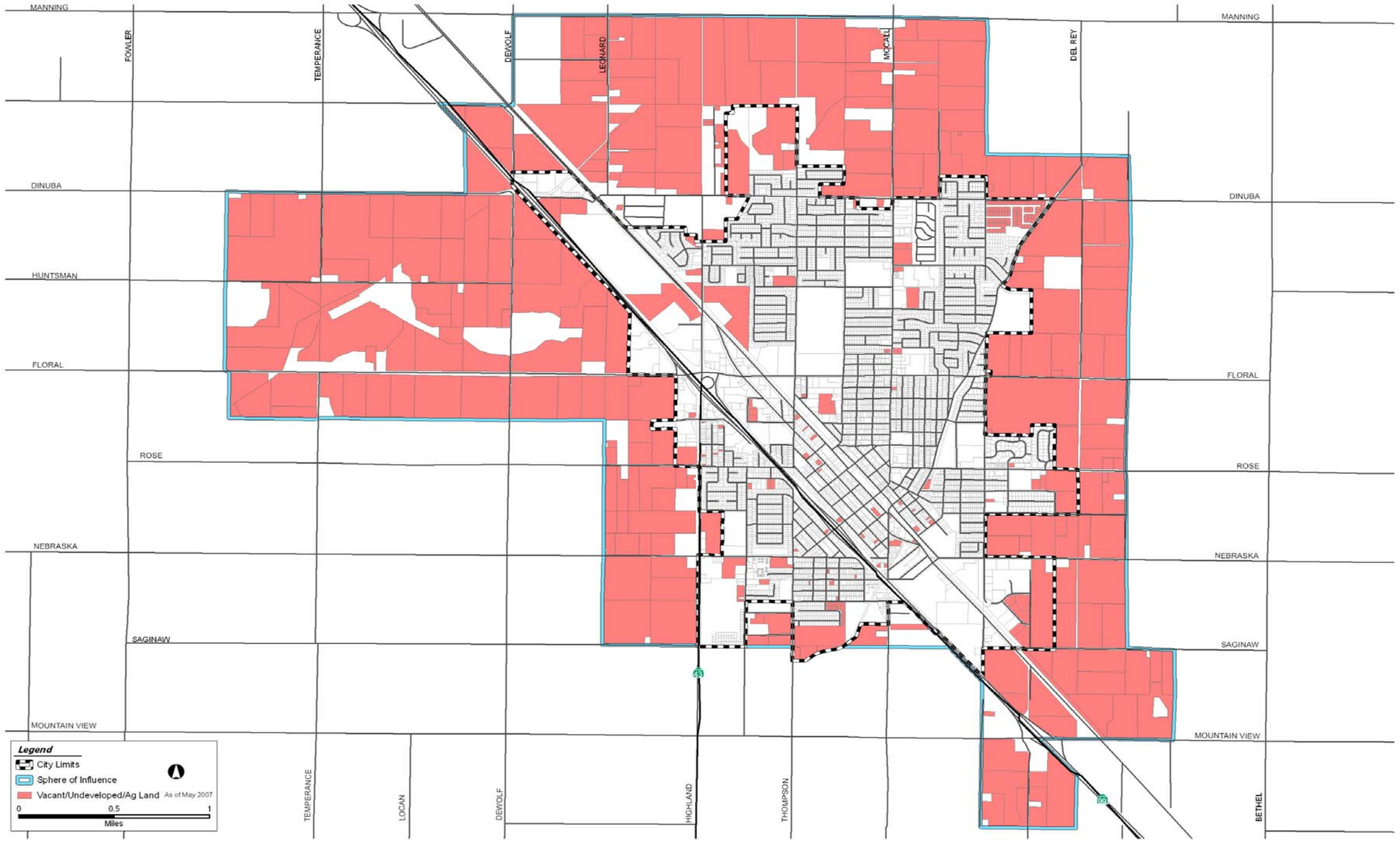
Table 2-3
Community Development Needs, 2007-2035
City of Selma

Year	Population	Additional Residential Needed	Total[1] Commercial Needed	Additional Industrial Needed
2007	23,194	N/A	N/A	N/A
2010	26,090	187	73	58
2015	31,743	551	89	171
2020	38,620	994	108	308
2025	46,987	1,533	132	475
2030	57,167	2,188	160	678
2035	69,552	2,986	195	925

Source: Quad Knopf, Inc.
[1] Doesn't include existing and future regional commercial along SR99
Total commercial needed takes into account only the amount of commercial needed to meet residential needs not regional commercial needs.
[2] Based on population growth of 4% as determined by City of Selma

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

A number of state and federal agencies' activities have an effect on Selma's planning efforts. These include, but are not limited to, the Central Valley Regional Water Quality Control Board, Environmental Health Department, California Environmental Protection Agency, the San Joaquin Valley Air Pollution Control District, and the Department of Water Resources. These agencies are interested in the interaction of the General Plan with their own long-range resource management activities. 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.



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VACANT/UNDEVELOPED/AG LAND AVAILABLE FOR DEVELOPMENT

Figure
2 - 4

CHAPTER THREE

URBAN DESIGN ANALYSIS

CHAPTER THREE – URBAN DESIGN ANALYSIS

3.1 Downtown

Selma's relatively small size provides its residents with short trip times and distances. For example, the location of City Hall, post office, police, fire, and other governmental functions in the downtown area serves to reduce trip duration. The proximity of commercial services in this area reinforces the downtown's role as a center for government and commerce.

Selma's downtown (Central Business District) can be defined as the commercial area south of Arrants Street, north of Front Street and west of McCall Avenue and 3rd Street. It has long been recognized as a commercial and cultural center for the City and surrounding areas. However, this position is challenged by the growth of the City into outlying areas and the difficulty of attracting and keeping thriving businesses and people in the downtown area. Businesses in downtown Selma must compete with businesses in Fresno and Visalia which, while a half-hour drive away, have a much larger customer base. Other competition for businesses downtown comes from large retailers and shopping centers along SR 99. The downtown commercial area faces challenges when competing with these other areas because it is characterized by aging infrastructure (such as old buildings and utility connections), and a lack of some of the amenities desired by retailers such as large lots and plentiful, on-site parking. Overcoming these obstacles and reasserting and/or redefining the historic relationship of downtown to the growing community will be a challenge. The City of Selma is committed to the enhancement and viability of the downtown to preserve its role as the heart and soul of the community.

3.2 Development and Design Review

The City of Selma's Planning Division administers the implementation of the Zoning Ordinance, and gives rise to 11 principal activities: Annexations, General Plan Amendments, Zone Changes, Conditional Use Permits, Zone Variances, Subdivisions, Site Plan Reviews, Home Occupations, Landscape and Sign reviews. In the City of Selma, any project requiring a site plan permit, tentative map, variance, or conditional use permit for a project that involves significant design issues and/or new construction must be reviewed by the Site Plan Review Committee prior to approval or denial of the above referenced permit. A site plan must be submitted according to the following procedure:

Step 1. Applicant may submit an application for review by staff. Submittal forms for the application review may be obtained at the Selma City Hall Annex.

Step 2. Applicant completes Site Plan in acceptable manner.

Step 3. Applicant submits Twenty-five (25) copies of the maps, application, all fees, deposits and plans, to the Planning Department. A case number is assigned to the application.

Step 4. City staff and other interested agencies make initial review and request additional data if required from the applicant through the Planning Department.

Step 5. The application is reviewed for California Environmental Quality Act compliance. A project may be required to have a notice of exemption, negative declaration or an Environmental Impact Report prepared for it.

Step 6. The project is approved, conditionally approved or denied by the Planning Director and the applicant/property owner is notified of the decision.

Step 7. The applicant reviews the conditions and may, within ten days, file an appeal of the Director's decision to the Planning Commission.

Step 8. The applicant submits three (3) copies of plans to be stamped by the Planning Department.

Step 9. The applicant procures all required grading permits, building permits, business licenses and similar permits as required.

Note: The applicant shall pay for all title company charges, including preliminary title reports, expenses of clearing title, and policies of title insurance as may be required by City for all property to be dedicated to the City of Selma as part of this development/subdivision.

Source: City of Selma website, July 2007

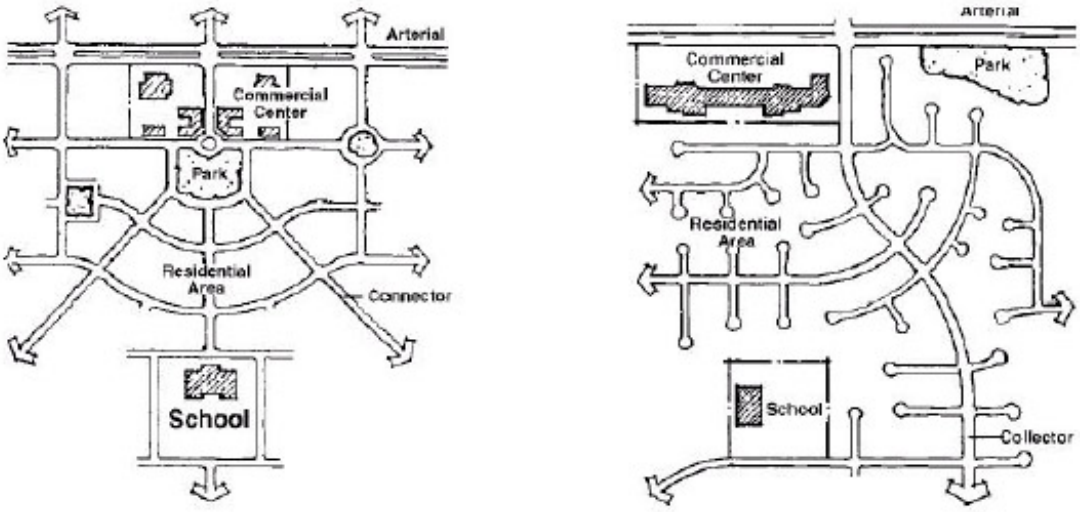
If a project is a subdivision or involves a Parcel Map, General Plan Amendment, Zoning Code Amendment, or Conditional Use Permit, an application must be submitted which is then subject to environmental review and project analysis by City staff. Then a Public Hearing is held at which Staff's recommendations are presented to the Planning Commission. The type of entitlement (site plan tract map, etc.) will determine the level of review required by the public hearing process. Most Planning Commission actions are referred to the City Council for action at a duly noticed public hearing. The City's website states that construction plans for residential construction "are to be submitted and reviewed by the Building Official before any building permit can be issued to the owner or developer. Plans shall be drawn to scale and shall include the following: Site Plan; Foundation Plan; Floor Plan; Floor Framing Plan; Roof Framing Plan; Construction Sections; Building Elevations; Connection Details; Engineering Details/Calcs." The City requires three complete sets of plans for residential projects and five for commercial projects.

3.3 Urban Form

Selma has several options when it comes to the form of future development. If future development continues to follow current trends, limited access subdivisions of detached single family homes will be the dominant housing type in Selma. Due to concerns over the rising cost

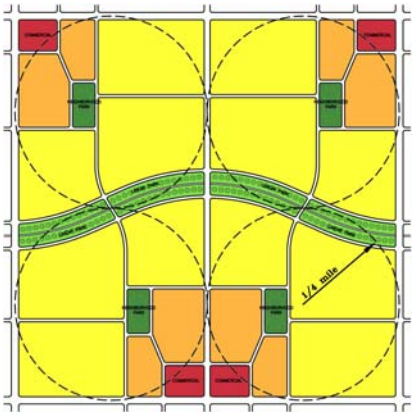
of housing and decreased affordability, and the environmental, social, and health effects of low-density, suburban-style development, many communities have begun to implement alternate development strategies and steer away from low density, sprawling urban fringe development. These strategies, as discussed below, tend to fall under the headings of smart growth, traditional neighborhood design (TND), livable neighborhood pattern (LNP), and new urbanism, Figure 3-1 illustrates high and low street connectivity. Low connectivity subdivisions are characterized by longer blocks and cul-de-sacs.

Figure 3-1 Street Connectivity



Source: Calthorpe Associates.

Figure 3-2



TND

TRADITIONAL NEIGHBORHOOD DESIGN

Traditional neighborhood design (Figure 3-2) closely resembles some of Selma's older areas – a regular grid of relatively narrow streets with sidewalks, street trees, and a mix of different types of homes and businesses with "eyes on the street". These features are designed to promote a pedestrian friendly environment with a mix of residential and commercial uses. Benefits can include walkable neighborhoods, efficient bus transit, and less traffic congestion.

TRANSIT ORIENTED DEVELOPMENT

Transit Oriented Development is similar to the railway suburb of the 19th Century (Figure 3-3). It centers on a rail transit station that, if possible, coincides with a major thoroughfare. This type of development comes with its share of advantages and disadvantages. The advantages include:

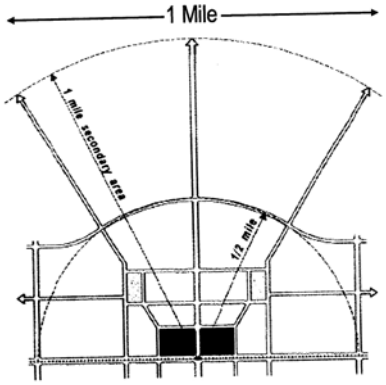
- Rail is an efficient form of travel when in close proximity to residences

- Institutional uses and commercial uses are concentrated around a transportation node
- A high population density of at least fourteen dwelling units per gross acre helps support transit

Disadvantages include:

- High density required to support transit
- Low net area within a 5-minute walk

Figure 3-3



TOD

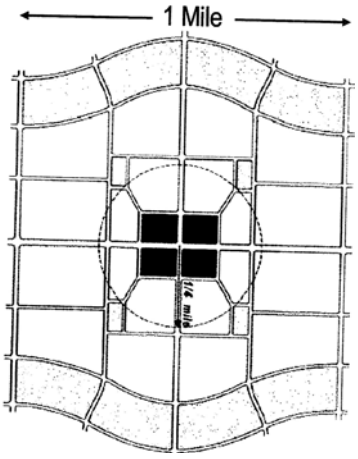
LIVABLE NEIGHBORHOOD PATTERN

The Livable Neighborhood Pattern combines some aspects of TND & TOD (Figure 3-4). The LNP has its pedestrian shed on a major thoroughfare like the TOD, but the neighborhood itself is centered on a regional thoroughfare. This type of development has high ratios of walkable neighborhoods which links with smart growth strategies and New Urbanism.

NEW URBANISM

New Urbanism is a broader movement that seeks to create well-balanced, mixed-use, walkable neighborhoods within metropolitan areas that support transit and provide open space. New approaches to zoning have recently been devised to implement these New Urbanist goals. One of these new forms of zoning is the Transect-Based Code.

Figure 3-4



LNP

THE TRANSECT

The Transect represents a continuum of uses from completely rural to intensely urban, divided at various points into different "ecozones" (reference Figure 3-5). Development standards within the ecozones are based on the density and character of the built environment and set design standards for such elements as building setback, height, and façade treatment; parking location; street design; and creation of a public realm. The main characteristics of typical transect zones are listed in Table 3-1.

Other New Urbanist supportive zoning practices include Transit-Oriented Development overlay zones, and Form-Based Zoning, which seeks to regulate building form rather than land use.

FORM BASED ZONING

Form Based Zoning involves a method of regulating development to achieve a specific urban form. Form-based codes create a predictable public realm by controlling physical form primarily, with a lesser focus on land use, through city or county regulations.

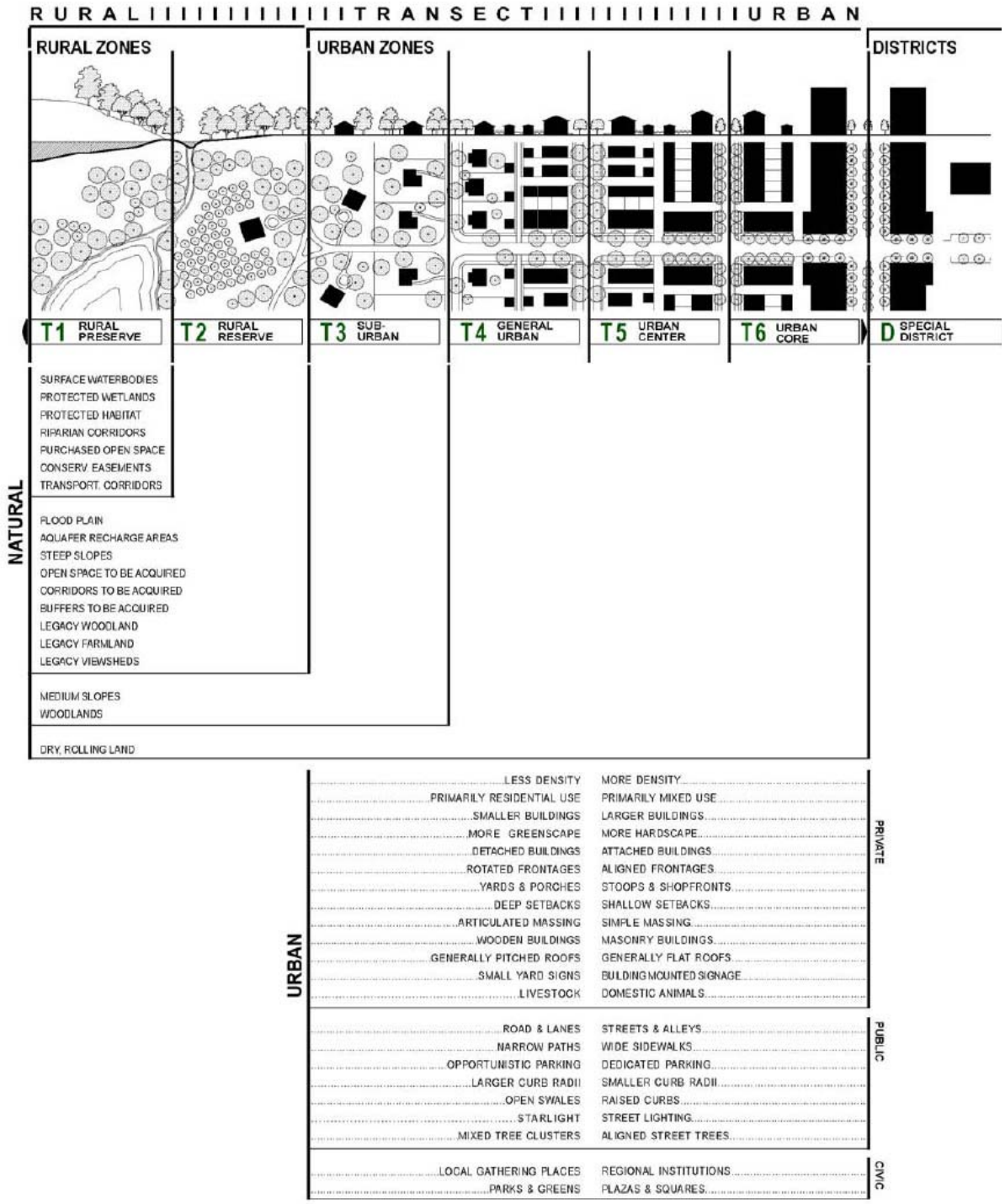
Table 3-1
Main Characteristics of Transect Zones

Transect Zone	Main Characteristics
T1: Rural Preserve	Open space legally protected from development in perpetuity. Includes surface water bodies, protected wetlands, public open space, and conservation easements.
T2: Rural Reserve	Open space not yet protected from development but should be. Includes open space identified by public acquisition and areas identified as transfer of development rights (TDR) sending areas. May include floodplains, steep slopes, and aquifer recharge areas.
T3: Sub-Urban	The most naturalistic, least dense, most residential habitat of a community. Buildings consist of single-family, detached houses. Office and retail buildings are permitted on a restricted basis. Buildings are a maximum of two stories. Open space is rural in character. Highways and rural roads are prohibited.
T4: General Urban	The generalized, but primarily residential, habitat of a community. Buildings consist of single-family, detached houses and rowhouses on small and medium-sized lots. Limited office buildings and lodging are permitted. Retail is confined to designated lots, typically at corners. Buildings are a maximum of three stories. Open space consists of greens and squares.
T5: Urban Center	The denser, fully mixed-use habitat of a community. Buildings consist of rowhouses, flex houses, apartment houses, and offices, about shops. Office and retail buildings and lodging are permitted. Buildings are a maximum of five stories. Open space consists of squares and plazas.
T 6: Urban Core	The densest residential, business, cultural and entertainment concentration of a region. Buildings consist of rowhouses, apartment houses, office buildings, and department stores. Buildings are disposed on a wide range of lot sizes. Surface parking lots are not permitted on frontages. Open space consists of squares and plazas.

Source: Sizemore, Stephen, "Innovations in Local Zoning Regulations; "*Planning and Urban Design Standards*, American Planning Association, John Wiley & Sons, 2006

Form Based Zoning addresses the relationship between building façades and the public realm and encourages architectural forms that will work for many uses. Form Based Zoning simply creates a market-driven zoning map. The regulations and standards in form based zoning codes, presented in both diagrams and words, are keyed to a *regulating plan* that designates the appropriate form and scale (and therefore, character) of development rather than only distinctions in land-use types. This type of zoning will create neighborhoods of character when its architectural standards and landscaping requirements are outlined as regulatory items, not just advisory standards.

Other zoning innovations include flexible zoning practices such as Overlay Zones, Floating Zones, Planned Unit Developments, and Performance Zoning. Performance Zoning, for example, defines zoning districts by the intensity of development allowed in the zone rather than what uses are allowed in the zone. Intensity of use can be defined by measures such as floor area ratio, impervious surface coverage, building height, etc.



Source: Duany, Andres, "Introduction to the Special Issue Dedicated to the Transect", Journal of Urban Design, August 2002.

Quad Knopf	THE TRANSECT	Figure 3 - 5

CHAPTER FOUR

POPULATION AND HOUSING

CHAPTER FOUR – POPULATION AND HOUSING

4.1 Population Characteristics

Since incorporation in 1896, the City has grown to a population of 23,194 as reported in 2007 by the Department of Finance. In 1980, the population of Selma was 10,972 and by 1990 the population had increased to 14,757 (reference Table 4-1). This represented an increase of 34.9 percent, while the neighboring cities of Reedley, Kingsburg, Sanger, and Fowler grew by 42.6, 40.9, 34.3, and 28.5 percent, respectively. Thus, the entire region experienced healthy population growth during the 1980's. Selma increased to a population of 19,444 by 2000, an increase of 31.8 percent. Selma's neighboring cities experienced increases ranging from 12.4 to 31.4 percent, reflecting the general trend of slightly less robust population growth in the 1990's compared the 1980's.

Table 4-1
Population Growth, 1980-2000
Selma, Reedley, Kingsburg, Sanger, Fowler, Fresno County, and California

	1980 Population	1990 Population	Percent Change 1980-1990	2000 Population	Percent Change 1990-2000
Selma	10,942	14,757	34.9	19,444	31.8
Reedley	11,071	15,791	42.6	20,756	31.4
Kingsburg	5,115	7,205	40.9	9,199	27.7
Sanger	12,542	16,839	34.3	18,931	12.4
Fowler	2,496	3,208	28.5	3,979	24.0
Fresno County	514,621	667,490	29.5	799,407	19.3
California	23,668,862	29,828,496	25.7	34,098,740	13.8

Source: U.S. Census

Table 4-2 shows Population Estimates and Projections for Selma and Fresno County for the years 2010 through 2040. The California Department of Finance estimates there will be 983,478 persons in Fresno County in 2010. Assuming a 4% growth rate for the City, Selma is projected to have a population of 26,090 by 2010 and a potential population of 84,621 by 2040, at which time Fresno County should have a population of 1,670,542. A 4% growth rate is assumed for Selma based on the City's historical population growth. However, there is no guarantee the city of Selma's population rate will be 4.0% on average throughout the next 25+ years. Table 4-3 shows what Selma's annual population growth could be between 2.5% and 5.0% per year to 2035.

Table 4-2
Population Estimates and Projections, 2010-2040
Selma and Fresno County

	2010	2020	2030	2040
Selma[1]	26,090	38,620	57,167	84,621
Fresno County[2]	983,478	1,201,792	1,429,228	1,670,542

Source: California Department of Finance
[1] Based on DOF January 1, 2007 population estimate, projections assume 4% growth rate
[2] CA DOF, *Population Projections by Race/Ethnicity for California and Its Counties 2000-2050*

Table 4-3
Growth Rate Comparison
City of Selma

Year	2.5%	3.0%	3.5%	4.0%	4.5%	5.0%
2007	23,194	23,194	23,194	23,194	23,194	23,194
2008	23,774	23,890	24,006	24,122	24,238	24,354
2009	24,368	24,607	24,846	25,087	25,328	25,571
2010	24,977	25,345	25,716	26,090	26,468	26,850
2011	25,602	26,105	26,616	27,134	27,659	28,192
2012	26,242	26,888	27,547	28,219	28,904	29,602
2013	26,898	27,695	28,511	29,348	30,205	31,082
2014	27,570	28,526	29,509	30,522	31,564	32,636
2015	28,260	29,381	30,542	31,743	32,984	34,268
2016	28,966	30,263	31,611	33,012	34,468	35,982
2017	29,690	31,171	32,717	34,333	36,020	37,781
2018	30,433	32,106	33,863	35,706	37,640	39,670
2019	31,193	33,069	35,048	37,134	39,334	41,653
2020	31,973	34,061	36,274	38,620	41,104	43,736
2021	32,773	35,083	37,544	40,165	42,954	45,923
2022	33,592	36,135	38,858	41,771	44,887	48,219
2023	34,432	37,220	40,218	43,442	46,907	50,630
2024	35,292	38,336	41,626	45,180	49,018	53,161
2025	36,175	39,486	43,083	46,987	51,223	55,819
2026	37,079	40,671	44,590	48,866	53,529	58,610
2027	38,006	41,891	46,151	50,821	55,937	61,541
2028	38,956	43,148	47,766	52,854	58,454	64,618
2029	39,930	44,442	49,438	54,968	61,085	67,848
2030	40,928	45,775	51,169	57,167	63,834	71,241
2031	41,952	47,149	52,960	59,453	66,706	74,803
2032	43,000	48,563	54,813	61,831	69,708	78,543
2033	44,075	50,020	56,732	64,305	72,845	82,470
2034	45,177	51,521	58,717	66,877	76,123	86,594
2035	46,307	53,066	60,772	69,552	79,548	90,923

Source: California Department of Finance, Quad Knopf analysis

HOUSEHOLD SIZE

Trends in household size are important indicators in the growth pattern of a community. Average household size will increase if there is an influx of larger families or a rise in the local birth rate such as may be attributed to more children in a single family or teenage parents living at home. Household size will decline where the population is aging, or when there is an immigration of single residents outside childbearing age.

Table 4-4 shows Selma and Fresno County's Total Households, Population in Households, and Average Household Size for 1990 and 2000. In 1990, Selma's Average Household Size was 3.21, while the County's Average Household Size was 2.97. Average Household Size in 2000 was 3.45 persons per household and 3.07 persons per household for the County. The rate of increase in the average household size from 1990 to 2000 was 6.7% percent for Selma and 3.3 percent for the County, indicating that larger or extended family/households are increasing at a faster rate in Selma than the County.

Table 4-4
Average Household Size, 1990-2000
Selma and Fresno County

	1990			2000			
Area	Number of Households[1]	Population	Average Household Size	Number of Households[1]	Population	Average Household Size	Rate of Increase in Average Household Size
Selma	4,696	14,609	3.21	5,596	19,314	3.45	6.7%
Fresno County	235,563	654,970	2.96	252,940	781,740	3.09	4.2%

Source: 1990 and 2000 U.S. Census
[1] Occupied housing units

Table 4-5 shows the household age distribution in Selma in 1990 and 2000. The largest age group in Selma in 2000 was the 25 to 34 age group, making up 15.2 percent of the population. The percentage of the population in 2000 under the age of 15 was 19.3 percent, suggesting that the City has a high percentage of children and teenagers. Conversely, the age groups with the lowest percentage of the population are the 55 and over groups. These factors suggest there is a high birth rate and a high percentage of families with children.

Table 4-5
Household Age Distribution, 1990 and 2000
City of Selma

	1990		2000	
	Number	**Percent**	**Number**	**Percent**
Under 5	1,430	9.7%	1,805	9.3%
5 to 9	1,427	9.7%	1,884	9.7%
10 to 14	1,316	8.9%	1,756	9.0%
15 to 19	1,202	8.1%	1,693	8.7%
20 to 24	1,180	8.0%	1,581	8.1%
25 to 34	2,325	15.7%	2,953	15.2%
35 to 44	1,881	12.8%	2,615	13.5%
45 to 54	1,252	8.5%	1,894	9.7%
55 to 59	486	3.3%	699	3.6%
60 to 64	523	3.5%	558	2.9%
65 to 74	940	6.4%	1,014	5.2%
75 to 84	572	3.9%	722	3.7%
85 and Over	223	1.5%	270	1.4%
Total	**14,757**	**100.0%**	**19,444**	**100.0%**

Source: 1990 and 2000 U.S. Census

RACE/ETHNICITY CHARACTERISTICS

Table 4-6 shows the ethnic composition of Selma's population for the years 1990 and 2000. In 2000, the white population totaled 8,536 (43.9%), while the "Some Other Race" population totaled 8,962 (46.1%). The "Two or More Races" population totaled 871 (4.5 percent), and all other races totaled 5.6 percent combined. Selma's ethnic composition is reflective of the statewide trend in recent decades, in that the number of individuals claiming Hispanic or Latino ethnicity is steadily increasing. In Selma, 71.8 percent of the population reported Hispanic or Latino ethnicity in 2000 as opposed to 61.3% in 1990.

Table 4-6
Household Race and Ethnicity, 1990-2000
City of Selma

	1990		2000	
	Number	**Percent**	**Number**	**Percent**
White	9,514	64.5	8,536	43.9
Black or African American	205	1.3	146	0.8
American Indian and Alaskan Native	180	1.2	304	1.6
Asian, Native Hawaiian, Pacific Islander	493	3.3	625	3.2
Some Other Race	4,365	29.7	8,962	46.1
Two or More Races	N/A		871	4.5
Total	**14,757**	**100%**	**19,444**	**100%**
Hispanic or Latino (of any race)	9,043	61.3%	13,952	71.8%

Source: 1990 and 2000 U.S. Census

HOUSEHOLD TYPE

The U.S. Census Bureau defines a household as all persons who occupy a housing unit. This may include single persons living alone, families related by blood or marriage, and unrelated individuals living together. Persons living in retirement or convalescent homes, dormitories, or other group living situations are enumerated separately and are not counted as households.

Table 4-7 shows household characteristics for the City of Selma for the years 1990 and 2000. Family Households increased in the City of Selma from 79.3 percent of total households in 1990 to 82.9 percent in 2000. Non-family households decreased from 1990 to 2000 by 3.6 percentage points (from 20.7 percent to 17.1 percent), and Married-Couple Families decreased 0.6 percentage points (from 60.4 percent to 59.8 percent) during the same time period.

Table 4-7
Household Type Characteristics, 1990-2000
City of Selma

	1990		2000	
	Number	**Percent**	**Number**	**Percent**
Total Households	3,733	100.0	4,493	100.0
Family households (families)	2,961	79.3	3,724	82.9
Married-couple families	2,256	60.4	2,688	59.8
Non-family households	772	20.7	769	17.1
Householder living alone	669	17.9	647	14.4
Householder 65 years and over	441	11.8	378	8.4
Average Household Size	3.21		3.45	
Total Persons in Households	**12,373**		**16,714**	

Source: 1990 and 2000 U.S. Census

As shown in Table 4-7, average household size in Selma was 3.21 persons per household in 1990 and increased to 3.45 persons per household in 2000.

4.2 Housing Characteristics

TOTAL HOUSEHOLD UNITS

Table 4-8 identifies total housing units for Selma and Fresno County in 1990 and 2000. The growth rate of housing units in Selma was considerably higher than that of the County in the last decade. Between the years 1990 and 2000, a total of 1,039 housing units (U.S. Census data) were added within the City (an increase of 18.4 percent) while Fresno County's percentage of housing units increased 13.8 percent to total 273,159 in 2000.

Table 4-8
Total Housing Units, 1990-2000
Selma and Fresno County

	1990	2000	1990-2000 Increase (%)
Selma	4,696	5,815	23.8
Fresno County	235,563	270,767	15.0

Source: 1990 and 2000 U.S. Census

OCCUPIED HOUSING UNITS

Table 4-9 shows Total Occupied Housing Units and Owner-Occupied and Renter-Occupied Housing Units for 1990 and 2000. The 2000 U.S. Census reported that the total number of occupied housing units in the City was 5,596 including 3,476 (62.1 percent) Owner-Occupied Housing Units and 2,120 (37.9 percent) Renter-Occupied Housing Units.

Table 4-9
Occupied Housing Units, 1990-2000
Selma and Fresno County

	Total Occupied Housing Units	Owner Occupied Housing Units	Owner Occupied Housing Units (%)	Renter Occupied Housing Units	Renter Occupied Housing Units (%)
1990					
Selma	4,556	2,545	55.9	2,011	44.1
Fresno County	220,993	119,876	54.2	101,057	45.8
2000					
Selma	5,596	3,476	62.1	2,120	37.9
Fresno County	252,940	142,795	56.5	110,145	43.5

Source: 1990 and 2000 U.S. Census

In Selma, the number of Owner-Occupied Housing Units increased from 55.9 to 62.1 in the period of 1990 to 2000, while the number of Renter-Occupied Housing Units decreased from 44.1 to 37.9 from 1990 to 2000. As Table 4-9 shows, the County's percentage of Owner-Occupied housing units is approximately 5 percentage points lower than Selma's in the year 2000.

HOUSING INVENTORY

As shown in Table 4-10, the majority of units built between 1990 and 2000 were single family. However, there were also a significant number of properties with 20 or more units built during the same time period. The percentage of Single Family Housing Units (both attached and detached) increased from 75.5 percent in 1990 to 79.9 percent in 2000, and the percentage of properties with 20 or more units increased from 3.5 percent in 1990 to 4.4 percent in 2000.

Table 4-10
Housing Inventory Trends by Unit Type, 1990-2000
City of Selma

	1990		2000	
	Units	Percent of Total	Units	Percent of Total
Total Housing Units	4,696	100.0	5,766	100.0
1-Unit Detached	3,088	65.8	4,211	73.0
1-Unit Attached	103	2.2	147	2.5
2 Units	150	3.2	110	1.9
3 or 4 Units	249	5.3	134	2.3
5 to 9 Units	239	5.1	96	1.7
10 to 19 Units	127	2.7	119	2.1
20 or More Units	362	7.7	531	9.2
Mobile Home	337	7.2	412	7.1
Other (Boat, RV, Van, etc.)	41	0.9	6	0.1

Source: 1990 and 2000 U.S. Census

VACANCY RATES

The vacancy rate in a community indicates the percentage of units that are vacant and for rent/sale at any one time. It is desirable to have a vacancy rate that offers a balance between a buyer and a seller. The State uses five percent as a rule-of-thumb for a desirable vacancy rate. A total vacancy rate of less than four percent could represent a shortage of housing units. Table 4-11 shows that Selma's total vacancy rate in 2000 was 3.8 percent compared to 3.0 percent in 1990. The vacancy rate as of January 1st, 2007, according to the DOF, was 3.7 percent. These statistics demonstrate a continuing low vacancy rate in the City of Selma, which may represent a shortage of housing units.

Table 4-11
Vacant Housing Units, 1990-2000
City of Selma

	1990		2000	
	Units	Percent of Total	Units	Percent of Total
Total Housing Units	4,696	100.0	5,815	100.0
Occupied Housing Units	4,556	97.0	5,596	96.2
Total Vacant Units	140	3.0	219	3.8
For rent	37		99	
For sale only	40		39	
Rented or sold, not occupied	17		15	
For seasonal, recreational, or occasional use	4		7	
For migratory workers	1		0	
Other vacant	41		59	

Source: 1990 and 2000 U.S. Census

AGE OF HOUSING STOCK

As illustrated in Table 4-12, in 2000, 44.5 percent of Selma's housing stock was built prior to 1970. By 2010, over 60 percent of the City's housing stock will be more than 30 years old. This indicates the need for the City to consider implementing rehabilitation programs as maintenance costs for these units increases. The decade with the most new construction was the 1990's, with 934 (20.2 percent of the total) units added to the City's housing stock.

Table 4-12
Age of Housing Stock
City of Selma

Year Structure Built	Number of Units	Percent of Total
1990 to March 2000	934	20.2
1980 to 1989	729	15.8
1970 to 1979	899	19.5
1960 to 1969	742	16.1
1940 to 1959	997	21.6
1939 or Earlier	316	6.8
Total	4,617	100.0

Source: 2000 U.S. Census

CHAPTER FIVE

ECONOMIC CONDITIONS AND FISCAL CONSIDERATION

CHAPTER FIVE - ECONOMIC CONDITIONS AND FISCAL CONSIDERATIONS

This section analyzes the characteristics of the existing social and economic conditions and trends that affect the demand for residential, commercial, and industrial land use in Selma. An overview assessment of Selma'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 28-year period from 2007 to 2035, showing incremental development at five-year intervals and projecting the quantitative and qualitative implications of each land use. This discussion is intended to be used as a guide in the development of planning options and general plan policies.

5.1 Demographic and Real Estate Trends and Outlook

POPULATION AND HOUSEHOLD GROWTH

According to the U.S. Census, Selma had a population of 19,444 residents in the year 2000 and 5,596 total households. This represents a 32 percent growth rate from 1990, when the census reported a population of 14,757 residents and 4,556 households in Selma. The annual population growth rate between 1990 and 2000 was approximately 3.1 percent. Selma's population as of January 1, 2007, according to the DOF was 23,194, giving it an annual population growth rate from 2000 to 2007 of 2.8 percent per year. The number of households in the city increased by 3.0 percent per year from 5,596 in 2000 to 6,787 in 2007.

Fresno County as a whole has experienced faster growth during the current decade than it did during the 1990's. The County grew at an annual rate of 2.1 percent between 1990 and 2000. The County's growth rate from 2007 to 2010 is projected to be 3.5 percent or an annual growth rate of 1.1 percent. The growth rate for Fresno County from 2010 to 2020 is 17.3 percent or 1.7 percent per year. The projections for surrounding counties are shown in Table 5-1. All the counties shown in Table 5-1 are projected to grow faster than California as a whole in each decade from 2010 through 2050.

Selma's population of 23,194 in 2007 is projected to increase to 40,510 by the year 2025, and 69,552 by the year 2035, as shown 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 average household size in Selma is higher than the County average. The 2007 DOF reported that Selma's average household size was 3.53 persons per household, up from 3.45 persons per household in 2000. The County's average household size increased from 2.96 persons per household in 1990 to 3.09 persons per household in 2000.

Table 5-1
Population Projections by County, 2007 to 2050

County	2007	2010	% Increase 2007 to 2010	2020	% Increase 2010 to 2020	2030	% Increase 2020 to 2030	2040	% Increase 2030 to 2040	2050	% Increase 2040 to 2050
Fresno	917,515,	949,961	3.5%	1,114,654	17.3%	1,297,476	16.4%	1,476,699	13.8%	1,658,281	12.3%
Tulare	429,006	447,315	4.3%	543,749	21.6%	650,466	19.6%	754,790	16.0%	867,482	14.9%
Madera	148,721	150,278	1.0%	183,966	22.4%	219,832	19.5%	259,353	18.0%	302,859	16.8%
Kings	151,381	156,334	3.3%	184,751	18.2%	223,767	21.1%	252,762	13.0%	282,364	11.7%
California	37,662,518	39,246,767	4.2%	43,851,741	11.7%	48,110,671	9.7%	51,538,596	7.1%	54,777,700	6.3%

Source: California Department of Finance

RESIDENTIAL REAL ESTATE GROWTH

According to the DOF, approximately 75 percent of the housing units in Selma are single family detached units. Duplexes comprised approximately 2 percent of the housing stock while the 5+ dwelling unit structures represented approximately 12 percent of the housing stock. Single family structures and 5+ dwelling unit structures have increased their share of Selma's housing stock since 1990 while other categories have declined (reference Table 4-9).

The DOF estimates that as of January 1, 2007 there are 6,787 housing units in Selma, 969 units more than in 2000, representing a 16.6 percent growth rate over that period, or 2.4 percent per year. The DOF estimates that on January 1, 2007 there were 5,075 single family detached units, 148 single family attached units, 1,139 multiple family units, and 426 mobile homes.

Based on the household projections listed in Table 2-2, plus a five percent vacancy rate, the City's 2040 population will require approximately 21,000 units (based on a 4% per year annual growth rate), an increase of 14,000 units over the 2007 total of 6,787.

The distribution of units by land use type has been projected based on the current percentage of residential unit types at the current General Plan densities (Table 5-2). This assumption will be strongly affected by General Plan policies, the Zoning Ordinance, and real estate market demand over the next few years. The Housing Element also requires that a certain percentage of units be available to very-low and low income households. The current percentage of High Density and Medium High Density designated land is 6.6 percent, which may need to increase in order to meet State Housing Law Requirements.

Table 5-2
Residential Unit Type Demand Projections, 2010-2040
Selma City Limits

				# of Units Needed by [2]			
	DU/GA[1]	Total Acreage 1997	1997 GP % Share	2010	2020	2030	2040
Very Low Density (VLD)	2.0	33	2.5%	181	243	327	440
Low-Density (LD)	4.0	90	6.7%	494	664	892	1,198
Medium Low-Density (MLD)	5.5	990	73.9%	5,431	7,299	9,810	13,184
Medium-Density (MD)	4.5	137	10.2%	752	1,010	1,358	1,825
Medium High-Density (MHD)	14.0	78	5.8%	428	575	773	1,039
High-Density (HD)	19.0	11	0.8%	60	81	109	146

Source: Quad Knopf, Inc., based on 1997 General Plan Land Use designations
[1]DU/GA = Dwelling Units Per Gross Acre
[2] Indicates the total number of existing and new units combined.

The 1997 Selma General Plan contains the residential land use categories, and dwelling units per gross acre as shown in Table 5-2. The acreage of land in each land use category was obtained by analyzing the General Plan land use map. These acreage totals were used to estimate the number of units by land use category in 1997. The distribution of units among land use categories was then applied to the projected number of future dwelling units by type to estimate the number of

future dwelling units required by land use category to meet future population projections. 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

In the year 2006, Fresno County had a total civilian employment of 381,400 persons which was an increase of 60,400 persons since 1996. This represents an 18.8 percent increase for the period or an annual growth rate of approximately 1.8 percent. The State had a 19.1 percent increase from 1996 to 2006, and an annual growth rate of 1.9 percent (reference Table 5-3). Neighboring Tulare County's percentage increase in total civilian employment from 1996 to 2006 was 29.7 percent, 10.9 percentage points higher than Fresno County.

The largest employment industry in 2006 in Fresno County was the Private Service Providing industry, which represents 53 percent of the County's entire employment base. This industry increased 4 percent from 1996 to 2006. The Service Providing industry also includes: Wholesale Trade (3.8 percent of total), Retail Trade (10.1 percent of total), and Transportation, Warehousing and Utilities (2.8 percent of total). The Total Farm industry employment decreased from 62,000 persons in 1996 to 46,800 persons in 2006, a decrease of 24.5 percent.

5.2 Employment and Commuting Patterns

An analysis of the countywide economic picture could bring perspective and new opportunities to Selma. In order to determine what type of industries could benefit Selma, this section gives a more precise picture of the employment and commuting patterns of its residents.

According to the 2000 Census, 24.8 percent of Selma's work force had less than a ninth grade education, compared to 18.3 percent with less than a ninth grade education for the County. Table 5-4 shows that 22.7 percent of Selma's 25-year and older population had at least a high school diploma, 6.8 percent had an Associate's degree, 6.2 percent had a Bachelor's degree, and 1.8 percent had a graduate or professional degree. Selma's percentage of the population with Bachelor's or graduate or professional college degrees is lower than the County's, however Selma has a higher percentage of high school graduates than the County overall.

The types of occupations held by the majority of Selma residents are shown in Table 5-5, which reveals that 25.6 percent of Selma's labor force in 2000 worked in sales and office occupations, which was similar to the County. The percentage of Selma's second largest occupation group, production, transportation, and material moving occupations was 20.5 percent compared with only 13.3 percent for the County.

Table 5-3
Employment by Industry 1996 & 2006
Fresno County and California

FRESNO COUNTY	1996	2006	% Change 1996 to 2006	Annual Growth Rate	Employment Distribution 2006 (%)
Total Farm	62,000	46,800	-24.5%	-2.5%	13.4%
Natural Resources, Mining and Construction	12,300	23,300	89.4%	8.9%	6.7%
Manufacturing	25,100	27,400	9.2%	0.9%	7.9%
Trade, Transportation and Utilities	51,000	58,200	14.1%	1.4%	16.7%
Wholesale Trade	11,100	13,300	19.8%	2.0%	3.8%
Retail Trade	30,700	35,100	14.3%	1.4%	10.1%
Finance and Insurance	8,800	10,700	21.6%	2.2%	3.1%
Professional and Business Services	21,400	29,700	38.8%	3.9%	8.5%
Educational and Health Services	29,900	37,100	24.1%	2.4%	10.6%
Government	58,200	67,600	16.2%	1.6%	19.4%
Total All Industries	308,800	348,600	12.9%	1.3%	

CALIFORNIA	1996	2006	% Change 1996 to 2006	Annual Growth Rate	Employment Distribution 2006 (%)
Total Farm	408,300	377,200	-7.6%	-0.8%	2.4%
Natural Resources, Mining and Construction	543,100	964,500	77.6%	7.8%	6.2%
Manufacturing	1,782,500	1,504,500	-15.6%	-1.6%	9.7%
Trade, Transportation and Utilities	2,456,200	2,873,800	17.0%	1.7%	18.6%
Wholesale Trade	575,400	700,800	21.8%	2.2%	4.5%
Retail Trade	1,411,200	1,677,500	18.9%	1.9%	10.9%
Finance and Insurance	497,100	651,400	31.0%	3.1%	4.2%
Professional and Business Services	1,742,300	2,225,100	27.7%	2.8%	14.4%
Educational and Health Services	1,267,500	1,618,300	27.7%	2.8%	10.5%
Government	2,113,300	2,447,300	15.8%	1.6%	15.8%
Total All Industries	13,151,700	15,450,000	17.5%	1.7%	

Source: Industry Employment and Labor Force, Annual Average, April 2006, California Employment Development Department, Labor Market Information Division

Table 5-4
Educational Attainment, 2000
Selma & Fresno County

Selma	Number	Percent
Population 25 Years and Over	10,739	100%
Less than 9th Grade	2,666	24.8%
9th to 12th Grade, No Diploma	1,856	17.3%
High School Graduate (including equivalency)	2,437	22.7%
Some College, No Degree	2,189	20.4%
Associate Degree	728	6.8%
Bachelor's Degree	666	6.2%
Graduate or Professional Degree	197	1.8%

Fresno County	Number	Percent
Population 25 Years and Over	455,540	100%
Less than 9th Grade	83,487	18.3%
9th to 12th Grade, No Diploma	64,450	14.1%
High School Graduate (including equivalency)	96,097	21.1%
Some College, No Degree	102,066	22.4%
Associate Degree	29,513	6.5%
Bachelor's Degree	54,658	12.0%
Graduate or Professional Degree	25,269	5.5%

Source: 2000 U.S. Census

The top employers in Selma, listed in Table 5-6, offer many of the sales, service, agricultural, and distribution jobs filled by Selma residents. The largest manufacturing employer in Selma is Harris Ranch Beef with approximately 750 employees and the largest non-manufacturing employer is Selma Unified with approximately 700 employees.

Referencing Table 5-7, 75.9 percent of workers 16 years and over in Selma drove alone to work, compared to 74.2 percent for the County. Workers in carpools in Selma were 17.2 percent compared to 16.7 percent for the County. Just 0.2 percent of workers in Selma, and only 1.7 percent of people in Fresno County as a whole reported using public transportation to commute to work. The average travel time to work was 21.0 minutes for Selma and 22.2 minutes for the County.

Table 5-5
Employment by Occupation, 2000
Selma and Fresno County

Selma		
Employed civilian population 16 years and over	7,090	100%
Management, professional, and related occupations	1,384	19.5%
Service occupations	1,056	14.9%
Sales and office occupations	1,818	25.6%
Farming, fishing, and forestry occupations	851	12.0%
Construction, extraction, and maintenance occupations	530	7.5%
Production, transportation, and material moving occupations	1,451	20.5%
Fresno County		
Employed civilian population 16 years and over	301,306	100%
Management, professional, and related occupations	88,796	29.5%
Service occupations	48,655	16.1%
Sales and office occupations	78,299	26.0%
Farming, fishing, and forestry occupations	19,780	6.6%
Construction, extraction, and maintenance occupations	25,698	8.5%
Production, transportation, and material moving occupations	40,068	13.3%

Source: 2000 U.S. Census

Table 5-6
Major Employers in Selma
By Manufacturing & Non-Manufacturing Employment

Manufacturing		
Employer	Approx. No. of Employees	Type of Business
Harris Ranch Beef Company	750	Beef Slaughter
Sun Maid Growers	650	Food Processing
Lion Packing	300	Food Processing
Fresno Valves and Castings	180	Foundry
Guardian Glass	150	Plate Glass Manufacturing
San Joaquin Blocklite, Inc.	40	Construction Block Manufacturing
Non-Manufacturing		
Selma Unified School District	700	Education
U.S. Postal Encoding Center	650	Postal Service
Nelson Enterprises	420	Construction/Hotel/Restaurant/Auto Sales
Selma District Hospital	352	Health Care
Walmart	300	Retail Sales
Quinn Company	200	Large Equipment Sales/Service
Home Depot	150	Home Improvement Center
City of Selma	130	Government
Fresno County	100	Government
Kaiser Permanente	40	Health Care

Source: Tulare County EDC, City of Selma, 2006

Table 5-7
Commute Patterns, 2000
Selma and Fresno County

	Selma		Fresno County	
	Number	**Percent**	**Number**	**Percent**
Workers 16 Years and Over	6,886	100.0%	294,942	100.0%
Car, Truck, or Van-Drove Alone	5,226	75.9%	218,785	74.2%
Car, Truck, or Van-Carpooled	1,183	17.2%	49,265	16.7%
Public Transportation (Including Taxicab)	14	0.2%	5,116	1.7%
Walked	131	1.9%	7,028	2.4%
Other Means	200	2.9%	5,699	1.9%
Worked at Home	132	1.9%	9,049	3.1%
Mean Travel time to Work (Minutes)	21.0	-	22.2	-

Source: 2000 U.S. Census

5.3 Selma City Budget

The following information is excerpted from the City of Selma Annual Budget, 2006-07 and the Quarterly Financial Report (April 30, 2007). The budget is a planning tool that assists in directing Selma's future development patterns. According to the Annual Budget, the City ended the previous year in good financial condition. The City's auditor reported that the City of Selma is on track and has made great strides over the past six years, going from a negative ending balance to a strong positive balance.

The Quarterly Financial Report indicated that revenues and operating expenditures were generally on target based on past trends for the third quarter of 2006-07. The General Fund accounts for the majority of discretionary spending by the City Council. The General Fund 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 overall economic health of the community, which affects the strength of the tax base upon which the General Fund depends for its revenue. The Quarterly Financial Report states that General Fund revenues, at ¾ of the year completed, are at $10,573,287 compared to expenditures at $10,535,757. The four General Fund revenue sources which comprise 83% of total revenue consist of sales and use tax at 47%, property taxes at 20%, licenses and permits at 14% and motor vehicle tax at 2%.

According to the State Controller's Report for fiscal year 2003-04, Selma was ranked third out of 15 cities within Fresno County, having a per capita general revenue income of $309.94 for fiscal year ending June 30, 2004. The average per capita general revenue income for cities in Fresno County at that time was $225.24. Selma is a fiscally-sound community and because of the City's past decisions and leadership, is in a good position for the present and future.

CHAPTER SIX

TRANSPORTATION AND CIRCULATION

CHAPTER SIX – TRANSPORTATION AND CIRCULATION

6.1 Purpose

The purpose of the Circulation Element of the General Plan is to provide guidance, by means of goals, policies, and programs for the achievement of an efficient and effective transportation and infrastructure system within and surrounding the City of Selma. It is also to provide a transportation plan related to the Land Use Element. The intent of the document is to create a plan that will meet the transportation demands of the future population by improving the circulation system in the Planning Area.

6.2 Existing Roadway System

Vehicular circulation in Selma consists of a network of city streets and roads. Streets and roads are classified by functional classification including freeways, arterials, collectors, and local roads. A freeway is defined as a divided highway with full control of access and two or more lanes for the exclusive use of traffic in each direction. Freeways provide for uninterrupted flow of traffic. There are no signalized or stop-controlled at-grade intersections and direct access to and from adjacent property is not permitted. Access to and from a freeway is limited to ramp locations.

Arterials in Selma serve as the principal network for traffic flow. They typically have no less than a 100-foot right-of-way and connect areas of major traffic generation within the urban areas and also with important county roads and state highways. Arterials also provide for the distribution and collection of through traffic to and from collector and local streets serving residential, commercial, and industrial land uses.

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. Collector streets in Selma typically have a right-of-way that ranges between 60 and 84 feet. They are intended to connect arterials with local streets and activity centers.

Local streets provide for direct access to abutting properties and for localized traffic movements within residential, commercial, and industrial areas. In general, local collectors are local streets designed to connect neighborhoods and discourage through traffic.

EXISTING STREET SYSTEM

The following describes the existing circulation system for the community.

State Highway and Freeways

There are two regional roadways in Selma, State Route 99 and State Route 43 (which is an expressway).

State Route 99 bisects the community, and plays an important role in providing for regional travel through the valley. SR99 provides for regional movement and inter-regional access

through the Central Valley from Bakersfield to Sacramento. The highway is also used extensively for travel between southern and northern California.

Overcrossings on SR 99 occur at McCall Avenue and Rose Avenue. SR 99 access in Selma generally occurs at one-mile intervals located at Manning Avenue, Floral Avenue/Highland (SR 43), Second Street and Mountain View Avenue.

The other State Route, SR 43, runs north and south along the western edge of the community. SR 43 (Highland Avenue in Selma) connects Selma with Hanford and continues to Bakersfield to the south and SR 99 to the north in Selma.

Expressways

There are four designated expressways in the Study Area. Golden State Boulevard runs north and south throughout the Planning Area. This facility runs from Mountain View Avenue up to Nebraska Avenue where it becomes Whitson Street. At Highland Avenue, Whitson Street turns back into Golden State Boulevard and extends up through Manning Avenue. The County of Fresno designates Manning Avenue as an Expressway. This expressway runs east and west along the northern border of Selma. East of SR 99, the County of Fresno also designates Mountain View as an expressway. This expressway runs from SR 99 east to the Planning Area boundary. As stated in the previous section, SR 43 (Highland Avenue) is also an expressway.

Arterials

There are 15 designated arterials in the Selma Urban Area. Generally, arterial streets are developed with right-of-way widths of between 84' and 110' depending on medians and turn pocket requirements. Most of the existing arterials in the community have two lanes in each direction and left turn lanes at signalized intersections. Some of these arterials are in rural areas and have not been developed to the City standard.

Mountain View, Nebraska, Rose, Floral, Manning and Dinuba are the east-west arterials. Floral Avenue is the primary east-west arterial through Selma. It also serves as one of the main access points to SR 99. Floral is a 4 lane undivided facility with left turn lanes at signalized intersections. Dinuba Avenue is the most northerly arterial that provides east-west movement for industrial and residential areas of the community. Dinuba Avenue is a 2 lane undivided arterial. Mountain View, east of SR 99, is the most southerly arterial that provides east-west movement for the industrial and residential areas of the community. Mountain View is currently a 4 lane divided facility east of SR 99 and a 2 lane undivided facility west of SR 99.

The north-south arterials in the community are Bethel, Del Rey, McCall, Highland, De Wolf, Temperance, Fowler, Second, and Whitson. Whitson, the only classified Major Arterial, is a 4 lane divided facility. Whitson serves as the primary north-south arterial, serving the central business district, industry and residential uses in Selma.

Table 6-1
Arterial Streets

North-South	East-West
McCall	Manning
Highland	Floral
Second	Dinuba
Whitson	Nebraska
Del Rey	Mountain View
Temperance	
Fowler	
De Wolf	
Bethel	

Collectors

All or portions of the following streets are currently designated as collector streets in the Selma area. Collectors are currently constructed on 60' to 84' right-of-ways with one lane in each direction and parking on both sides.

Table 6-2
Collector Streets

North-South	East-West
Armstrong Avenue	Saginaw Avenue
Locan Avenue	Huntsman Avenue
Lenord Avenue	Springfield Avenue
Thompson Avenue	Nelson Avenue
Dockery Avenue	Rose Avenue (Fowler to SR 99
Amber Avenue	
Indianola Avenue	

Local Streets

The remainder of the streets in the community are classified as local streets. Local Streets are typically designed with two through lanes and parking on both sides.

Gateways and Scenic Corridors

Golden State Boulevard, which runs north and south through Selma and parallel to SR 99 serves as a scenic corridor through the Community. This expressway may also serve as a gateway to the community as future development proceeds along this route.

Other heavily traveled north-south gateways through the community include SR 99 and Highland Avenue (SR 43). Manning Avenue, bordering Selma to the north and running east-west, may also serve as a gateway through the community as development progresses in this direction.

Roads of Regional Significance

As discussed earlier, SR 99 plays an important role in providing for regional travel through the Valley. This highway provides access to Fresno and Bakersfield with major intersections at State Route 41 (SR 41), State Route 198 (SR 198), State Route 43 (SR 43) and Interstate 5. Figure 1-1 shows the regional roadway system.

SR 43 provides direct access between Selma and Hanford. The northern most portion of SR 43 connects with SR 99 while the southerly portion connects to SR 198 in Hanford and Interstate 5 near Bakersfield.

Golden State Boulevard is a major thoroughfare for travel through the central portions of the city, but also connects to Fresno and Kingsburg. Golden State runs parallel to SR 99 and provides access to the Central Business District of Selma.

Manning Avenue is another major thoroughfare that connects Selma via McCall Avenue with the City of Fowler to the west and the cities of Parlier and Reedley to the east. McCall Avenue connects Selma with the City of Del Rey to the north.

Mountain View Avenue is also regionally significant because it connects the southern portion of Selma with the City of Dinuba to the east and the City of Caruthers to the west. Mountain View also provides the City of Selma access to Golden State Boulevard, SR 99 and Highland Avenue (SR 43).

6.3 Existing Traffic Volumes

The following intersections and road segments were identified as critical for the General Plan Update:

Table 6-3
Study Intersections

1. Manning and De Wolf Avenues
2. Manning and McCall Avenues
3. Manning and Del Rey Avenues
4. Dinuba and Temperance Avenues
5. Dinuba and De Wolf Avenues
6. Dinuba Avenue and Golden State Boulevard
7. Dinuba and Highland Avenues
8. Dinuba and McCall Avenues
9. Dinuba and Del Rey Avenues
10. Floral and DeWolf Avenues
11. Floral Avenue and Whitson Street
12. Floral and McCall Avenues
13. Floral and Del Rey Avenues
14. Nebraska and Thompson Avenues
15. Nebraska and Del Rey Avenues
16. Dinuba and Orange Avenues
17. Floral and Orange Avenues
18. Dinuba and Dockery Avenues
19. Nebraska and Dockery Avenues
20. Rose and Dockery Avenues

EXISTING TRAFFIC VOLUME

Existing peak-hour turning movement volumes were determined by performing manual turning movement counts at the study intersections between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. on weekdays in July 2007. Existing peak-hour turning movement volumes are presented in Figures 1 and 2 of the Existing Conditions Analysis Report, Traffic (Appendix B).

The traffic counts were performed by the independent traffic counting firm of Southland Car Counters. It should be noted that at the time the peak-hour turning movement volume counts were performed, Caltrans alternated ramp closures between the Floral Avenue/State Route (SR) 99 and Second Street/SR 99 interchanges as part of a current freeway construction project. Although none of the study intersections is adjacent to the interchanges, the closures may have influenced the traffic count data.

6.4 Level of Service Methodology

ANALYSIS

The intersection levels of service were determined using the computer program Synchro (Build 614) for unsignalized and signalized intersections, which is based on the 2000 Highway Capacity Manual procedures for calculating levels of service. Tables 6-6 and 6-7 present the results of the a.m. and p.m. peak-hour intersection analyses. Where intersections include one-way or two-way stop sign control, the reported level of service is that for the approach with the greatest delay. The analysis output for the study intersections is included in Appendix B.

6.5 Existing Intersection Operations

Table 6-4
Level of Service Characteristics for Unsignalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Little or no delay	0-10
B	Short traffic delays	>10-15
C	Average traffic delays	>15-25
D	Long traffic delays	>25-35
E	Very long traffic delays	>35-50
F	Stop-and-go conditions	>50

Table 6-5
Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Uncongested operations; all queues clear in a single cycle.	≤10
B	Very light congestion; an occasional phase is fully utilized.	>10-20
C	Light congestion; occasional queues on approaches.	>20-35
D	Significant congestion on critical approaches, but intersection is functional. Cars required to wait through more than one cycle during short peaks. No long-standing queues formed.	>35-55
E	Severe congestion with some long-standing queues on critical approaches. Traffic queue may block nearby intersection(s) upstream of critical approach(es).	>55-80
F	Total breakdown, stop-and-go conditions.	>80

Table 6-6
Intersection Level of Service (LOS) Summary – Weekday A.M. Peak Hour

	Intersection	Existing Delay (sec)	LOS
1	Manning and De Wolf	16.7	C
2	Manning and McCall	17.9	B
3	Manning and Del Rey	20.3	C
4	Dinuba and Temperance	7.2	A
5	Dinuba and De Wolf	7.3	A
6	Dinuba and Golden State	13.9	B
7	Dinuba and Highland	11.2	B
8	Dinuba and McCall	16.8	C
9	Dinuba and Del Rey	10.5	B
10	Floral and De Wolf	9.7	A
11	Floral and Whitson	15.0	B
12	Floral and McCall	7.3	A
13	Floral and Del Rey	10.7	B
14	Nebraska and Thompson	9.0	A
15	Nebraska and Del Rey	DNE	-
16	Dinuba and Orange	12.0	B
17	Floral and Orange	9.1	A
18	Dinuba and Dockery	10.8	B
19	Nebraska and Dockery	7.2	A
20	Rose and Dockery	7.9	A

DNE – Does Not Exist

Table 6-7
Intersection Level of Service (LOS) Summary – Weekday P.M. Peak Hour

	Intersection	Existing	
		Delay (sec)	LOS
1	Manning and De Wolf	22.6	C
2	Manning and McCall	23.9	C
3	Manning and Del Rey	22.6	C
4	Dinuba and Temperance	7.1	A
5	Dinuba and De Wolf	7.2	A
6	Dinuba and Golden State	38.5	E
7	Dinuba and Highland	14.4	B
8	Dinuba and McCall	22.6	C
9	Dinuba and Del Rey	10.8	B
10	Floral and De Wolf	10.5	B
11	Floral and Whitson	19.5	B
12	Floral and McCall	9.4	A
13	Floral and Del Rey	12.0	B
14	Nebraska and Thompson	9.6	A
15	Nebraska and Del Rey	DNE	-
16	Dinuba and Orange	13.3	B
17	Floral and Orange	12.5	B
18	Dinuba and Dockery	10.2	B
19	Nebraska and Dockery	7.5	A
20	Rose and Dockery	7.8	A

6.6 Existing Transit Service

Selma's transit needs are available through the Selma Transit Division, which is operated by the City through a joint powers authority (JPA) with the Fresno County Rural Transit Agency (FCRTA). Fixed route transit service currently operates Monday through Friday. Service hours are 7 a.m. to 5:30 p.m. The fare is $.75 Adults, and $.50 Children, Seniors or Disabled.

Selma Transit also provides Dial-A-Ride services for residents of Selma. Dial-A-Ride (door to door) service is available in Selma Monday through Friday between 7:00 a.m. and 5:30 p.m. All rides from home must be scheduled at least four hours in advance. Selma Transit Taxi Service offers trips outside City limits. The Fresno County Economic Opportunities Commission operates one vehicle in Selma on Saturdays, 8:00 a.m. to 5:00 p.m.

Regional transit service is provided by the Fresno County Rural Transit Agency (FCRTA). A local circulator provides connection to Kingsburg, Fowler and the Fresno-Clovis Metropolitan Area. A limited inter-regional service connects Selma and Fresno. These services operate Monday through Friday.

6.7 Existing Bicycle and Pedestrian Facilities

Currently, the City of Selma has designated bicycle routes along Orange Avenue, parts of Golden State Boulevard, McCall Avenue, Dockery Avenue and the Southern Pacific Railroad through the Central Business District. The Fresno County Regional Transportation Plan has bikeway routes designated on Golden State Boulevard and Manning Avenue. Cyclists currently

comprise a small percentage of the traveling public in the Selma area. Most of the bicycle activity in Selma occurs around schools by school children.

Pedestrian facilities in Selma are limited to sidewalks, crosswalks, and pedestrian crossing lights. Pedestrian facilities have been emphasized over the years. Pedestrian facilities are located to varying degrees throughout the community. Curb cuts and access ramps are required on new construction in the City.

6.8 Aviation

Operating airports in the Selma area are limited. Commercial service is provided to the south at the Visalia Airport and to the north at the Fresno Yosemite International Airport.

6.9 Rail

Selma is currently served by the Southern Pacific Railroad. The Southern Pacific Railroad is owned by the Union Pacific Railroad Company. This rail line runs through Selma parallel to Golden State Boulevard to the east. This Rail line has historically been an important part of Selma's economic and transportation development. The Southern Pacific Railroad still provides freight services to the Selma Area, however, absent Federal and State regulatory charges the long term health of the railroad is questionable. As with many small communities in the Central Valley there has been a continuing shift from rail to trucks and this could lead to the future abandonment of the rail line.

CHAPTER SEVEN

PUBLIC FACILITES AND SERVICES

CHAPTER SEVEN – PUBLIC FACILITIES AND SERVICES

7.1 Water Supply System

Water Supply System information was obtained through conversations and correspondence with staff at the California Water Service Company (Cal Water). Cal Water provides water service within the Selma City limits and to a small neighboring area of Fresno County (see Figure 7-1). Water from the system comes from twelve active underground water wells with a total maximum production capacity of about 13 million gallons per day (mgd), which equals approximately 9,028 gallons per minute (gpm). The maximum daily demand is 12 mgd, and the Daily Average Demand is 5.9 mgd.

TREATMENT/PUMPING SYSTEM

The City does not have a treatment/pumping plant. Ground water is chlorinated at the wells as it is discharged into the system. At Well 14 the water is also run through a Granulated Activated Carbon (GAC) filtration system due to elevated levels of the contaminant DBCP, an agricultural pesticide that is a suspected carcinogen and can, at high enough levels, cause sterility in human males. Water pressure in the system is maintained by the well pumps, the City's above-ground storage tank, and a series of booster pumps that activate as needed.

DISTRIBUTION SYSTEM

Selma's water distribution system consists of a single 1 million gallon above-ground storage tank, 534 fire hydrants, 1,765 main line valves and 80 miles of water main. There are approximately 6,000 service connections, 507 of which are commercial and 19 of which are industrial. Water is distributed from the City's storage tank through asbestos cement, PVC, ductile iron, and steel mains. Pipe sizes are 4", 6", 8", 12", and 16". The system operates with a pressure ranging from 50 to 60 pounds per square inch (psi).

DEMAND

Cal Water reports that the system is adequate to satisfy current demand and provide required Uniform Fire Code fire flows, but it is expected that new wells and other facilities will be needed to keep ahead of demand. The current maximum capacity of the City's water system is about 13 mgd and the maximum daily demand is 12 mgd (average daily demand is 5.9 mgd). Therefore, the City's water system has an excess capacity of about 1 mgd at peak demand, and is operating at about 92 percent capacity. Major residential water users in the City include McCall Village mobile home park, Shadowbrooke apartments, and the mobile home park at 2561 Stillman.

7.2 Sanitary Sewer System

Sanitary Sewer System information was obtained from Carollo Engineers' September 2006 *Selma-Kingsburg-Fowler Sanitation District 2006 Sewer System Master Plan*, the June 2006 *Wastewater Treatment and Disposal Capacity Evaluation* by Whitley Burchett & Associates,

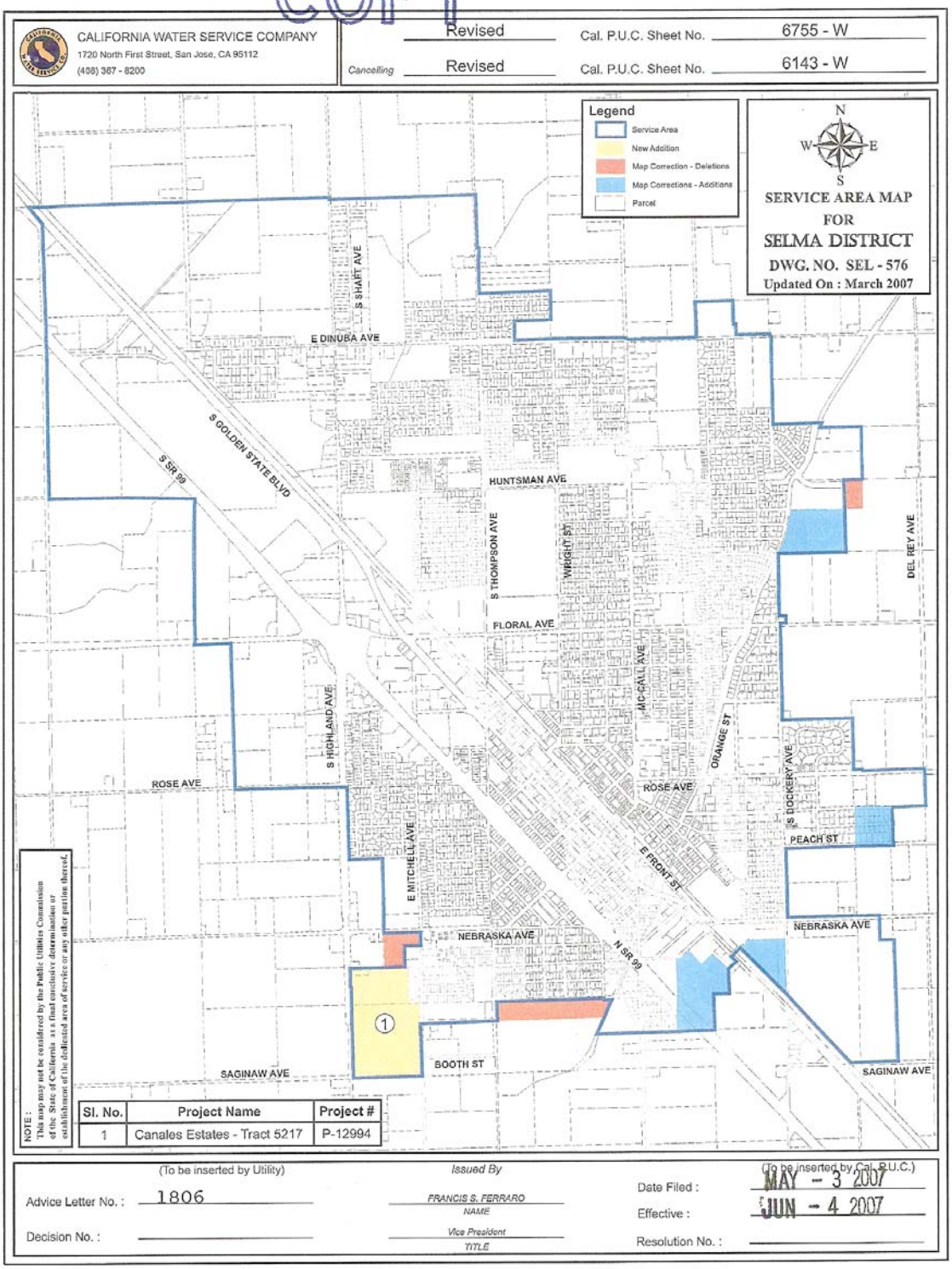
and conversations and correspondence with staff at the Selma-Kingsburg-Fowler (SKF) Sanitation District.

COLLECTION SYSTEM

The Selma-Kingsburg-Fowler County Sanitation District (SKF CSD) provides sanitary sewer service to an area covering Selma, Kingsburg, Fowler, and some surrounding areas as shown in Figure 7-2. SKF owns the wastewater treatment plant (WWTP) and some of the property surrounding the plant, as well as the system's "interceptor" sewer lines and four pump stations. Each city owns its own local sewer collection system (which drain to the interceptors), including sewers, pump stations, and other appurtenances. The District operates and maintains each city's facilities, and refurbishes and replaces them to the extent that funds are available. Each entity is responsible for expanding the facilities it owns. Figure 7-3 shows the system's tributary areas and proposed lift stations, trunk lines, and interceptor lines from the 2006 Sewer System Master Plan.

The backbone of the system is the Golden State Interceptor. It begins north of Fowler and runs through Selma parallel to Highway 99 in the Golden State Boulevard right-of-way. It is approximately 14 miles long and, in its lower reach along Amber Avenue, conveys about 63 percent of the average day flow as measured during a recent flow monitoring program. This line plus two parallel 18- and 24-inch lines running south down McCall Avenue carry wastewater flows out of Selma to the WWTP, which is located approximately half a mile west of Kingsburg. Within Selma, the Golden State Interceptor starts as a 30-inch diameter pipe, increases to a 33-inch diameter pipe at Dinuba Avenue, to a 39-inch diameter pipe at the North Street lift station, and to a 42-inch diameter pipe at Nebraska Avenue and continues at this diameter to the WWTP. There are several other lines within Selma larger than 10 inches, but most of the rest of Selma's collection system consists of lines 8 inches or smaller. Selma's SKF collection system drains to the treatment plant via gravity and seven sewer lift stations.

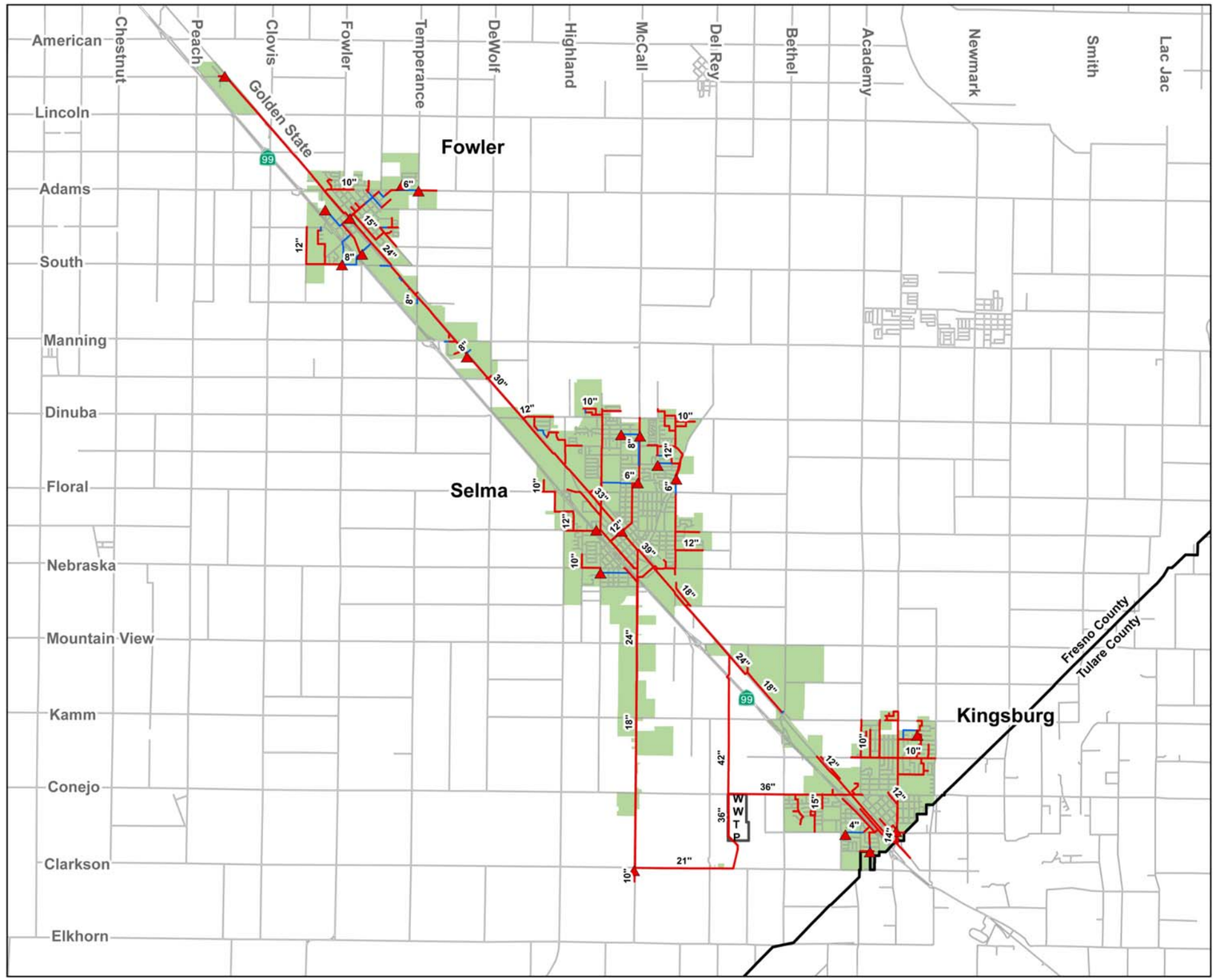
The 2006 Sewer System Master Plan identifies certain improvements to existing sewer lines and lift stations needed to address existing capacity deficiencies. It estimates that these improvements will cost about $100 million between 2006 and 2010. Fresno County LAFCO recently prepared a Municipal Services Review (MSR) for Selma which also addresses current sanitary sewer system capacity and the potential need for expansion of the system in light of expected future growth. The MSR states that "A memorandum issued by SKF CSD, dated November 9, 2006, concludes the District has sufficient time to accommodate 'unprecedented residential growth' planned by the member cities if that growth is spread out over the next six or seven years. As indicated, however, City Managers are projecting this residential growth over the next four years. Before additional development can be approved, SKF CSD will have to indicate it has sufficient capacity to accommodate such development. SKF CSD has indicated that correcting existing 'bottlenecks' in the wastewater treatment plant will increase its treatment capacity to 6.0 million gallons per day (mgd). SKF CSD is considering plans to expand to 9.0 mgd of treatment capacity" (Fresno County LAFCO, July 2007).



Quad Knopf

WATER DELIVERY SYSTEM
SERVICE AREA

Figure
7-1



Legend

- Lift Stations

Modeled Sewer System

- 8" and Smaller
- 10" and Larger
- Current Service Area
- Roadways
- County Boundary

N

0 0.75 1.5 3 Miles

Figure 5.1
Modeled Sewer System
Sewer System Master Plan
Selma-Kingsburg-Fowler CSD

carollo engineers

Source: Carollo Engineers, September 2006

Quad Knopf	SEWER SYSTEM	Figure 7 - 2

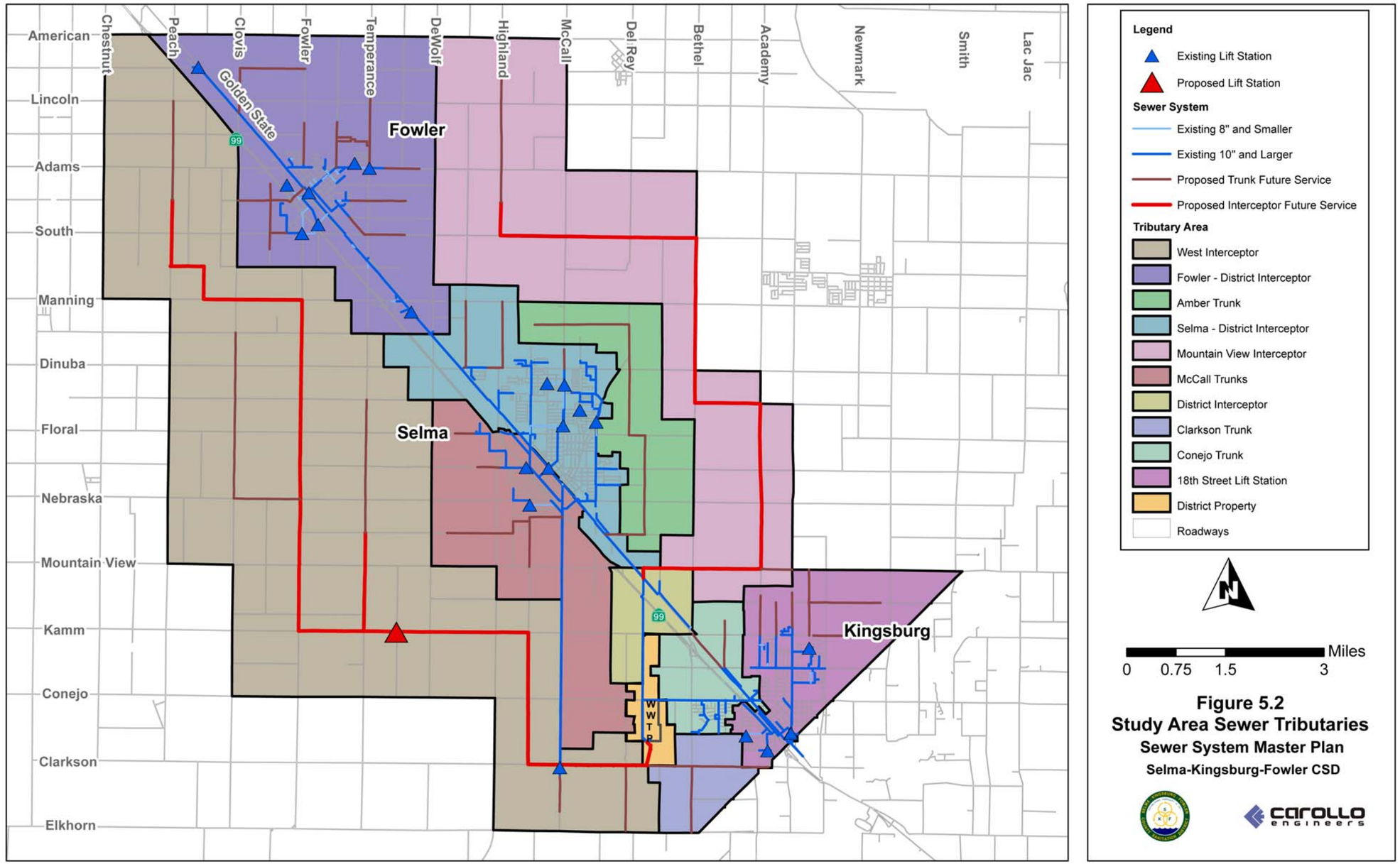


Figure 5.2
Study Area Sewer Tributaries
Sewer System Master Plan
Selma-Kingsburg-Fowler CSD

Source: Carollo Engineers, September 2006

Quad Knopf	SEWER SYSTEM TRIBUTARIES	Figure 7 - 3

TREATMENT PLANT

The existing SKF CSD WWTP was constructed in the 1970s and is located about three miles south of the developed portion of Selma on the south side of Conejo Avenue.

Capacity

The existing plant is currently permitted for a monthly dry weather discharge flow of 8.0 mgd by the California Regional Water Quality Control Board (CRWQCB). The highest annual average day flow between 2001 and 2005 was 3.86 mgd in 2005 and the highest maximum day flow was 6.22 mgd in 2004.

Facilities

The WWTP is operated by SKF and consists of liquids facilities (communitors, channel monsters, grit tanks, aeration basins, secondary clarifiers, effluent pumps, and disposal ponds), solids facilities (a dissolved air flotation thickener, gravity thickener, aerobic digesters, centrifuges, and sludge drying beds), and administrative facilities (Administration Building, Operations and Maintenance Building with laboratory, maintenance shop, and two equipment storage buildings).

Flows

Table 4.5 of the 2006 Sewer System Master Plan lists historical WWTP influent flows for 2001-2005, and shows that annual average day influent flows at the WWTP have steadily increased over that period from an average day flow of 2.74 mgd in 2001 to 3.86 mgd in 2005. The 2006 Sewer System Master Plan states that the system-wide sewage generation rate is approximately 100 gallons per day per person. The average daily generation rate per residential unit is therefore approximately 345 gallons per day (based on an average household size of 3.45 persons as reported in the 2000 US Census). In 2006, the average Biochemical Oxygen Demand (BOD) loading was 601 milligrams per liter (mg/l) per day, while the average Total Suspended Solids (TSS) loading was 401 mg/l per day.

Available Capacity

Based on an annual average day flow in 2005 at the WWTP of 3.86 mgd, 4.14 mgd of the plant's permitted capacity is currently unused. Based on the 2005 average sewage generation rate of 100 gallons per day per person, the treatment plant's reserve capacity is sufficient to accommodate approximately 41,400 additional people or 12,000 new single family residential units (at an occupancy rate of 3.45 persons per unit) within SKF's service area. Table ES.1 of the 2006 Sewer System Master Plan estimates that the population of its service area will increase by 31,640 persons by the year 2025. Using its estimated growth rates of 3.2 percent for Selma, 3.1 percent for Kingsburg, and 2.2 percent for Fowler, the WWTP's reserve permitted capacity can accommodate at least the residential portion of growth expected through 2025 as shown in Table 7-1.

Table 7-1
SKF Service Area Estimated Population Growth

Growth Rates: Selma 3.2%; Kingsburg 3.1%; Fowler 2.2%

Year	Selma	Kingsburg	Fowler	Service Area Population	Service Area Population Increase from 2005
2005	22,411	11,237	4,729	38,377	
2006	23,127	11,587	4,831	39,545	1,168
2007	23,865	11,948	4,935	40,748	2,371
2008	24,627	12,319	5,042	41,989	3,612
2009	25,413	12,703	5,151	43,267	4,890
2010	26,225	13,098	5,262	44,585	6,208
2011	27,062	13,506	5,376	45,944	7,567
2012	27,926	13,927	5,492	47,345	8,968
2013	28,818	14,360	5,611	48,789	10,412
2014	29,738	14,807	5,732	50,277	11,900
2015	30,688	15,268	5,856	51,811	13,434
2016	31,668	15,743	5,982	53,393	15,016
2017	32,679	16,233	6,111	55,024	16,647
2018	33,722	16,739	6,243	56,704	18,327
2019	34,799	17,260	6,378	58,437	20,060
2020	35,910	17,797	6,516	60,223	21,846
2021	37,057	18,351	6,657	62,065	23,688
2022	38,240	18,923	6,801	63,963	25,586
2023	39,461	19,512	6,947	65,920	27,543
2024	40,721	20,119	7,098	67,937	29,560
2025	42,021	20,745	7,251	70,017	31,640

Source: Carollo Engineers, September 2006 and Quad Knopf analysis

The plant will, of course, also need to accommodate wastewater flows generated by non-residential uses. If the assumption is made that the proportion of residential to non-residential uses in the service area will stay roughly the same, population growth can be used as a proxy for the growth of all land uses and project total wastewater generation based on population growth. Based on a 2005 service area population of 38,377 (see Table 7-1) and an annual average day flow in that year of 3.86 mgd, the system-wide sewage generation rate for all land uses is 100.6 gallons per day per person. The WWTP's 4.14 mgd of currently unused capacity could accommodate a population increase of 41,153 persons under this scenario, which would still easily accommodate population growth in the service area through 2025.

Sludge Disposal

Sludge from the WWTP is dewatered and stockpiled in drying beds. It is then removed once per year and hauled to San Joaquin Composting in Kern County near Lost Hills for composting under WDR N. 5-00158 before being transported to Kings County near Corcoran to be applied for agriculturally beneficial reuse by McCarthy Family Farms under WDR No. 94-215.

7.3 Storm Drainage

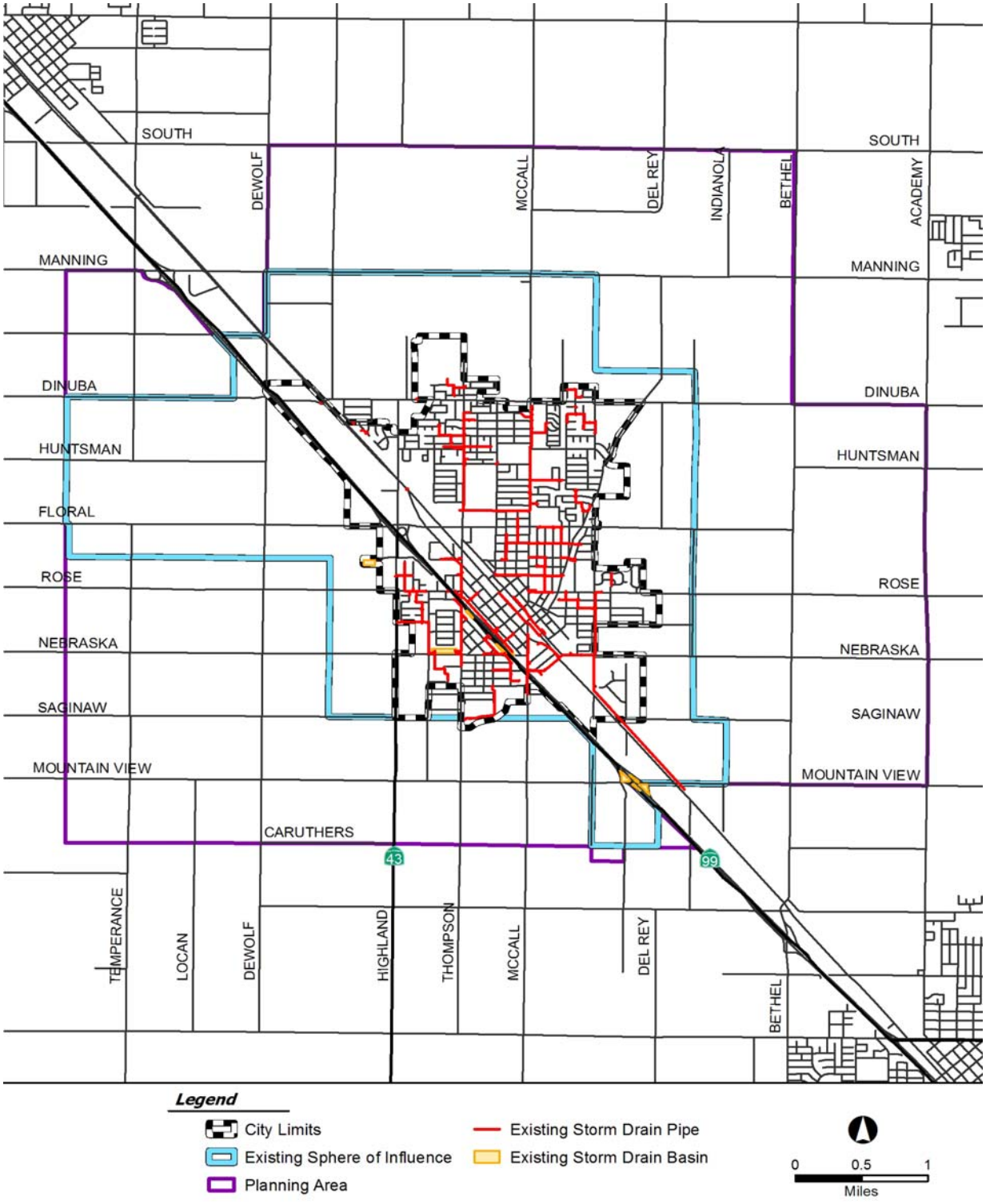
The City of Selma does not have a history of flooding. According to the Public Services and Facilities Element of the General Plan (City of Selma, July 1983), "Local storm water drainage is provided by a network of ponding basins, canals and storm drains. Most of the newer areas of the community are well drained, however, some of the older areas, such as those bounded by Valley View, Floral, Olive and Thompson Avenues do experience some localized ponding during heavy rain concentrations." The City of Selma's storm drain system consists of surface runoff to streets (curbs and gutters), subsurface storm drainage pipelines, canals and retention basins. Figure 7-4 shows a simple schematic of the system.

7.4 EPA "Phase II" Stormwater Drainage Discussion

The EPA established a March 2003 deadline for permit application for the Storm Water National Pollutant Discharge Elimination System (NPDES) Phase II Rule implementation. Municipal Separate Storm Sewer Systems (MS4s) serving a population of less than 100,000 and located in an urbanized area or designated by the permitting authority (the local regional water quality control board) are covered by the Phase II Rule. The City is required to submit its application for a Phase II permit that must include a Storm Water Management Program/Plan addressing the six minimum control measures as follows:

1. Public education and outreach on storm water impacts
2. Public involvement/participation
3. Illicit discharge detection and elimination
4. Construction site storm water runoff control
5. Post-construction storm water management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

The City is responsible for preparing a storm water management program that specifies Best Management Practices (BMPs) for the six minimum control measures. While the regulations do not necessarily require Phase II permits to address industrial discharges, it should be anticipated that the Regional Board will attempt to place this responsibility upon the City.



Source: City of Selma Public Works, June 2007

Quad Knopf

STORM DRAINAGE SYSTEM

Figure 7 - 4

7.5 Schools

Educational services for grades K-12 in Selma are provided by the Selma Unified School District (SUSD). A number of higher education institutions are located within commuting distance, including:

- Reedley College in Reedley
- College of the Sequoias in Visalia
- Fresno City College
- Chapman University in Hanford and Visalia
- San Joaquin Valley College in Visalia and Fresno
- California State University, Fresno
- Fresno Pacific University

Selma Unified School District – The Selma Unified School District serves Selma and the surrounding area population from grades K–12. The District includes eight elementary schools, one middle school, one high school, one alternative high school and an independent study program. The School District office is located at 3036 Thompson Avenue in Selma. Selma Unified School District student enrollment in the 2005-2006 school year was 6,347 students (6,263 not including continuation schools). This represents an increase of 14.9 percent from 1996-1997, when the District had 5,479 enrolled students (see Table 7-3). As of 2005-06, Selma Unified had 800 full and part-time employees, 301 of which were teachers. Table 7-2 summarizes student enrollment by school in the 2005-06 school year.

Table 7-2
Selma Unified School District, 2005-06
School Enrollment

School	Grades	Enrollment
George Washington Elementary	K-1	240
James Garfield Elementary	K-6	262
Indianola Elementary	K-6	514
Andrew Jackson Elementary	K-6	653
Theodore Roosevelt Elementary	K-6	764
Terry Elementary	K-6	207
Woodrow Wilson Elementary	K-6	425
Eric White Elementary	2-6	534
Abraham Lincoln Middle School	7-8	991
Selma High	9-12	1,673
Heartland High Alternative School	7-12	84

Source: Selma Unified School District

The majority of the District's eight elementary schools serve grades K-6 and include: Eric White Elementary (which serves grades 2-6 only), located at 2001 Mitchell Avenue, with 534 students; James Garfield Elementary located at 2535 "B" Street with 262 students; Indianola Elementary located at 11524 E. Dinuba with 514 students; Andrew Jackson Elementary located at 2220 Huntsman with 653 students; Theodore Roosevelt Elementary with 764 students; Terry Elementary located at 12906 S. Fowler, with 207 students; George Washington Elementary,

which serves grades K-1 only, at 1420 Second Street, with 240 students; and Woodrow Wilson Elementary located at 1325 Stillman with 425 students.

Table 7-3
Selma Unified School District Enrollment
1996-97 to 2005-06

Academic Year	Number of Students
2005-06	6,347
2004-05	6,304
2003-04	6,082
2002-03	5,948
2001-02	5,783
2000-01	5,661
1999-00	5,663
1998-99	5,635
1997-98	6,488
1996-97	5,479

Source: Education Data Partnership

Selma's only middle school, Abraham Lincoln Middle School, serves grades 7-8 and is located at 1239 Nelson Blvd. Lincoln's total enrollment in 2005-06 was 991 students. The average class size in 2005-06 was 29.2 students per class and the student to teacher ratio was 21.9.

Selma's High School, Selma High, serves grades 9-12 and is located at 3125 Wright Street. Selma High's total enrollment in 2005-06 was 1,673. The average class size in 2005-06 was 29.2 students per class and the student to teach ratio was 23.5.

Heartland High Alternative School serves grades 7-12 and is located at 2269 Sylvia Street. Heartland had an enrollment in 2005-06 of 84 students. The average class size was 13.9 and the student to teacher ration was 12.7.

Table 7-4 show the existing capacity of schools in the District by grade group and compares that capacity to the number of students the District expects can be accommodated by projects currently being constructed or in the design phase. These figures show that the District's total capacity is 7,724 students. Thus, with a 2005-2006 enrollment of 6,347 students, the District is at 82.2 percent capacity. The District is also currently building thirteen new classrooms at Selma High with a capacity of 416 students, ten classrooms at Eric White Elementary with a capacity of 250 students, and is in the design phase for eight classrooms at Abraham Lincoln Middle School with a capacity of 256 students (Larry Teixeira, Selma Unified School District).

Table 7-4
Existing Capacity of Selma Schools

Grade Group	2005/06 Capacity	2005/06 Enrollment	Current Capacity	Planned Capacity[1]
K-6	4,418	3,599	819	250
7-8	1,216	991	225	256
9-12	2,090	1,757	333	416
Total	**7,724**	**6,347**	**1,317**	**922**

1 Capacity currently being constructed or in design phase
Source: Selma Unified School District, 2007

7.6 Police and Fire

POLICE PROTECTION

Police protection information was obtained from the City of Selma's website and through conversations with Police Department personnel. Law enforcement services within the City of Selma are provided by the City of Selma Police Department headquartered at 1935 E. Front Street. Areas outside the City limits are served by the Fresno County Sheriff's Department. The City of Selma Police Department consists of 54 personnel: 37 sworn officers and 17 non-sworn support staff.

The City is patrolled on a 24-hour basis. Response time goals within the City are based on priority of the call in a scale of one to three. Priority one calls, or in-progress calls are of the highest priority with an expected response time of 3 minutes. Priority two calls have an expected response time of 6 minutes and priority three calls have an expected response time of 15 minutes. The patrol force works out of the 1935 E. Front Street facility. A Fresno County Sheriff's Department, Selma sub-station Area 3, is located at 1055 S. Golden State Blvd. Currently patrol officers are assigned to geographical areas (beats) as needed, instead of working on a city-wide basis.

One measure of law enforcement protection services is a desired police officer/population ratio, generally stated in terms of the number of police officers per 1,000 population. Such measures should not be strictly employed as standards or guidelines, because acceptable policing levels also depend on changing community characteristics and needs, the specific types of staffing requirements (e.g., the need for sworn vs. non-sworn personnel), economic conditions, technological advances, and other factors.

Based on a total of 37 sworn officers and the current (2007) city population of 23,194 persons, Selma's current patrol officer/population ration is 1.60:1,000. Conversations with the Department's Operations Lieutenant indicate that the Selma Police Department does not have adequate manpower and facilities to serve the City's current population. Currently the Police Chief feels that the Department is inadequate in the areas of a School Resource Officer, the Gang unit, and the Narcotics Unit, and that additional patrol officers are required to meet the needs of the Selma Police Department. There are also strong concerns about the current facility. Selma Police Department headquarters is a ninety-year old train depot building that has been expanded twice to meet the Department's needs, with the last expansion completed more then 25 years ago. With the addition of the required officers and associated facilities the Police Chief feels that the Department would be able to better serve and protect the Selma community.

Selma has a holding cell at Police Headquarters at 1935 E. Front Street. All persons arrested for felony offenses are transported to the Fresno County jail in Fresno, which is approximately 30 minutes away. Arrestees are tried in Kingsburg Superior Court in Kingsburg for criminal cases and the Selma Courthouse for traffic cases.

The Police Department also offers the following special programs (City of Selma Police Department, June 2007):

Neighborhood Watch Program

This program is part of the overall Community Oriented Policing Philosophy that is employed by the Department and City Government in Selma. The Program is a relationship-building activity used by front line officers and supervisors to provide another opportunity for communications with the community. It has been effective in identifying concerns, problems and collaboratively developing approaches to deal with the issues.

Traffic Enforcement

The City of Selma receives grant money from the Office of Traffic Safety (OTS) to implement the Selective Traffic Enforcement Program (STEP), which is designed to help reduce the number of traffic collisions and DUI's and perform court stings and red light enforcement. The Selma Police department also participates in a six-city DUI enforcement program. This six-city program assists each jurisdiction in performing check points and saturation patrol once throughout the year. Each jurisdiction also makes it a goal to set up five other operations a year performed by the individual departments.

House Watch

The House Watch is a service that is provided by the Department and has been successful in the early detection and prevention of problems that may arise while a residential unit is vacant. The resident can call the Police Department to request this service and fill out a form that describes the area and residents. The Selma Police Department then attempts to make several checks of the house while the unit is vacant. Should a problem be noticed, officers are then dispatched to investigate the situation further.

Volunteer In Policing

The Volunteer In Policing program (VIP) is made up of a group of civic minded people who have expressed an interest in working toward a better community by augmenting the operations of the Selma Police Department. The volunteers are trained in police operations and, once they have completed their training, are assigned to duties and details that free up investigator and patrol officer time to improve direct services to the Community.

Bike Patrols

The Selma Police Department offers bicycle patrol as a service to the Community. Bicycle officers are deployed at special events such as community festivals, parades and for special operations. They may be deployed as a non-traditional approach to some enforcement issues.

Records and Complaints

Incident Complaints

Reports of incidents are logged in, and officers are dispatched to investigate the incident. A report of the incident is completed by the officers when the investigation requires such a record. The Department responds to all calls for service in some manner. The Department makes providing timely and efficient service to the community a primary goal.

Parking Complaints

Complaints regarding parking violations are accepted and welcomed. The officers are sent to check each complaint, and violators are cited appropriately based on the complaint and the nature of violation.

Vehicle Storage/Abatement

Vehicles that are abandoned or in violation of City codes are considered to be nuisance vehicles. The Police and City code enforcement officer work together to clear nuisance vehicles from the street or property. If nuisance vehicles are on City property, they are towed and stored in accordance with City codes or the California Vehicle Code. If violators are on private property, the code enforcement officer provides the violator a time frame to store or remove the vehicle or take any other action necessary to gain compliance with City codes. If the matter is not taken care of second and third follow-up notices are given. Upon the third follow-up the violator may be cited and assessed an administrative fee. The Police and Code Enforcement Departments are willing to assist any person in clearing a nuisance vehicle by giving referral to an organization that will tow the vehicle or assist in moving the vehicle.

Animal Control

This program is designed to offer such services as disposal of dead animals, code enforcement, animal bite investigations, licensing for dogs, animal noise/nuisance complaint reporting/investigations and vicious animal investigation reports etc.

Sex Offenders

Information regarding sex offenders can be accessed by the public through an online website at meganslaw.ca.gov. Selma Police Department staff are available to assist with questions regarding available information and how to use it. The Selma Police Department plays an active role in monitoring and registering offenders in the area, and ensures that registered offenders' current information is up to date by performing check-ups twice a year.

Tips Hotline

The Police Department has a graffiti hotline that is available 24 hours a day and can be used anonymously. Citizens can leave a message reporting graffiti on an answering machine, which is checked daily by SPD investigators. The City also participates in Fresno County Crime Stoppers. This program allows citizens to anonymously report crimes and wanted criminals and in some

cases anonymously collect a reward for that information. The City can request to have an individual placed on the Crime Stoppers list.

Emergency Contacts

The Police Department is active in making emergency contacts of residents by out of town relatives who have been unable to contact them. Check the Welfare program provides assistance to relative or friends who have been unable to contact residents of the community for any reason. If needed a police office will be dispatched to a residence to check on the resident and verify their wellbeing through talking with neighbors and any other means necessary to make sure they are okay.

The City also has a Public Safety Ad Hoc Committee. There has been a strong effort by the community and Police Department to make this a formal committee that will have oversight for spending.

Currently the Yes on S Committee is working on getting a measure passed called the Public Safety Tax. This measure has been designed to ensure that the Police and Fire Departments get the funding necessary to hire new officers and develop facilities. Other potential items that this measure will address include: expanding anti-gang, anti-drug and youth programs; hiring more anti-gang and anti-drug officers; improving police and firefighter training; hiring more firefighters and police officers to respond to multiple emergencies; increasing police patrols to protect neighborhoods, parks and areas surrounding schools; and purchasing safety equipment, such as protective clothing and breathing apparatuses for firefighters. It is expected that this measure will go to ballot in November of 2007.

Crime Statistics are correlated and reviewed regularly for trends. The Department publishes its statistics annually. Specialized statistical data is available upon written request. Information that is deemed to be public information in these special requests can be provided. An administrative fee may be assessed for the cost of honoring such requests.

Table 7-6
2002 - 2006 Crime Statistics: Crimes

Category	2002	2003	2004	2005	2006
Homicide	1	1	2	0	2
Assaults	184	221	218	207	201
Forcible Rape	5	5	4	4	13
Robberies	34	15	40	34	34
Burglaries	250	166	143	176	200
Motor Vehicle Theft	236	281	227	282	336
Larceny-Theft	731	562	575	938	777
Thefts from Vehicles	-	259	393	314	293
Arson Cases	-	4	4	1	3
Total	**1,441**	**1,514**	**1,606**	**1,956**	**1,563**

Arrest Information

Category	2002	2003	2004	2005	2006
Adult Felony	440	428	351	457	457
Juvenile Felony	65	48	29	36	41
Adult Misd.	1,066	1,078	983	1,005	1,174
Juvenile Misd.	166	163	153	160	115
Total Arrests	**1,737**	**1,717**	**1,516**	**1,658**	**1,787**

Source: City of Selma Police Department

FIRE PROTECTION

Fire protection information was obtained through conversations with Fire Department personnel and from the City of Selma website.

The City of Selma Fire Department provides fire protection services to a 6-square-mile area including all areas within the City limits. Also, through a mutual aid agreement with the Fresno County Fire Department, the Selma Fire Department responds to calls for service immediately outside the City limits. In addition, the fire department maintains mutual aid agreements whereby secondary fire service response can be provided upon request from anywhere in the State of California.

The Selma Fire Department has two fire stations, staffed 24 hours a day. Station 54 is located at 2861 A Street and Station 53 is located at 1927 W. Front Street. The Department consists of 42 uniformed and non-uniformed personnel, three Advance Life Support (ALS) units (paramedic ambulances), two 1,250 gallon-per-minute fire engines, one 75' quint aerial truck, and four staff vehicles. The Department's personnel are distributed in the following positions:

- 1 Fire Chief
- 1 Fire Division Chief
- 1 Fire Inspector
- 1 Administrative Assistant
- 3 Fire Captains/Engineers
- 9 Engineers
- 12 Fire Fighters
- 14 Reserve Firefighters

In 2001 the Department had 23 full time staff. It responded to 392 fire calls and 2,996 ambulance calls. The Selma Fire Department's ambulance service responds to calls in a 150-square-mile area of southern Fresno County (including Selma) by contract with the Fresno County Emergency Medical Services (EMS) Department.

By 2006, the Department had expanded to 40 full time staff. It responded to 532 fire calls and 3,638 ambulance calls. Table 7-7 summarizes these statistics, and Table 7-8 includes a further breakdown of the numbers by type of call for the 2006 reporting year.

Table 7-7
Numbers of Calls by Response

Calls for Service	2001	2006
Fire	129	124
Rupture/explosion	3	2
EMS/Rescue	2,996	3,638
Hazardous Conditions	33	67
Service Calls	31	29
Good Intent	152	255
False Call	42	46
Other	2	9

Source: City of Selma Fire Department

Table 7-8
Numbers of Calls by Incident Type, 2006

Incident Type	Count	Percent of Subtotal	Percent of Total Incidents
Fire			
Building fire	22	17.74%	0.53%
Fires in structures other then the building	2	1.61%	0.05%
Cooking fire, confined to container	8	6.45%	0.19%
Trash or rubbish fire, contained	14	11.29%	0.34%
Vehicle Fire			
Fire in motor home, camper, recreational vehicle	2	1.61%	0.05%
Mobile property (vehicle) fire, other	4	3.23%	0.10%
Passenger vehicle fire	14	11.29%	0.34%
Road Freight or transport vehicle fire	3	2.42%	0.07%
Outdoor Fire			
Natural vegetation fire, other	1	0.81%	0.02%
Brush or brush-and-grass mixture fire	1	0.81%	0.02%
Grass fire	17	13.71%	0.41%
Outside with rubbish fire, other	7	5.65%	0.17%
Outside rubbish, trash or waste fire	13	10.48%	0.31%
Dumpster or other outside trash receptacle fire	10	8.06%	0.24%
Outside equipment fire	3	2.42%	0.07%
Special outside fire, other	1	0.81%	0.02%
Cultivated orchard or vineyard fire	1	0.81%	0.02%
Cultivated trees or nursery stock fire	1	0.81%	0.02%
Total	124	100%	2.98%
Rupture/Explosion			
Overpressure rupture of air or gas pipe/pipeline	1	50.00%	0.02%
Firework explosion (no fire)	1	50.00%	0.02%
Total	2	100%	0.05%
EMS/Rescue			
Medical assist, assist EMS crew	1	0.03%	0.02%

Table 7-8
Numbers of Calls by Incident Type, 2006 (Continued)

Incident Type	Count	Percent of Subtotal	Percent of Total Incidents
EMS call, excluding vehicle accident with injury	2	0.05%	0.05%
EMS call - Cancelled enroute	11	0.30%	0.26%
EMS call - Cancelled at scene	528	14.51%	12.68%
EMS call, excluding vehicle accident with injury	2088	57.39%	50.14%
EMS call - Transfer	752	20.67%	18.06%
EMS call, Public Assist	16	0.44%	0.38%
Engine only medical aid	37	1.02%	0.89%
Cancelled for high priority	2	0.05%	0.05%
Vehicle accident with injuries	183	5.03%	4.39%
Motor vehicle/pedestrian accident (MV Ped)	12	0.33%	0.29%
Motor vehicle accident with no injuries	4	0.11%	0.10%
Extrication of victim(s) from machinery	1	0.03%	0.02%
Rescue or EMS standby	1	0.03%	0.02%
Total	3638	100%	87.37%
Hazardous Conditions			
Hazardous conditions, other	1	1.49%	0.02%
Gasoline or other flammable liquid spill	1	1.49%	0.02%
Gas leak (natural gas or LPG)	21	31.34%	0.50%
Oil or other combustible liquid spill	1	1.49%	0.02%
Chemical hazard (no spill or leak)	1	1.49%	0.02%
Chemical spill or leak	1	1.49%	0.02%
Carbon monoxide incident	1	1.49%	0.02%
Electrical wiring/equipment problems, other	4	5.97%	0.10%
Overheated motor	2	2.99%	0.05%
light ballast breakdown	1	1.49%	0.02%
Power line down	15	22.39%	0.36%
Arcing, shorted electrical equipment	6	8.96%	0.14%
Building or structure weakened or collapsed	1	1.49%	0.02%
Aircraft standby	10	14.93%	0.24%
Attempted burning, illegal action, other	1	1.49%	0.02%
Total	67	100%	1.61%
Service Call			
Lock-out	1	3.45%	0.02%
Water problem, other	1	3.45%	0.02%
Water or steam leak	2	6.90%	0.05%
smoke or odor removal	6	20.69%	0.14%
Animal rescue	1	3.45%	0.02%
Public service assistance, other	4	13.79%	0.10%
Assist police or other governmental agency	2	6.90%	0.05%

Table 7-8
Numbers of Calls by Incident Type, 2006 (Continued)

Incident Type	Count	Percent of Subtotal	Percent of Total Incidents
Police matter	1	3.45%	0.02%
Public service	4	13.79%	0.10%
Unauthorized burning	7	24.14%	0.17%
Total	29	100%	0.70%
Good intent			
Good intent call, other	1	0.39%	0.02%
Dispatched cancelled en route	206	80.78%	4.95%
No incident found on arrival at dispatch address	6	2.35%	0.14%
Authorized controlled burning	1	0.39%	0.02%
Steam, other gas mistaken for smoke, other	2	0.78%	0.05%
Smoke scare, odor of smoke	27	10.59%	0.65%
Steam, vapor, fog or dust thought to be smoke	3	1.18%	0.07%
Barbecue, tar kettle	5	1.96%	0.12%
EMS call, party transported by non-fire agency	1	0.39%	0.02%
Hazmat release investigation w/no hazmat	3	1.18%	0.07%
Total	255	100%	6.12%
False Call			
False alarm or false call, other	6	13.04%	0.14%
Malicious, mischievous false call, other	2	4.35%	0.05%
Local alarm system, malicious false alarm	3	6.52%	0.07%
Bomb scare - no bomb	2	4.35%	0.05%
System malfunction, other	4	8.70%	0.10%
Smoke detector activation due to malfunction	3	6.52%	0.07%
Alarm system sounded due to malfunction	13	28.26%	0.31%
CO system sounded due to malfunction	1	2.17%	0.02%
Sprinkler activation, no fire - unintentional	1	2.17%	0.02%
Smoke detector activation, no fire - unintentional	3	6.52%	0.07%
Detector activation, no fire - unintentional	1	2.17%	0.02%
Alarm system sounded, no fire - unintentional	7	15.22%	0.17%
Total	46	100%	1.10%
Severe Weather			0.00%
Flood assessment	2	100%	0.05%
Total	2	100%	0.05%
Other			
Special type of incident, other	1	100%	0.02%
Total	1	100%	0.02%
Total Incident Count	4164		100%

Source: City of Selma Fire Department

The City contracts with the following agencies to provide the community with the best possible emergency care:

- Fresno County EMS
- The Selma Fire Department, through the Fire Prevention Inspection Program, enforces state and local codes and ordinances by inspection of commercial, industrial, and public buildings. The program is funded through the general fund.
- All local fire departments

The City's current Insurance Services Office (ISO) fire service rating is 5. The ISO scale goes from 1 (best) to 10 (worst). A higher ISO rating results in higher insurance premiums. The rating is based on an evaluation of a department's fire fighting capability (50% of the score), the water system it uses to fight fires (40% of the score), and the nature of its dispatch area (10% of the score).

Other police and fire protection services, both current and planned, are funded by Community Facilities Districts, Development Impact Fees, a Possible Public Safety Measure that is currently being developed by an ad hoc committee and would raise funds for training, equipment, staffing, and apparatus for the police and fire departments, a Federal Assistance to Firefighters Grant, which is a competitive fund, and a State Homeland Security Grant, which is also a competitive fund.

Each of these funds help provide for the development and expansion of the Selma Fire Department in order to help it protect the City to the best of its abilities. Each fund helps provide financial assistance in purchasing new equipment, the proper training of firefighters and engineers, additional staffing for each fire station, the development and expansion of existing and new facilities required by the Fire Department and additional apparatuses to help combat fires.

Further information regarding the City of Selma's Fire Department can be found on the City of Selma's Website or by contacting the Fire Department directly.

7.7 Other Public Facilities and Services

ELECTRICITY

The Pacific Gas and Electric Company (PG&E) is the provider of electricity for the City of Selma. Existing trunk and transmission facilities are adequate to meet present and projected demand in the community. Selma recently joined a joint powers authority called the San Joaquin Power Authority.

NATURAL GAS

Selma is supplied with natural gas by PG&E and Southern California Gas Company. Existing service is good, and company officials indicate no current unforeseeable peak load or pressure deficiencies.

TELEPHONE

Traditional phone service in and around Selma is provided by SBC/AT&T.

CELLULAR SERVICE

Cellular telephone service is offered to residents of the City of Selma by a number of companies including Verizon, Cingular, Sprint, etc. 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.

From a planning viewpoint, the City must take care in approving cell sites. Planning considerations include flight patterns, visual/aesthetic effects, and possible effects on wildlife. As opposed to other utilities, however, there are no pipelines or cables other than electrical service to the site, which can represent a greater spectrum of potential effects. Also, a specific band of radio frequencies is assigned to each provider. They can be reused to serve a large number of people, since the signals are not confined to cables to which individual users must be linked. Unless a sufficient grid of towers is approved within a region, cellular phone coverage will be spotty or non-existent.

7.8 Selma Public Library

Library service is provided to Selma by the Selma branch of the Fresno County Library located at 2200 Selma Street. The library is open from 9:00 a.m. to 9:00 p.m. Monday through Thursday, 10:00 a.m. – 5:00 p.m. Friday and Saturday and is closed on Sunday.

7.9 Public Transportation

Public transit in Selma is available through the Selma Transit Division, which is operated by the City through a JPA with the Fresno County Rural Transit Agency (FCRTA). Selma Transit operates with three compressed natural gas vehicles. The natural gas vehicles operate on an on-call basis and will pick up and drop off at the requested destinations within the City's Sphere of Influence, Monday – Friday 7:00 a.m. – 5:30 p.m. The electric trolley operates on a fixed route starting at the senior center, moving through the Central Business District and near the large shopping centers throughout Selma, Monday – Friday 7:00 a.m. – 5:30 p.m. The Fresno County

Economic Opportunities Commission (EOC) operates one vehicle in Selma on Saturday from 8:00 a.m. to 5:00 p.m.

Current one-way fares for these public transit services are $.75 for Adults, and $.50 for Seniors/Disabled riders and children, when accompanied by an adult.

7.10 Other Public Facilities

The Selma Post Office (93662) is located at 2058 High Street in downtown Selma and offers a full array of standard postal services.

7.11 Solid and Hazardous Waste Collection, Disposal, and Management

The City of Selma, through a private contractor, Selma Disposal and Recycling Inc., provides weekly curbside solid waste collection services to all households and businesses within the City limits. Solid waste is taken to the American Avenue Landfill, which is operated by the County and is located on American Avenue, about 6.5 miles southwest of Kerman. The County has plans to expand this landfill in three phases when demand warrants. The County currently has permits to use all three phases of the 440 acre site, but only expand when necessary. The estimated total capacity after all three phases of expansion is 32,700,000 cubic yards (Solid Waste Information Systems, June 2007). According to the Fresno County Public Works Department, the County's Sold Waste Division has indicated that "…it is estimated that the landfill will be able to continue operations until 2031 when it will be full and will have to be closed."

The City collects recyclable materials separately from waste. Recyclables can be put in a blue container for weekly pickup and removal. Recyclables are taken to the Fresno County Recycling facility in Kerman where they are processed and then sold to recycled materials users. Yard waste in Selma is collected in a separate green container by the City's private waste collection contractor and is taken to the contractor's facility, where it is processed. California Assembly Bill 939 required all cities to reduced landfill tonnage by 25% by the end of 1995 and 50% by the end of 2000. Selma took this challenge seriously and reached the 50% waste reduction requirement partially through the introduction of the separate container collection system. Since then, additional partnerships have been established to reduce the amount of waste throughout the community. In 2006, Selma Disposal and Recycling Inc. and the Selma Unified School District created a recycling program in the school system with paper only bins. With this system in place, the Selma Unified School District was able to divert over 50 tons of paper out of the landfills.

The City's website offers information on the City's waste disposal and recycling services and customer service contact information. The City also holds multiple community clean-up events in the spring and fall for larger items that cannot be disposed of in trash, yard waste or recycling bins.

CHAPTER EIGHT

RECREATION, ARCHEOLOGICAL AND HISTORICAL RESOURCES

CHAPTER EIGHT – RECREATION, ARCHEOLOGICAL AND HISTORICAL RESOURCES

8.1 Existing Park and Recreation Facilities and Programs

The City of Selma currently has 6 designated park sites totaling approximately 43 acres. Selma's parks include neighborhood parks, community parks, and a community center. These facilities are listed below:

Berry Park is a 1.1 acre neighborhood and community park at the corner of Whitson and Second Street with a playground, picnic tables, open grass areas, restrooms, and the City Skate Park.

Brentlinger Park is a 10.1 acre neighborhood and community park at the corner of Rose and Orange Avenues with a playground, picnic tables, tennis courts, basketball courts, two lighted baseball diamonds, open grass areas and picnic shelters (which can be reserved one year in advance for the cost of $30 for residents and $60 for non-residents).

Lincoln Park is a 3.5 acre neighborhood park at the corner of Rose and McCall Avenues with picnic tables, gazebo, restrooms and open grass areas.

Peter Ringo Memorial Park is a 4.8 acre neighborhood park at the corner of Mitchell and Nebraska Avenues with a playground, picnic tables, basketball courts, soccer field, open grass areas and picnic shelters (which can be reserved one year in advance for the cost of $30 for residents and $60 for non-residents).

Salazar Park is a 1.7 acre neighborhood park at the corner of Sheridan Street and Valley View Street with a Community Center, playground, picnic tables, basketball courts, restrooms, and a Water Spray Park.

Shafer Park is a 21.1 acre neighborhood and community park located at Floral and Thompson Avenues with a playground, picnic tables, basketball courts, two lighted baseball diamonds, sand volleyball courts, walking trails, and picnic shelters (which can be reserved one year in advance for the cost of $30 for residents and $60 for non-residents).

Pioneer Village is a 14.4 acre historical, recreational and cultural facility located on Highland Avenue at Art Gonzales Parkway. Numerous historical buildings have been moved to this site to serve as a museum and cultural center for the Selma Community. This facility provides open space, restrooms and picnic tables.

COMMUNITY EVENTS

Selma Rotary Marching Band Festival and Field Show Competition

This event takes place every year on the last Saturday of October. It is one of the largest marching band events in California and includes hot air balloons, food booths, and band competitions (Fresno County, August 2007). The parade begins at 9 am in downtown Selma and the field show begins at 1:30 pm at Staley Stadium on the campus of Selma High.

Annual Selma Raisin Festival

The five day Raisin Festival takes place in early May and offers many fun family oriented activities at Lincoln Park. This event is free of charge and includes a variety of games, activities, food, crafts, entertainment, prizes and a Raisin Royalty Coronation.

Selma Community Independence Day Celebration

The Independence Day Celebration is held every year on July Third at Selma High School's Staley Stadium. Attendees enjoy entertainment, food from local groups, free activities for children, and fireworks. Small admission and parking fees are collected by the Selma Chamber of Commerce.

"It Lives" at Pioneer Village Halloween Event

Pioneer Village hosts an annual event on Halloween night, October 31st, consisting of games, a hay ride through the park, haunted house, costume contests and associated activities. A small fee is collected for admission, parking and attractions.

Holiday Open House

The community kicks-off the Holiday season the first weekend of December with special activities in the heart of downtown Selma. Holiday home décor and gifts are prominently displayed and refreshments are served at participating merchants.

ARTS PROGRAMS

The City of Selma's Recreation and Community Services Department offers the following art programs:

Performing Arts

Youth ages 5-15 can join the production of a play or musical with no formal experience required. Participants between 7 and 15 years of age audition for parts in the show. All materials are provided and included in the registration fees. Kids between the ages of 5 and 6 can participate in theatre workshops to learn about the arts. Space is limited and registration is taken on a first-come first-serve basis.

Visual Arts

Youth ages 8-11 can learn to draw, paint and sculpt using ceramic clay or participate in an introduction to arts and crafts. Classes are designed to be a fun and instructional environment with no previous experience needed. All materials are provided and included in the registration fee. Class size is limited and registration is taken on a first-come, first-serve basis.

SPORTS PROGRAMS

The City offers a variety of sports programs for children and adults. A strong emphasis has been placed on community participation in the planning, organization, and implementation of these programs. As these programs grow and participation increases, additional fields and facilities will be needed. Existing facilities will need renovations and there will be an increasing demand for additional staffing and volunteers.

Youth sports programs include boys and girls' T-ball for ages 4-7, girls' softball for ages 8-13, aquatics lessons, and recreational swimming held at the Selma High pool. Adults can find City sponsored programs in co-ed slow pitch softball and basketball.

SENIOR PROGRAMS

The Selma Senior Center is located at 2301 Selma Street with funding from the Fresno-Madera Area Agency on Aging. "The Selma Senior Center invites men and women age 55 and over to participate in many activities" (City of Selma website). The Center provides a full range of educational programs in health services, recreation, information and assistance, and meals served Monday – Friday to people age 60 and over. Weekly activities at the Center include billiards, cards, games, bingo, ceramics, crafts, exercise, trips and an expansive collection of reading material from the Senior Center Library. The Center also provides a newsletter with tips, trips, Q & A, and important dates, and is available monthly online. The Center also provides free cell phones that can be used to dial 911 only in case of an emergency at no monthly charge.

YOUTH SERVICES

Recreational, educational, and nutritional programs are provided for youth at two locations, Monday through Friday, with after school hours free of charge to participants. One program is located at the Salazar Youth Center at 1800 Sheridan with the other at the Weed and Seed Eric White After School Program at 2099 Mitchell.

A third program provides social opportunities and activities for the developmentally disabled. This program is called the Wednesday Night Social Club, which meets on the first Wednesday of each month at the Salazar Center from 6:30 p.m. to 8:30 p.m.

For more information on any of these programs and more sponsored by the City of Selma, visit the Department's website at http://www.cityofselma.com/recreate/index.htm. The public is welcome to speak on parks and recreation issues at the Recreation and Community Service Commission meetings in the Council Chambers at Selma City Hall on the third Wednesday of each month at 7:00 p.m.

JOINT USE OF SCHOOL FACILITIES

In addition to City-owned park and recreation facilities, Selma residents have access to grounds and playing fields at Selma Unified School District schools. SUSD and the City have established an outstanding cooperative relationship encouraging maximum use of public property, facilities, and equipment for the community. Currently the two agencies have a verbal agreement for joint use of facilities, however, as the City and schools experience continued growth, a more formal joint use agreement would be appropriate.

REGIONAL PARK FACILITIES

Kings River Access Park, Laton-Kingston Park and Kearney Park are the closest regional County parks. Kearney Park, the County's first park, is a 225 acre regional county park located on Kearney Boulevard 23 miles northwest of Selma. Kearney Park is the county's most active park, primarily because the Kearney Mansion, built in 1900, is a major attraction. Other activities include picnic tables, soccer, softball, playgrounds and horse shoes. Laton-Kingston Park is a 22 acre developed regional park located along the Kings River in Laton, 13 miles south of Selma. Laton-Kingston Park also offers active recreational opportunities, including picnic areas, playground equipment and soccer fields. The Kings River Access Park is a 7.4 acre regional county park located just off of Highway 180 on the Kings River, 18 miles north of Selma. Kings River Access Park is a passive undeveloped park. There are several other county parks and campsites along and near the Kings River in Fresno County below Pine Flat Dam about 25-40 minutes north of Selma, including the following:

China Creek Park is an undeveloped park covering 120 acres west of Centerville on Highway 180.

Kings River Green Belt Park is an undeveloped 139 acre park off of Piedra Road which is made up of a forested green belt area along the Kings River.

Avocado Lake Park, a few miles upstream from the Kings River Greenbelt, is a 210 acre park with full day use facilities including picnic areas, a group reservation area, and swimming and fishing on an 83 acre lake.

Winton Park is a 26 acre day use park a few miles upstream from Avocado Lake at the intersection of Trimmer Springs and Piedra Roads. Major attractions include picnic facilities and fishing.

Choinumni Park is a 170 acre park a few miles upstream from Winton Park near Piedra offering a day-use area, 75 overnight camping units, and one group camping area. Amenities include picnic sites, hiking trails, a trailer dump station, playground area, and fishing.

Pine Flat Recreation Area is a 120 acre campground and day use area at the base of Pine Flat Dam on the Kings River with 52 overnight camping units, five play use areas with picnic facilities, and 60 overflow campsites.

OTHER OPEN SPACE AREAS AND RECREATION FACILITIES

Selma is within driving distance of a wealth of parks and recreation resources. Some of these locations and activities are listed below:

Sequoia and Kings Canyon National Parks and the **Sequoia National Forest** are about an hour and a half drive to the east. These areas offer opportunities for hiking, fishing, boating, camping, sightseeing, and winter activities such as skiing, snowboarding, and sledding.

Kings River Nature Preserve: Located two miles east of SR 99 on Road 28 about 8 miles southeast of Selma, on the Kings River Nature Preserve offers school environmental programs.

Kaweah Oaks Preserve: This 324 acre preserve, owned and managed by the Sequoia Riverlands Trust, is located on Road 182, about seven miles east of downtown Visalia and about 30 miles southeast of Selma. It is home to one of the last remaining valley oak riparian forests in the San Joaquin Valley and more than 300 plant and animal species including gray fox, great horned owl, mettall's woodpecker, and the endangered valley elderberry longhorn beetle.

Lake Kaweah: This lake was formed in 1962 by the construction of Terminus Dam on the Kaweah River by the U. S. Army Corps of Engineers (USACE). It provides opportunities for boating, fishing, camping, and picnicking and is about 44 miles southeast of Selma.

Pine Flat Lake: This lake was formed by construction of Pine Flat Dam in 1954 by the U.S. Army Corps of Engineers (USACE) and also provides opportunities for boating, fishing, camping, and picnicking. It is about 30 miles northeast of Selma.

Snowsports: Sierra Summit ski resort above Huntington Lake in the Sierra Nevada Mountains about two hours northeast of Selma offers downhill skiing and snowboarding. Cross country skiing is available at Wolverton in Sequoia National Park about 2 ½ hours to the east of Selma.

Spectator Sports: Local teams include Fresno Grizzlies AAA and Visalia Oaks A minor league baseball, Fresno Falcons minor league hockey, Fresno Fuego minor league soccer and college athletics at Reedley College, Fresno City College, Fresno State, and College of the Sequoias in Visalia.

Other Events and Attractions: Other nearby events and attractions in Tulare and Fresno Counties include the Tulare County Fair and World Ag Expo in Tulare; The Fresno County Fair in Fresno; the Fresno County Blossom Trail, which includes the area around Reedley and is usually visited during the blooming season from February to April; the Woodlake Rodeo, held at the Woodlake Rodeo Grounds every Mother's Day weekend; the Clovis Rodeo, held at the Clovis Rodeo Grounds the last weekend in April; the Tulare County Symphony Orchestra at the Fox Theatre in downtown Visalia; and the Fresno Philharmonic Orchestra in downtown Fresno.

8.2 Historical, Archaeological and Cultural Resources

The purpose of this section is to identify known and potential cultural resources in the Selma area and to evaluate what constraints known archaeological resources might have on the development of the General Plan. Research was conducted to identify previously recorded

resources in the Planning Area and to collect a general background of the prehistory and history in the Selma vicinity. The background information collected in this section will provide a basis for evaluation of the cultural and historical significance of individual resources of the area.

Research sources employed in this section include:

- California Office of Historic Preservation
- 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

A cultural records search was conducted by the Southern San Joaquin Valley Historical Resources Information Center (HRIC) at California State University, Bakersfield for the Selma Planning Area on June 18th, 2007 (reference Appendix A for the Cultural Resources Records Search letter). The search included the following resources: National Register of Historic Places, the California Register of Historical Resources, California Points of Historical Interest, California Inventory of Historic Resources, California State Historic Landmarks Registry, and the HRIC files of pertinent historical and archaeological data.

The records search indicated that there have been 20 previous cultural resource studies within or immediately adjacent to the Planning Area. As a result of these studies, 20 sites were documented directly within the Planning Area. It should be noted that a large portion of the Planning Area has never been surveyed. The records search found no known cultural resources within the Planning Area or within a half-mile radius that are listed in the *National Register of Historic Places* the *California Register of Historical Resources, California Points of Interest, California Inventory of Historic Resources,* or the *California State Historic Landmarks.*

According to the Southern San Joaquin Valley Historical Resources Information Center, no prehistoric resources have been reported. The following historic features have been reported:

- Restroom
- Jensen Home, 8262 Bethel Avenue
- Residence, 8674 E Khan Street
- Selma Japanese Mission Church, 2415 Floral Avenue
- Residence, 2124 Gaither Street
- Residence, 2428 Jasper Street
- Stockley Terrace, 1445 Peach Street
- Residence, 2639 Pine Street
- State Route 43 Widening, 12490 S. Highland Avenue
- Residence, 9727 S. Shaft Avenue

- Selma Women's Clubhouse, Selma Street
- Residence, 2487 Thompson Avenue
- Residence, 2564 Stillman Street
- Residence, 2600 Stillman Street
- Residence (1), 2506 Stillman Street
- Residence (2), 2506 Stillman Street
- Residence, 2523 Whitson Avenue
- Historic buildings including a school, church and various residential buildings, Art Gonzales Pkwy and Highland Avenue
- Ca. 1943 bridge, Fowler Switch Canal

A historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. There may be unidentified features in the Selma vicinity that are 45 years or older and considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

PREHISTORY

The Planning 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 Tehachapi mountains 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 Nevada 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 various peoples of the Hokan language family held the Coast Ranges on the west from Point Sur southward.

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 water resources, with major villages situated near waterways that provided not only reliable water supplies but also 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.

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 1,600 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 desecularized 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

Selma's history dates back to 1880, when the Valley View School District was established. Thirteen years later a partnership was established between four farmers, Whitson, Tucker, Otis and Snyder. These farmers established a town site for Selma in 1893. The "Selma" name was chosen from a list of names submitted by the Central Pacific Railroad that was also built through the community in 1880. Selma incorporated in 1896 three years after the town was established.

Selma's first major industry was wheat farming, which gave way with the arrival of irrigation and the onslaught of orchards of peaches. As the community established its orchards of peaches, they also adopted the slogan "Home of the Peach". As the community grew, a new crop was established and grape vineyards took over the acres of land that surrounded Selma, eventually producing 93% of the world's raisin crops. With this newfound economy Selma adopted a new slogan in 1963, "Raisin Capital of the World". Since then, Selma has been a progressive growing community that strives to retain a small town lifestyle and qualities. Selma's Central Business District continues to thrive with a diverse cultural and ethnic background and five shopping areas that provide the complete shopping experience, making Selma an All-American City. (City of Selma Website, Chamber of Commerce, May 2007).

CHAPTER NINE

NATURAL AND AGRICULTURAL RESOURCES

CHAPTER NINE – NATURAL AND AGRICULTURAL RESOURCES

9.1 Water Resources in the Area

SURFACE WATER

The primary surface waters in the vicinity of Selma include the Centerville and Kingsburg Canal, which runs through the east side of the community, Fowler Switch Canal and Rockwell Pond, which are located in the northwest part of the Planning Area, and the Kings River (see Figure 10-2).

The Kings River is located approximately seven miles east of downtown Selma. The drainage area of the Kings River above Pine Flat Dam is 1,542 square miles, and the average annual flow at this point is 1,727,500 acre-feet (Friant Water Users Authority, September 2001). Pine Flat Dam is the main irrigation conservation facility on the Kings River and is operated by the Kings River Water Association, an organization of Kings River diverters. Water released from Pine Flat Dam flows through the various channels of the Kings River in the Valley to the diversion points of 22 water agencies in Kings, Tulare, and Fresno Counties. In extremely wet years, Kings River water flows to the ocean through the Fresno Slough or to Tulare Lake through the south fork of the Kings River.

One of the districts diverting water from the Kings River is the 143,000-acre Consolidated Irrigation District within which Selma is located. This district extracts surface water to supplement agricultural groundwater pumping (Zoellen Taylor, personal conversation, June 2007).

The City of Selma does not have a history of flooding. According to the Public Services and Facilities Element of the General Plan (City of Selma, July 1983), "Local storm water drainage is provided by a network of ponding basins, canals and storm drains. Most of the newer areas of the community are well drained, however, some of the older areas, such as those bounded by Valley View, Floral, Olive and Thompson Avenues do experience some localized ponding during heavy rain concentrations."

FEMA uses the national standard of the 100-year flood as the base flood-line for purposes of flood plain management measures. For those areas subject to shallow flooding and deep ponding, boundaries of the 100-year flood are delineated using the appropriate elevations, depths and topographic maps. Flood boundaries are indicated on the Flood Insurance Rate Map for the Selma area (see Figure 10-2). Selma's flood boundaries correspond to the location of ponds and other flood control structures throughout the community.

GROUNDWATER

Selma is located in the Kings sub-basin of the San Joaquin Valley groundwater basin in the Tulare Lake hydrologic region. The sub-basin encompasses approximately 1,530 square miles and contains approximately 90 million acre-feet of water. Groundwater levels in this region are ample and have exhibited a general upward trend since droughts in 1976-77, and 1987-92 (California Department of Water Resources, May 2006). 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 axis. Recharge was primarily by seepage from stream flows. Under present conditions, groundwater is recharged primarily from stream flow percolation, from percolation basins developed by agricultural irrigation districts, by percolation from treated wastewater disposal facilities and from percolation attributed to excess applied surface irrigation water. Groundwater depth in the Selma area is approximately sixty feet below the ground.

9.2 Groundwater Quality

In general, the groundwater quality of the City is relatively high with the exception of one major contaminant, dibromochloropropane (DBCP), a soil fumigant nematicide. Like many east side San Joaquin Valley communities, Selma has experienced DBCP contamination in City wells to the point that one well has been abandoned and another uses an activated carbon filter to reduce DBCP to an acceptable level (the well that was abandoned was also contaminated with EDB, a chemical used in dry-cleaning). Many of the existing wells and new well sites in the City may require treatment to remove DBCP. Other than this contaminant, the City's groundwater supply is suitable for domestic purposes with normal treatment (chlorination).

9.3 Summary of Existing Descriptions of Soils in the Planning Area

As described by the USDA Soil Conservation Service, soils within the Planning Area fall primarily into eight associations: Delhi sand and loamy sand, Dello loamy sand, Exeter loam, Grangeville sandy loam, Hanford sandy loams, Hesperia sandy loams, Pollasky sandy loams, and Tujunga loamy sands. Table 9-1 details these soils classifications and properties. Figure 9-1 shows the location of these soils in relationship to the City of Selma.

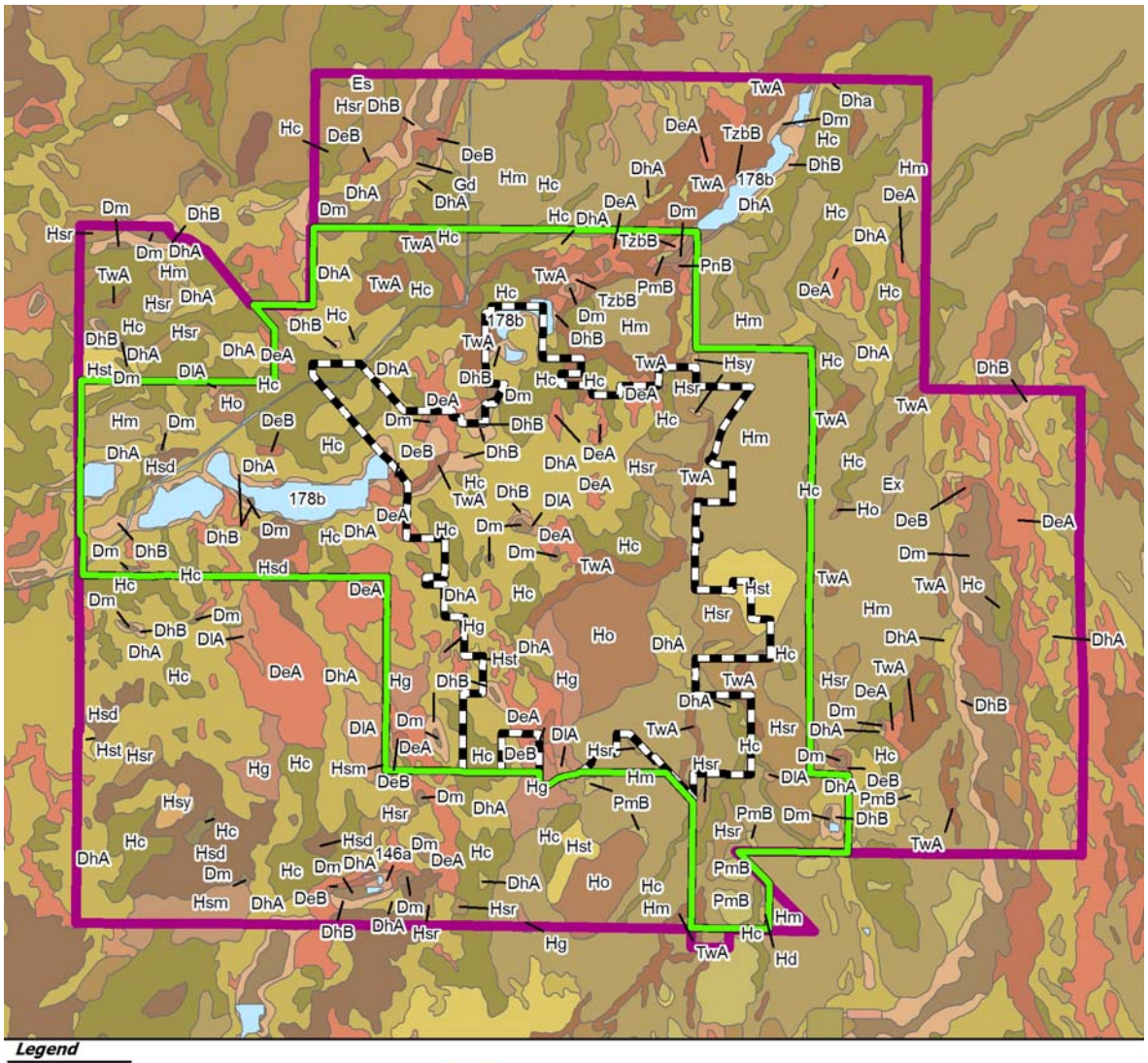
The USDA's October 1971 Soil Survey of the Eastern Fresno Area describes these soils in the following way:

DELLO SERIES

The Dello series consists of deep soils that formed under somewhat poorly drained to poorly drained conditions from permeable, coarse-textured, granitic alluvium or wind-laid sands. These nearly level or very gently undulating soils occupy bottoms of wind-scoured hollows, segments of naturally dammed flood distributary channels, and parts of the river bottoms. In the past, when the water table was closer to the surface, the depressions in which these soils are located were intermittent ponds. With the development of surface irrigation water, many became perennial ponds when they were used as sumps for excess canal water. Some depressions continue to be used as sumps, but with the general lowering of the water table, the ponding is only intermittent. Others not used as sumps now have improved drainage.

DELHI SERIES

The Delhi series consists of deep, somewhat excessively drained, rapidly permeable, coarse-textured soils formed in wind-laid deposits of uniformly sorted sandy material. The parent material was blown from recent granitic alluvium, carried short distances, and heaped into an undulating to gently rolling relief. Areas of this material are generally oriented parallel to the prevailing northwesterly winds.



Quad Knopf

SOILS

Figure 9 - 1

Table 9-1
General Soil Characteristics
within the Selma Planning Area

Soil Type	Land Use	Drainage	Permeability	Prime Farmland	Shrink-Swell Potential
Exeter Series loam	Irrigated crops, building site development and dairies	Moderately well drained	Moderately slow	No	Moderate
Grangeville Series sandy loam, saline alkali	Irrigated crops, some urban development	Slow	Moderately rapid	Yes	Low
Dello Series loamy sand	Irrigated field crops and vineyards	Very slow or none	Very rapid	No	Low
Hanford Series fine sandy loam fine sandy loam, silty substratum sandy loam sandy loam, benches sandy loam, silty substratum	Irrigated crops, building site development and dairies	Well drained	Moderately rapid	Yes	Low
Hesperia Series fine sandy loam fine sandy loam, moderately deep fine sandy loam, moderately deep, saline-alkali sandy loam sandy loam, moderately deep sandy loam, saline-alkali	Irrigated crops, building site development and dairies	Well drained	Moderately slow	Yes	Low
Tujunga Series loamy sand, 0 to 3% slopes loamy sand, 3 to 9% slopes	Irrigated crops, building site development and dairies	Somewhat excessively drained	Rapid	NA	Low
Delhi Series loamy sand, 0 to 3% slopes loamy sand, 3 to 9% slopes loamy sand, moderately deep, 0 to 3% slopes sand, 0 to 3% slopes sand, 3 to 9% slopes	Irrigated crops, building site development and dairies	Somewhat excessively drained	Rapid	Yes	Low
Pollasky Series fine sandy loam, 2 to 9% slopes sandy loam, 2 to 9% slopes	Irrigation crops	Well drained	Moderately rapid	NA	Low

NA: Information not available
Source: US Geological Survey, *Western Tulare County, CA Soil Survey, Soils Descriptions*, November 1999

EXETER SERIES

The Exeter series consists of well-drained soils having a medium-textured, weakly defined subsoil that overlies a strongly cemented silica-iron hardpan at a moderate depth. These soils developed in granitic alluvium of intermediate aged terraces of the Kings River and San Joaquin River, as well as those of smaller streams draining the foothills. Most areas of the soils are under cultivation and have a smooth, nearly level surface. Under natural conditions, these soils had a slightly hummocky microrelief.

GRANGEVILLE SERIES

The Grangeville series consists of moderately coarse textured soils that formed in recent granitic alluvium where drainage was somewhat poor. The soils have moderately rapid permeability and lack a subsoil. In recent years, flood-control and storage dams, as well as a general lowering of the water table by wide-spread pumping, have improved the drainage of these soils in most places.

These soils are nearly level; they occupy secondary flood plains along the main rivers and some smaller streams and parts of the recent fans of the rivers. The natural surface is commonly smooth, but in places it is laced by former, shallow flood channels that wander out from the active streamways. Most of these channels are overgrown with vegetation. The natural plant cover consists of annual grass and forbs, some saline-alkali-tolerant plants in places, and scattered valley oak. Adjacent to the rivers, the vegetation was more dense and includes shrubs, vines, and willows.

HANFORD SERIES

The Hanford series consists of well-drained, fertile, moderately coarse textured soils formed in recent granitic alluvium. These soils lack a subsoil, but they are some of the best soils for farming in the survey area. The Hanford soils formed mainly on nearly level, broad alluvial fans. In some areas they formed on benches in the secondary river valleys and also in gently sloping alluvial fans.

HESPERIA SERIES

The Hesperia series consists of well-drained moderately coarse textured soils that formed in granitic alluvium. These soils have accumulated a slight to moderate amount of lime below the surface layer and in places are saline-alkali affected. They are on the central parts of the young fans of both the Kings River and the San Joaquin River and on local stream ridges on the lower parts of the fans. The surface is smooth and nearly level to gently undulating.

POLLASKY SERIES

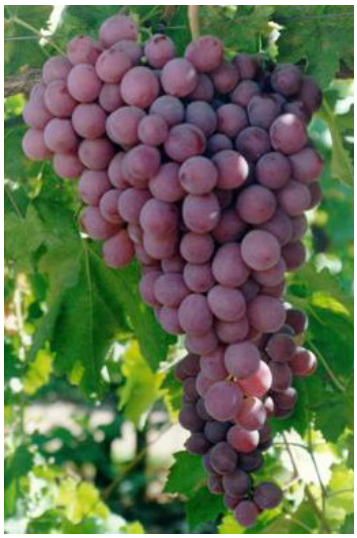
The Pollasky series consists of well-drained soils that formed in place from the weathering of softly to moderately consolidated granitic sediments. At one time these sediments were overlain, at a moderate depth, by material laid down on alluvial terraces. Erosion has worn away the

overlying material and exposed the granitic sediments to weathering and soil formation. In the process, an undulating to hilly relief has been formed that is smooth and rounded. Slopes are 2 to 30 percent.

TUJUNGA SERIES

The Tujunga series consists of excessively drained loamy sand and sandy soils that formed in recent alluvium derived from granitic rocks. These soils occupy flood plains and fans of rivers and smaller streams. They are normally nearly level, but in places their surface is fluted by numerous parallel channels. The soils are gently to moderately sloping where they occupy former flood distributary channels. Slopes are 0 to 9 percent.

9.4 Agricultural Production Patterns and Trends



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:

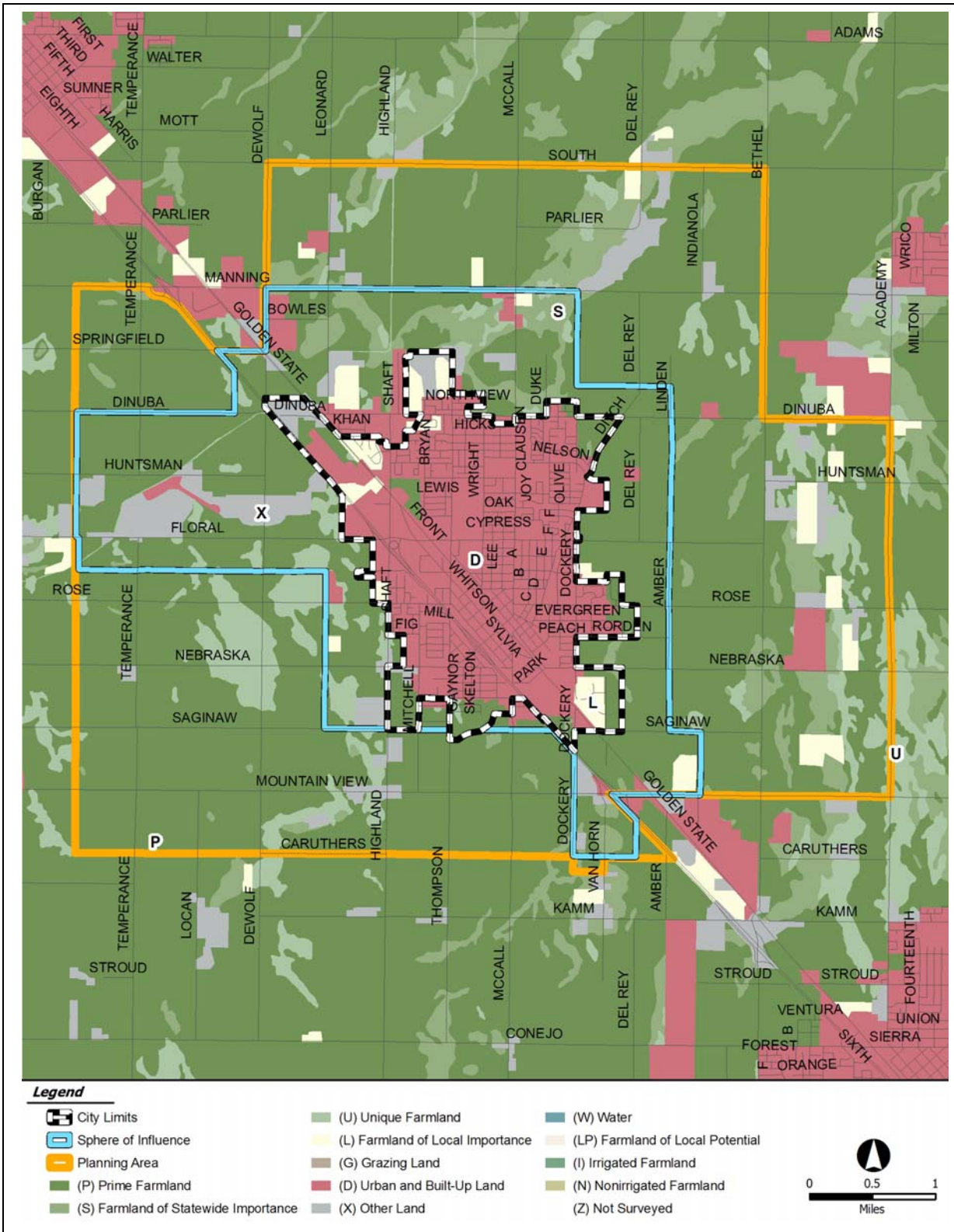
Prime Farmland is land best suited for producing seed, feed, forage, fiber and oilseed crops and also available for these uses (the land could be cropland, pasture land, rangeland, forest land or other land, but not urban built-up land or water). It has the soil quality, growing season and moisture supply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

Unique Farmland is land other than prime 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 a 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.

Figure 9-2 depicts the distribution of important farmland by soil type in the Planning Area.

The dominant land use around the City limits is agricultural. Single-family homes occupy many parcels at rural densities. Farm sheds and other ancillary structures are also present. Some areas outside of the City limits also contain industrial, commercial or public uses (see Figure 2-2 for existing land uses). Surface water for agricultural uses is delivered via canals, ditches, and channels.



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IMPORTANT FARMLAND

Figure 9 - 2

Fresno County, one of the most diverse and productive farming areas in the world, produces a wide array of crops, lumber, nursery stock, livestock, poultry and dairy products. The total value of these agricultural products was approximately $4.85 billion in 2006 (up from $4.64 billion in 2005), making it the most agriculturally productive county in the United States.

The benefits of a strong agricultural community far outweigh just the gross receipts of the producers. A single dollar generated by agricultural production results in a benefit of three and a half dollars to the total economy of the County. One out of every ten jobs throughout the state is directly linked to agriculture.

CROP VALUES

According to the 2006 Fresno County Annual Crop Report, grapes, almonds, and tomatoes are the top grossing crops in the County (Table 9-2). In 2006, the total harvested acreage of all crops in Fresno County was 2,092,775.

Table 9-2
Fresno County's Ten Leading Agricultural Commodities, 2006

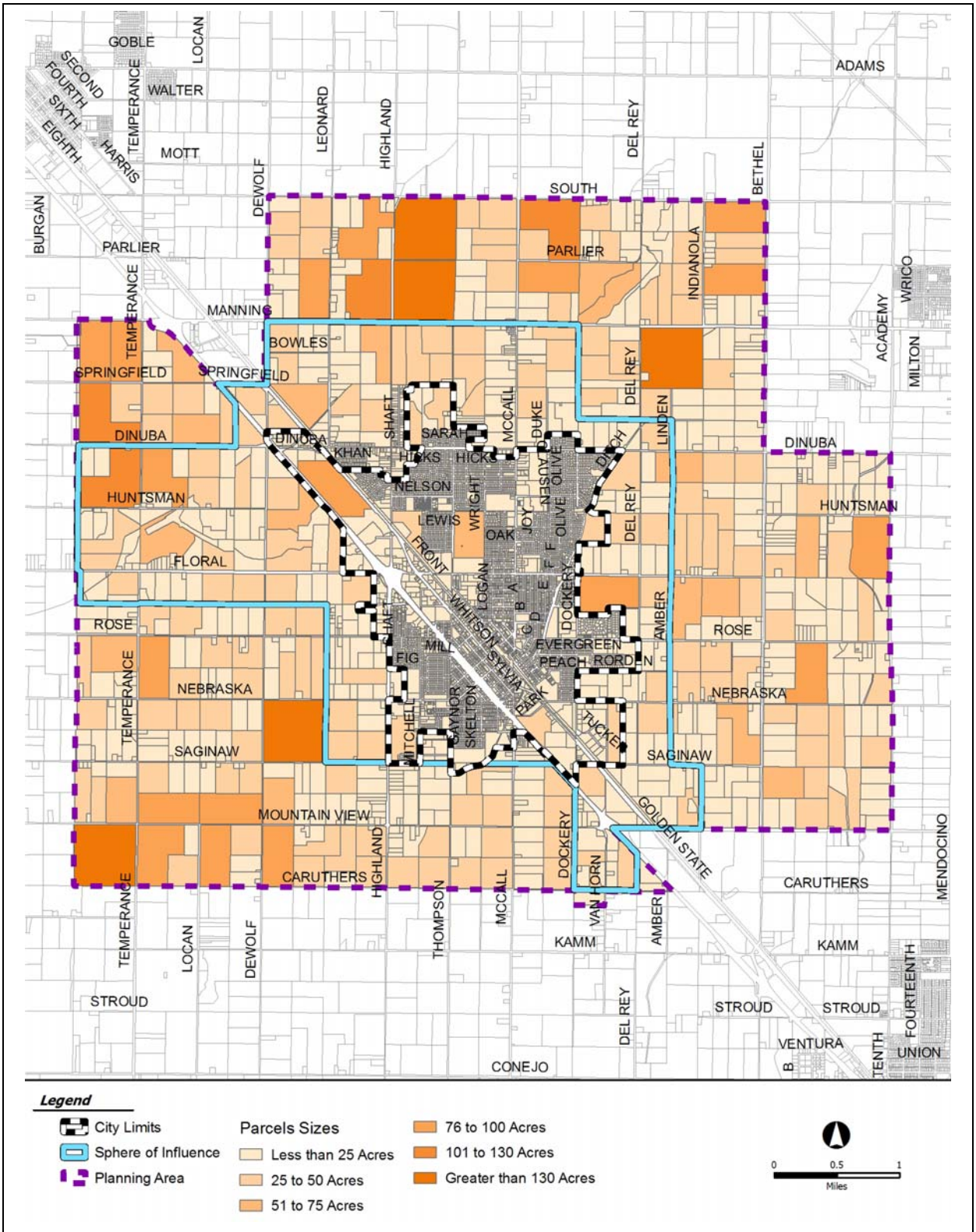
Commodity	2006 Rank	2006 Dollar Value	2005 Rank	1996 Rank	1986 Rank
Grapes	1	$562,751,000	1	1	1
Almonds	2	$494,500,000	2	6	14
Tomatoes	3	$402,141,000	4	4	4
Poultry	4	$389,147,000	7	3	+
Cattle and Calves	5	$317,074,000	5	9	3
Milk	6	$296,715,000	3	5	5
Cotton	7	$245,271,000	6	2	2
Onions	8	$233,877,000	11	17	19
Peaches	9	$192,309,000	8	7	9
Nectarines	10	$171,872,000	9	10	10
Top Ten Total		$3,305,657,000			

+Not previously combined for ranking purposes
Source: 2006 Fresno County Annual Crop Report

According to the California Department of Conservation's Division of Land Resource Protection, Fresno County lost 8,117 acres of agricultural land between 2002 and 2004 (California Department of Conservation, May 2007). The most common reasons for irrigated farmland loss in the San Joaquin Valley are land idling, low-density residential development and ecological restoration uses.

PARCELIZATION

Figure 9-3 shows properties by parcel size for the Planning Area of Selma. Parcel sizes are grouped as follows: 0 to 25 acres; 26 to 50 acres; 51 to 75 acres; 76 to 100 acres, 101 to 130 acres; and parcels larger than 130 acres. The approximate acreages for each category are included in Table 9-3.



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PARCEL SIZES BY ACREAGE

Figure 9 - 3

Table 9-3
Parcel Size by Acreage
Selma Planning Area

Parcel Size, Acres	Total Acres
<25	7,153
25-50	159
51-75	18
76-100	18
101-130	4
>130	5

Source: Quad Knopf analysis

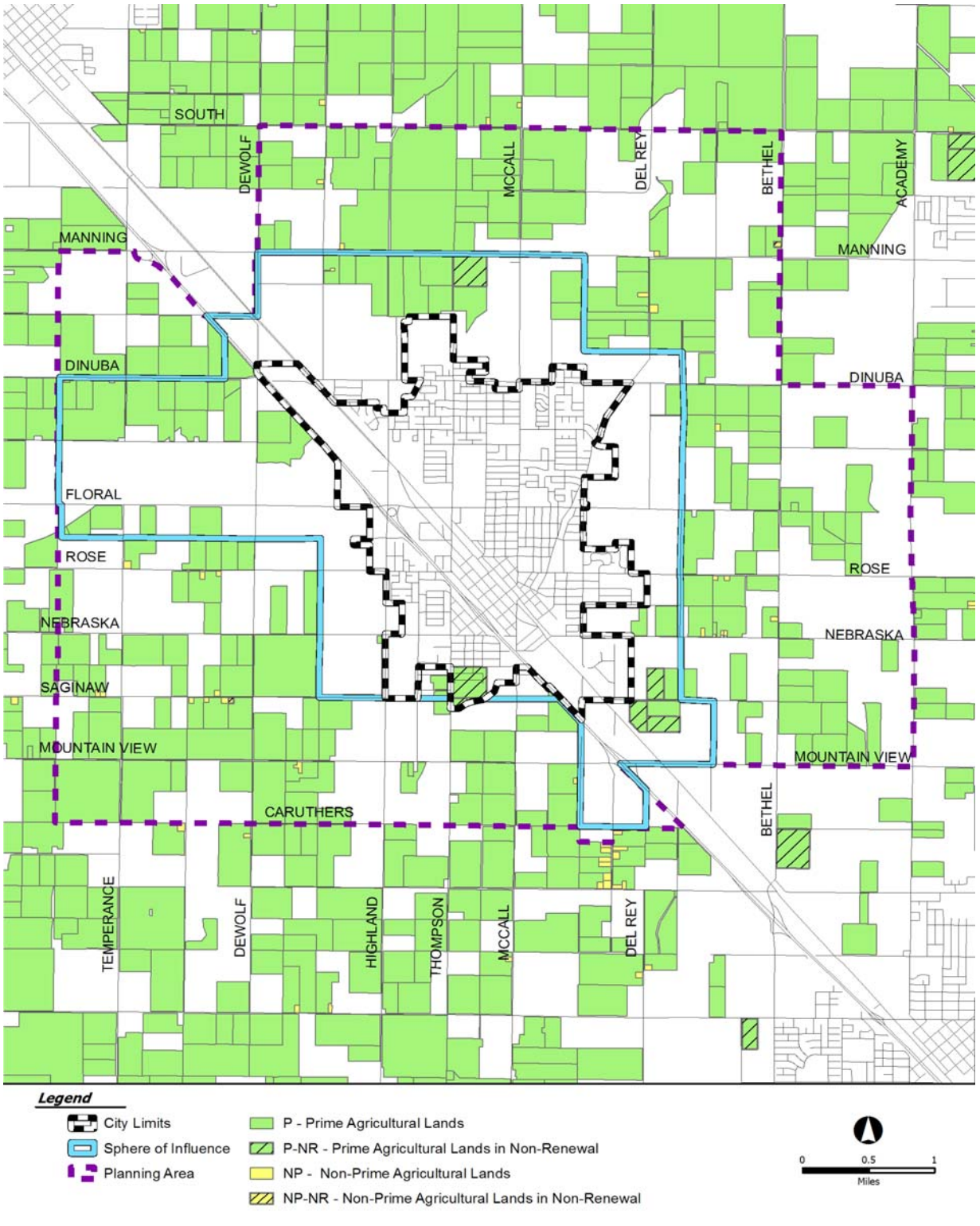
WILLIAMSON ACT

The Williamson Act is a State program administered by counties and cities for the preservation of agricultural land. Participation in the program is voluntary on the part of both landowners and local governments, and is implemented through the establishment of agricultural preserves and the execution of Williamson Act contracts. Individual property owners enter into a contract which restricts or prohibits development of their property to non-agricultural uses during the term of the contract in return for lower property taxes. Initially signed for a minimum ten-year period, the contracts are automatically renewed each year for a successive minimum ten-year period unless a notice of nonrenewal is filed or a contract cancellation is approved by the local government. Figure 9-4 illustrates parcels in the Selma area that are currently under Williamson Act contract.

State subventions are paid to participating county and city governments based on enrolled acreage in partial repayment for foregone property tax revenues. These subventions typically do not fully reimburse the counties and cities for lost revenues. For this reason, some jurisdictions do not participate in the Williamson Act program, while others have stopped taking new applications. The current subvention rate is five dollars per acre for prime farmland, one dollar per acre for nonprime land, and eight dollars for urban prime farmland (prime farmland within city limits).

State law requires that participating counties and cities adopt rules governing the administration of agricultural preserves and the types of uses allowed on land under contract. The uniform rules governing the types of uses allowed on lands under contract in Fresno County are contained in the zoning regulations of the Fresno County Zoning Ordinance.

State law establishes procedures for cancellation of Williamson Act contracts and requires that all cancellations be carried out in accordance with those procedures. There is no local discretion. State law limits the termination of a Williamson Act contract through the cancellation process to "special" or "extraordinary" circumstances. In contrast to the nonrenewal process, in which a contract is phased out over a nine-year period, approval of a cancellation request results in the immediate termination of a contract once conditions are met. Only the property owner can apply for cancellation, and only the jurisdiction's legislative decision-making body can approve such a request after holding a public hearing and making the finding that the cancellation would either be consistent with the intent of the Williamson Act or would be in the public's interest. If a



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WILLIAMSON ACT PARCELS

Figure 9 - 4

property owner receives approval of cancellation, payment based on a percentage of the current market value of the land is required prior to termination of the contract. In Fresno County in 2003, there were approximately 1.5 million acres under Williamson Act contract (California Department of Conservation, May 2007).

Although implementation of the Williamson Act program is voluntary, once contracts are executed, withdrawal from the program can only be undertaken in accordance with State law. The local entity may, however, impose more stringent requirements for cancellation than those specified under State law. Notices of nonrenewal can be filed either by the property owners or the local entity after adequate notice has been given, as set forth in State law.

In 1998, the State Legislature amended the Williamson Act to provide for the establishment of "Farmland Security Zones" (FSZ). Since the passage of the Williamson Act, it became apparent that owners of prime farmland and land used for high value crops may not realize the property tax reductions under traditional Williamson Act contracts sufficient to justify restricting their land to agricultural purposes. The Farmland Security Zone legislation authorizes landowners to petition the Board of Supervisors to rescind their existing Williamson Act contract in favor of a new Farmland Security Zone contract. Land subject to a FSZ contract is valued for assessment purposes at 65 percent of the value of its Williamson Act value or 65 percent of its Proposition 13 value, whichever is lower. The FSZ legislation provides that the FSZ contracts must be one or more of the following classifications, as designated by the California Department of Conservation Important Farmland Series maps: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The legislation does not include cancellation provisions (California Department of Conservation Farmland Security Zones website, June 2007). In 2006, Fresno County had about 24,070 acres under FSZ Contract (Dwayne Morine, personal conversation, June 13, 2007).

MINERAL RESOURCES

Although Fresno County contains several mineral resources, none are found in Selma or its vicinity.

9.5 Agricultural Employment

According to the State Employment Development Department (EDD), total civilian employment in Fresno County was estimated to be 381,200 in April, 2007, at which time the unemployment rate was 9.0 percent, compared to the statewide unemployment rate of 5.0 percent. Total farm employment was 39,200 in April 2007, up from 37,600 in April 2006 but down from 60,000 in April 1997. Total farm employment in April 2007 accounted for 9.4 percent of the civilian labor force.

Refer to Table 5-3 for Selma's employment by industry for 1996 and 2006. Historically, agriculture and related industries have dominated the County's economy, creating higher unemployment rates partly due to seasonal variations in employment.

9.6 Multiplier Effect

According to the Fresno County Agricultural Commissioner, agricultural production figures only partially reflect the overall measure of the impact agriculture has on the local economy. Field labor, processing, transporting, marketing and other farm-related services significantly multiply the value agriculture has to Selma.

Income from agriculture at the community level may be classified as primary or secondary income. Examples of primary income are farm operators' and proprietors' net farm income, and wages paid to hired labor. The secondary income contribution arises from primary farm income spent as household income. Also, most gross farm income is used to purchase farm business inputs and equipment. Expenditure of these dollars supports local businesses which pay wages and provide income to local proprietors. The impact of both farm household and farm business spending contributes to the secondary income as measured by the income multiplier.

When measuring the multiplier effect, an income multiplier is used to help determine the total effect of each additional dollar earned by a local household. The multiplier ranges in value from one to some value greater than one. Each multiplier has two components, the initial direct income, or primary effect, and the secondary effect, which is caused by two separate forces.

The first force is the ripple effect that occurs when farmers buy local inputs to use in their production process. The operating budget of the farms is spent either inside or outside the City and the County. Dollars spent locally will generate an indirect effect, resulting in more personal income available to local households. Dollars spent outside the City are lost dollars, and they generate no additional impact.

The second force is the ripple effect that occurs when farm income is paid out to its employees and owners. These dollars go to people in the form of wages, interest, rents, dividends, and profits. If the recipients live locally and spend their household income locally, the dollars will have an induced effect, resulting in more personal income available to local households. If the dollars go to people who do not live or spend in Selma, the dollars are lost and generate no additional income.

The Fresno County Farm Bureau reports that every dollar produced on the farm generates more than $3.50 in the local and regional economy (Fresno County Farm Bureau, July 2007). By this measure agriculture in Fresno County, which produced approximately $4.85 billion in agricultural products in 2006, generated approximately $17 billion in the local, regional and State economy.

"HIGH TECH" AGRICULTURE AND ITS POTENTIAL

New agricultural technologies include agricultural software (applications of computer technology to agriculture), specialty fertilizers, moisture sensing equipment for irrigation control, "precision" farming based on use of geographic information systems, remote sensing, robotics, computer technology, and biorational and sustainable farming practices which support twenty-first century agriculture. "High tech" agriculture has the potential to produce higher yields at lower costs. Remote sensing has the capacity to detect specific problem areas and treat them

with precision. Position sensitive crop management conserves water and dispenses chemicals in a judicious manner, as compared to indirect methods. Biorational techniques can manage insects through the use of non-toxic behavioral chemicals. These techniques are related to integrated pest management, which uses biological controls to control pests with minimum harmful side effects. Biorational techniques are those techniques that are compatible with the use of biological control, or have little impact on natural enemies. Through the implementation of sustainable agriculture, natural resource degradation can be reduced or prevented. Environmental health can be maintained through the use of reduced-volume irrigation systems, reduced tillage, and the efficient use of inputs.

The USDA policy goals and recommendations for small farms (Section 3.6, Role of Small Farms) recommends emphasizing sustainable agriculture as a profitable, ecological and socially sound strategy. Large scale production often requires the use of intensive systems that harm the natural environment, whereas sustainable agriculture can produce higher value products using methods consistent with long-term environmental enhancement and higher returns per acre.

BIOTECHNOLOGY

Agricultural biotechnology can be defined as the use of living organisms, including microbes, plants and animals, or materials produced from living organisms, to produce useful products such as pest and disease resistant crops, improved foods and animal vaccines. It includes enzymes produced in fermentation processes, biorational and natural pest control products, genetically transformed food and animal products, and the use of plants to produce human therapeutics. The following are opportunities for business expansion in agricultural biotechnology:

- Biotechnology research and development companies
- Animal-oriented agricultural biotechnology companies
- Domestic and international seed companies
- Agricultural biotechnology production companies
- Start-up agricultural biotechnology companies
- Seed and chemical companies
- Advanced agricultural technologies

NON-TRADITIONAL AGRICULTURAL OPERATIONS

Examples of non-traditional agricultural operations include aquaculture, hydroponics and tree farms. None of these are mentioned in the annual Agricultural Crop Report issued by the Fresno County Agricultural Commissioner, presumably because revenues are below the cutoff point. Other examples of “non-traditional” or specialty operations include:

- Grape rootstock and grape plant nurseries
- Hardy perennial wholesale nurseries
- Specialized nurseries applying advanced genetics and agricultural biotechnology to their plant development programs
- Specialized nurseries for California native and drought-resistant plants
- Fruit tree nurseries

- Regional wholesale nurseries
- Sod farms
- Seed support industries
- Agricultural software
- Specialty fertilizers

ORGANIC FARMING

The USDA's National Organic Program website (United States Department of Agriculture, June 2007) gives the following definition of organic food:

"Organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation. Before a product can be labeled "organic", a Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to your local supermarket or restaurant must be certified, too."

According to the 2006 Annual Crop Report for Fresno County (Fresno County Department of Agriculture, June 2007), 118 farms totaling more than 36,247 acres (including 21 new growers), as well as seven processors and eighteen handlers (shippers/packers) were registered as organic in 2006, and gross returns for organic farming in the County in 2006 were over $47 million. Over 90 different organic crops were grown, packed, and shipped in the County in 2006. These statistics indicate a significant increase in organic farming from the previous year, when 83 farms totaling more than 13,229 acres were registered as organic, gross returns were over $25 million, and over 70 different organic crops were grown.

ECONOMIC DEVELOPMENT AND SUSTAINABILITY

Sustainable agriculture is a farming system that is economically sound, reduces the use of chemical pesticides, and/or promotes cultural practices that enhance habitat values to wildlife. Promoting sustainable agriculture in the Selma area will increase the amount and quality of wildlife habitat while also continuing a productive use of land that provides economic benefit to the City. There are ways in which existing agricultural production practices can be modified to provide greater wildlife habitat value while allowing crop production to continue.

Sustainability can also refer to maintaining a critical acreage mass in production of a particular commodity to support the infrastructure and processing needs for that commodity (e.g., seed companies, agricultural machinery suppliers, etc). The central location of Fresno County with respect to other agricultural counties in the region (Madera, Merced, Kings, and Tulare) and the size of Fresno County's agricultural economy help assure that this critical acreage mass will remain.

The American Farmland Trust's projected urban and suburban development and the resultant loss of farmland in the San Joaquin Valley will increase the demand for raw materials from prime farmland in Fresno County and other areas in the San Joaquin Valley. Thus, the remaining farmland in the San Joaquin Valley will become progressively more important and valuable as a source of raw farm commodities.

9.7 Description of General Wildlife Habitat within the Selma Area

Historically, the natural vegetation of the Selma area was characterized by vast stretches of savanna traversed by the riparian stands of the Kings River and its tributaries. These broad savannas were dominated by Valley Oak Woodland, Valley Sacaton Grassland, and Non-native Grassland natural vegetation communities. The riparian corridors of the Valley portion of the Kings River and its tributaries were dominated by Great Valley Mixed Riparian Forest and Great Valley Valley Oak Riparian Forests. The range of these natural vegetation communities has been significantly reduced from historic levels by conversion to urban and agricultural uses and by extensive water diversion projects. Only small remnants of these natural communities remain in the Central Valley. The following natural communities' classifications are from Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). Descriptions are incorporated by reference from Crampton (1974), Holland (1986), and Barbour and Major (1988).

Valley Sacaton Grassland once flourished on the alkaline flats of the Central Valley with extensive stands present in the Tulare Lake Basin and along the San Joaquin Valley trough north to Stanislaus and Contra Costa Counties. It is now greatly reduced in occurrence, with these areas now dominated by agricultural operations or non-native grasslands. Valley Sacaton Grassland is dominated by the tussock-forming perennial grasses alkali sacaton (*Sporobolus airoides*) and saltgrass (*Distichlis spicata*). Where Valley Sacaton Grasslands remain, alkali barley (*Hordeum depressum*) and California alkali grass (*Puccinellia simplex*) may also occur.

Non-native grassland is found in the valleys and foothills throughout most of California, except for the north coastal and desert regions. Non-native grassland formerly occupied large portions of the Sacramento, San Joaquin, and Salinas valleys, as well as the Los Angeles Basin. These areas are now dominated by agribusiness and urban developments. Non-native grassland is characterized by the presence of introduced grass species that may be interspersed with native forbs and shrubs. Typical species found in this natural community are wild oats (*Avena fatua*), slender wild oats (*Avena barbata*), the filarees (*Erodium cicutarium* and *E. botrys*), soft chess (*Bromus mollis*), ripgut brome (*Bromus rigidus*), red brome (*Bromus rubens*), and rye grass (*Lolium multiflorum*). This grassland community is often associated with numerous species of showy-flowered, native annual forbs ("wildflowers"), especially in years of favorable rainfall.

Great Valley Mixed Riparian Forest was once extensive in the floodplains of low-gradient, depositional streams of the Sacramento and northern San Joaquin Valley, but has largely been cleared for agriculture, flood control, and urban expansion. Great Valley Mixed Riparian Forest is a tall, dense, winter-deciduous, broadleafed riparian forest. The tree canopy is usually fairly well closed and moderately to densely stocked with various proportions of California boxelder (*Acer negundo californica*), Hinds walnut (*Juglans Hindsii*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), Goodding willow (*Salix gooddingii*

variabilis), Red willow (*S. laevigata*), and Pacific willow (*Salix lasiandra*). Understories consist of shade-tolerant shrubs like buttonbush (*Cephalanthus occidentalis*), Oregon ash (*Fraxinus latifolia*) and lianas such as wild grape (*Vitis californica*) and Virgins-bower (*Clematis ligusticifolia*).

Great Valley Valley Oak Riparian Forest was once extensive on low-gradient, depositional reaches of the major streams of the Sacramento and northern San Joaquin valleys. This forest was more scattered in the San Joaquin watershed and on the floodplains of the Kings and Kaweah rivers. Valley Oak Riparian Forest has been virtually eliminated by agriculture and fire wood harvesting. Valley Oak Riparian Forest is a medium to tall broadleafed, winter deciduous, closed-canopy riparian forest dominated by Valley oak (*Quercus lobata*). Understories include scattered Oregon ash, Hinds walnut, and California sycamore as well as young Valley oaks.

These natural communities, except some remnants of non-native grasslands, are absent from the Selma area. The area is now dominated by an agricultural landscape consisting of both large and small farms. Crops typically grown in the area include peaches, plums, and grapes. Although not prime habitat, 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 environments. In addition, agricultural practices such as herbicide and pesticide application, monocultural cropping, and intensive tillage further reduces the habitat value of these lands.

9.8 Special Status Species that Inhabit the Area

The above listed vegetation associations support a variety of wildlife and plant species and subspecies indigenous to California. The conversion of native and naturalized plant communities 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 extirpated from California, or their populations have declined significantly. 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, candidates for state or federal listing, or species of concern.

For this report, the terms "species of concern" or "special status" species refers to those species viewed with special concern by the USFWS under the Federal Endangered Species Act, by CDFG under the California Endangered Species Act, and California Natural Diversity Data Base (CNDDB) "Special Animals" (CDFG 2007a, 2007b, 2007). Attention is also given to those species given special status by various private conservation organizations. The assessment of effects to sensitive species includes those species listed under the following categories:

Federal Endangered - Listed as Endangered by the Federal Government.

Federal Threatened - Listed as Threatened by the Federal Government.

Federal Candidate - Candidate for federal listing (Taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened).

Federal Species of Concern - Federal Species of Concern (Taxa whose conservation status is of concern to the USFWS).

MBTA - Species protected under the auspices of the Migratory Bird Treaty Act.

State Endangered - Listed as Endangered by the State of California.

State Threatened - Listed as Threatened by the State of California.

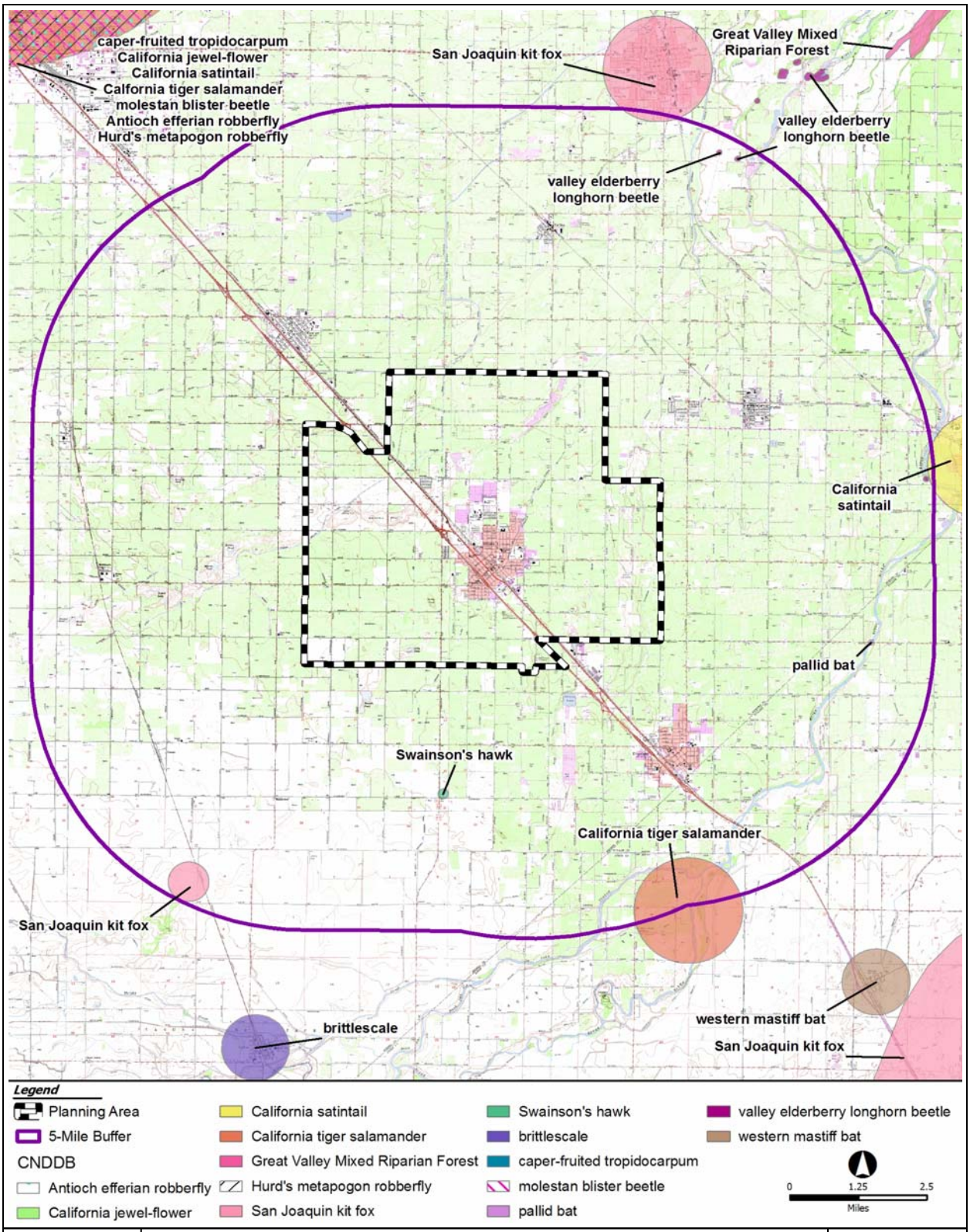
State Rare - Plant species listed as Rare by the State of California and afforded protection under the Native Plant Protection Act.

State Species of Special Concern - California Department of Fish and Game Species of Special Concern.

The San Joaquin Valley is an area of significant historical biological diversity. Existing data were reviewed to determine the historic occurrence of special status (i.e. sensitive) species and habitats in the area, including CNDDB records, literature records, and local environmental documents. The CNDDB was queried for the Selma, Conejo, Burris Park, Laton, Wahtoke, Reedley, Fresno South, Caruthers, Traver, Sanger, Malaga, and Riverdale USGS 7.5-Minute Quadrangles. A query of the California Native Plant Society's Electronic Inventory was conducted for the same quadrangles to provide information on additional plant species of concern that continued to occur in Selma and the surrounding vicinity. A species list was obtained from the USFWS website for the Selma, Conejo, Burris Park, Laton, Wahtoke, Reedley, Fresno South, Caruthers, Traver, Sanger, Malaga, and Riverdale USGS 7.5-minute quadrangles to provide information on additional special-status species that have the potential to occur in the Selma vicinity.

Special-status species that have the potential to occur in the Selma area include the San Joaquin kit fox (*Vulpes macrotis mutica*), California tiger salamander (*Ambystoma californiense*), Swainson's hawk (Swainson's hawk) and Pallid bat (*Antrozous pallidus*). While there are records of the San Joaquin kit fox, Swainson's hawk and Pallid bat occurring within the vicinity of the Selma area, it is not likely they would occur in the Planning Area, except as potential transient foragers. The lands to the far south provide more suitable habitat because of the increased prey base and reduced habitat disturbance. There is potential California tiger salamander habitat located in the Planning Area; however, no occurrences of this species have been recorded within the Planning Area. The closest occurrence is located at the Kings River which is 3.5 miles to the southeast of the Planning Area. No contiguous habitat exists between the occurrence of the California tiger salamander and the Planning Area. The locations of these recent species occurrences in the Selma area are shown in Figure 9-5. A brief description of these species and their habitat is provided in Table 9-4.

The loss of wetlands in California (it has been estimated that over 95% of wetlands have been lost) and elsewhere in the United States has resulted in wetland protections afforded by the United States Army Corps of Engineers and the California State Regional Water Quality Control Board. The USFWS defines wetlands as follows: "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of the year." The locations of designated wetlands in the Selma area are shown in Figure 9-6.



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SPECIAL-STATUS SPECIES

Figure 9 - 5

Table 9-4
Special-Status Species with the Potential to Exist in the Selma Area

Scientific Name	Common Name	Status	Species Description	Habitat Requirements
Sensitive Natural Communities				
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	RARE	Great Valley Mixed Riparian Forest are tall, dense, winter-deciduous, broadleafed riparian forests.	Floodplains of low-gradient, depositional streams of the Great Valley, usually below about 500 feet.
Northern Claypan Vernal Pool	Northern Claypan Vernal Pool	RARE	Northern claypan vernal pools are shallow ephemeral water bodies found in depressions among grassland and open woodland habitats. The clay hardpan layer retains water throughout some potion of the spring, but dries down entirely in summer months.	Fairly old, circum-neutral to alkaline, Si-cecemented hardpan soils. Often more or less saline. Intergrades via Cismontane Swale with Cismontane Alkali Marsh which has water present throughout the year.
Valley Sacaton Grassland	Valley Sacaton Grassland	CE	Valley Sacaton Grasslands are dominated by sacton or salt grasses.	Fine-textured, poorly drained, usually alkaline soils.
Special-Status Plants				
Atriplex depressa	Brittlescale	1B	An annual herb, blooms from May to October.	Chenopod scrubland, grassland, and alkali sink habitats.
Atriplex erecticaulis	Earlimart orache	1B.2	An annual herb in the goosefoot family, blooms from August to September.	Grasslands with alkali conditions.
Atriplex minuscula	Lesser saltscale	1B	An annual herb, blooms from May to October.	Chenopod scrubland, grassland, and alkali sink habitats, but it also is known to occur in wet areas.
Caulanthus californicus	California jewel flower	FE, CE, 1B	An annual herb, blooms from February to May.	Sandy soils with chenopod scrub, pinyon juniper woodland, and grasslands.
Imperata brevifolia	California satintail	2.1	A rhizomatous herb, blooms from September to May.	Chaparral, coastal scrub, mojavean desert scrub, meadows and seeps and riparian scrub.
Lepidium jaredii ssp. album	Panoche pepper-grass	1B.2	An annual herb, blooms from February to June.	Valley and foothill grasslands.
Orcuttia inaequalis	San Joaquin Valley orcutt grass	FT, CE, 1B	An annual herb in the grass family, blooms from April to September.	Vernal pools.
Pseudobahia peirsonii	San Joaquin adobe sunburst	FE, CE	An annual herb in the sunflower family, blooms in March and April.	Adobe clay soils within foothill woodlands and grasslands.

Scientific Name	Common Name	Status	Species Description	Habitat Requirements
Sensitive Natural Communities				
Schizymenium shevockii	Shevock's copper-moss	1B.2	A moss that occurs from 750 to 1400m in Fresno County.	Cismontane woodland in metamorphic rock.
Tropidocarpum capparideum	Caper-fruited tropidocarpum	1B.1	Annual herb, blooms from March to April	Valley and foothill grasslands.
Tuctoria greenei	Greene's tuctoria	FE, 1B	Annual herb in the grass family, blooms from May to September	Vernal pools
Special-Status Wildlife				
Ambystoma californiense	California tiger salamander	FT, CSC	Has a large stocky body that is black with large, pale yellow spots, small eyes, a broad, rounded snout. Has tubercles on the underside of the front and hind feet	Vernal pools and some other wet areas
Antrozous pallidus	Pallid bat	CSC	A large bat. Creamy to beige above; nearly white below. Big ears, separated at base. Wings and interfemoral membrane essentially naked.	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.
Athene cunicularia	Burrowing owl	CSC, MBTA	The adult is boldly spotted and barred and has a round head, long legs, and stubby tail. When agitated the owl will characteristically bob and bow.	Open, dry grassland and shrub habitats throughout California.
Branchinecta conservatio	Conservancy fairy shrimp	FE	All fairy shrimp have delicate elongate bodies, large stalked compound eyes, and 11 pairs of swimming legs that also function as gills, absorbing dissolved oxygen as they are moved through the water. Fairy shrimp do not have a hard shell.	Vernal pools
Branchinecta lynchi	Vernal pool fairy shrimp	FT	All fairy shrimp have delicate elongate bodies, large stalked compound eyes, and 11 pairs of swimming legs that also function as gills, absorbing dissolved oxygen as they are moved through the water. Fairy shrimp do not have a hard shell.	Vernal pools

Scientific Name	Common Name	Status	Species Description	Habitat Requirements
Sensitive Natural Communities				
Buteo swainsoni	Swainson's hawk	CSC	Large hawk with dark brown upperparts, white throat, rufous upper breast, and pale buff underparts. Tail is gray with faint bars, dark terminal band, and white trailing edge.	This species nests in riparian forests and other forested areas. It will roost in a variety of trees and forage widely over forests, grasslands, and shrublands. It is easily disturbed by human activities.
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	CE	Medium-sized cuckoo with gray-brown upperparts and white underparts. Eye-rings are pale yellow. Bill is mostly yellow. Wings are gray-brown with rufous primaries. Tail is long and has white-spotted black edges. Sexes are similar.	Riparian woodland; preferably with dense sub-canopy layer dominated by willows.
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT	Coloration of the beetle is variable; the first pair of wings may vary from dark metallic green, with a bright red-orange border to a pattern of four oblong metallic green spots. The antennae are nearly as long as the body, extending forward from the head, thus the "longhorn" designation.	Elderberry shrubs in the Sacramento and San Joaquin Valleys
Dipodomys nitratoides exilis	Fresno kangaroo rat	FE	Fur is dark yellowish-buff dorsally and white ventrally. A white stripe extends across the hips, continuing for the length of the tufted tail. The base of the tail is circumscribed by white. The top and bottom of the tail are blackish. Dark whisker patches on each side of the nose are connected by a black band of fur.	Alkali sink-open grassland habitats in western Fresno County. Require bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs and grasses.
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	FE, CE	Fur is dark yellowish-buff dorsally and white ventrally. A white stripe extends across the hips, continuing for the length of the tufted tail. The base of the tail is circumscribed by white. The top and bottom of the tail are blackish. Dark whisker patches on each side of the nose are connected by a black band of fur.	Saltbrush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin valley. Require soft friable soils which escape seasonal flooding to dig their burrows in elevated soil mounds at the base of shrubs.
Emys (=Clemmys) marmorata	Western pond turtle	CSC	Adult pond turtles range from 6-8 inches in length and weigh 1-2.4 pounds. Coloration ranges from brown to black on the upper shell, with lighter marbling visible on close examination. The lower	The western pond turtle occurs in streams, large rivers, and other bodies of slow-moving water. They are most common in areas with large rocks and boulders which they use as basking

Scientific Name	Common Name	Status	Species Description	Habitat Requirements
Sensitive Natural Communities				
			shell is black and yellow. The head and legs are also dark with possible yellow markings (not stripes).	sites.
Eumops perotis californicus	Western mastiff bat	CSC	Biggest North American bat. Fur is dark brown, with thin, white hairs at the base. Has huge ears, joined at base of head and extending out over forehead like a bonnet.	Dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas.
Gambelia sila	Blunt-nosed leopard lizard	FE, CE	Large lizard with a short, blunt snout and striping pattern on its back, which breaks into spots as the lizard grows.	Sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief.
Haliaeetus leucocephalus	Bald eagle	FT,CE	White head and tail with a brown body.	Large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches.
Hypomesus transpacificus	Delta smelt	FT	Steel blue sheen on the lateral sides and appears somewhat translucent.	Sacramento and San Joaquin estuaries of the San Francisco Bay.
Lepidurus packardi	Vernal pool tadpole shrimp	FE	Vernal pool tadpole shrimp adults reach a length of 2 inches in length. They have compound eyes, a large shield-like carapace (shell) that covers most of the body, and a pair of long cercopods (appendages) at the end of the last abdominal segment.	Vernal pools.
Perognathus inornatus inornatus	San Joaquin pocket mouse	FSC	Buff-orange colored mouse with a sprinkling of darker guard hairs on its back; it does not contain the spiny hairs found in some of the other species of pocket mice.	Arid annual grasslands, oak savannah and saltbush scrub in friable soils.
Rana aurora draytonii	California red-legged frog	FT	Light jaw stripe usually ends in front of shoulder with red on underside of hind limbs.	Streams, ponds and marshes with dense shrubby vegetation such as cattails and willows near deep water pools.
Spea (=Scaphiopus) hammondii	Western spadefoot	CSC	A relatively smooth-skinned species; eye is pale gold with vertical pupil; green or grey dorsum often with skin tubercles tipped in orange; whitish color on venter; wedge-shaped black spade on each hind foot.	Grassland, scrub, and chaparral habitat. It occurs in seasonally moist areas, including puddles, vernal pools, and roadside ditches.

Scientific Name	Common Name	Status	Species Description	Habitat Requirements
Sensitive Natural Communities				
Thamnophis gigas	Giant garter snake	FT, CT	Brown or olive with 2 alternating rows of well-separated small dark spots between stripes.	Permanent or semi-permanent marshes and sloughs.
Vulpes macrotis mutica	San Joaquin kit fox	FE, CT	The smallest of the arid land foxes; characterized by its large ears and distinctive black tip on its tail.	Open, dry grassland, shrub and open forest habitats on the floor of the San Joaquin Valley and surrounding foothills.

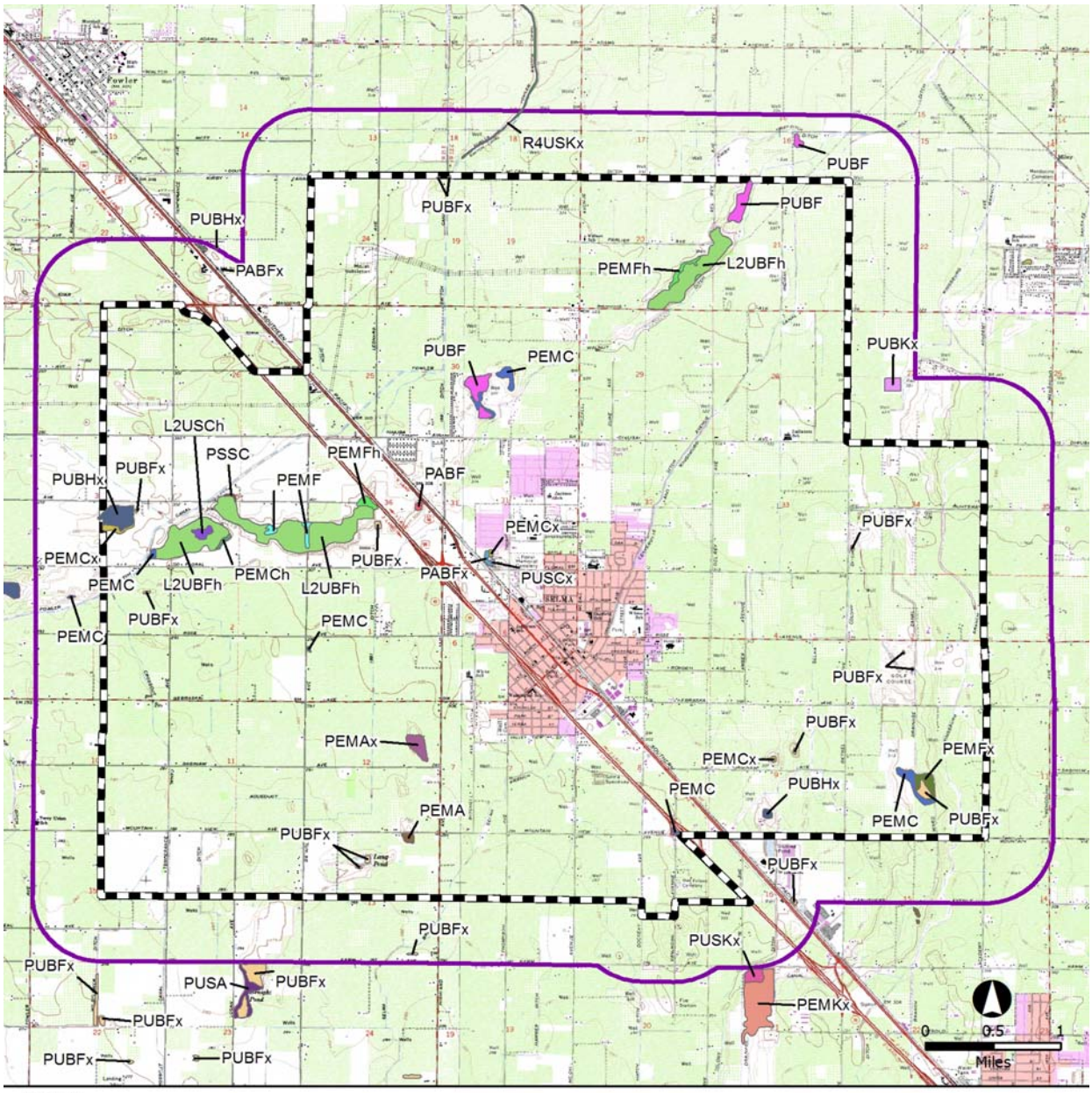
Sources:

California Department of Fish and Game. 2005. California Natural Diversity Data Base, California Department of Fish and Game, Sacramento, CA.

California Native Plant Society (CNPS). 2005. Inventory of Rare and Endangered Plants (online edition, v6-05b 4-11-05). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA.

Abbreviations:

FE	Federal Endangered Species
FT	Federal Threatened Species
MBTA	Species Protected Under the Auspices of the Migratory Bird treaty Act
CE	California Endangered Species
CT	California Threatened Species
CR	California Rare Species Afforded Protection Under the Native Plant Protection Act
CSC	California Department of Fish and Game Species of Special Concern
1B	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere.
1B.1	California Native Plan Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere; Seriously Threatened in California.
1B.2	California Native Plan Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere; Fairly Threatened in California.
2.1	California Native Plan Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California but More Common Elsewhere; Seriously Threatened in California.



Legend

- 1/2-Mile Buffer
- Planning Area
- L2UBFh, Lacustrine Littoral Unconsolidated Bottom Semipermanently Flooded Diked Impounded
- L2USCh, Lacustrine Littoral Unconsolidated Shore Seasonally Flooded Diked Impounded
- PABF, Palustrine Aquatic Bed Semipermanently Flooded Semipermanently Flooded
- PABFx, Palustrine Aquatic Bed Semipermanently Flooded Excavated
- PEMA, Palustrine Emergent Temporarily Flooded Temporarily Flooded
- PEMAx, Palustrine Emergent Temporarily Flooded Excavated
- PEMC, Palustrine Emergent Seasonally Flooded Seasonally Flooded
- PEMCh, Palustrine Emergent Seasonally Flooded Diked Impounded
- PEMCx, Palustrine Emergent Seasonally Flooded Excavated
- PEMF, Palustrine Emergent Semipermanently Flooded Semipermanently Flooded
- PEMFh, Palustrine Emergent Semipermanently Flooded Diked Impounded
- PEMFx, Palustrine Emergent Semipermanently Flooded Excavated
- PEMKx, Palustrine Emergent Artificially Flooded Excavated
- PSSC, Palustrine Scrub-Shrub Seasonally Flooded Seasonally Flooded
- PUBF, Palustrine Unconsolidated Bottom Semipermanently Flooded Semipermanently Flooded
- PUBFx, Palustrine Unconsolidated Bottom Semipermanently Flooded Excavated
- PUBHx, Palustrine Unconsolidated Bottom Permanently Flooded Excavated
- PUBKx, Palustrine Unconsolidated Bottom Artificially Flooded Excavated
- PUSA, Palustrine Unconsolidated Shore Temporarily Flooded Temporarily Flooded
- PUSCx, Palustrine Unconsolidated Shore Seasonally Flooded Excavated
- PUSKx, Palustrine Unconsolidated Shore Artificially Flooded Excavated
- R4USKx, Riverine Intermittent Unconsolidated Shore Artificially Flooded Excavated

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WETLANDS

Figure 9 - 6

9.9 Climate and Air Quality

CLIMATE

The climate of the Selma area can be described as Mediterranean, which is typified by hot, dry summers and mild winters. Average monthly temperatures include a high of 97.0° F and a low of 66.0° F in July and a high of 53.0° F and a low of 37.0° F in December. It is not uncommon for maximum temperatures to exceed 100 degrees during the summer months, nor for temperatures to drop below freezing in the winter. The highest temperature ever recorded in Selma was 112° F in July of 1991 and August of 1996. The lowest temperature of record was 18° F in January of 1949 and December of 1990. (Selma Records and Averages website, July 2007).

During the summer, a high pressure ridge develops over the Central Valley blocking the penetration of moist air from the Pacific. This high pressure system tends to weaken during the winter months thereby opening the door to Pacific storms. Approximately 85 percent of all rainfall in Selma occurs between November and April. Average rainfall measured at Selma is 11.2 inches per year. Rainfall can vary widely from year to year.

Radiation (Tule) fog is common in the winter, and may persist for days. Winds are predominantly up-valley (from the north) in all seasons, but more so in the summer and spring months. Winds in the fall and winter are generally lighter and more variable in direction but generally blow towards the south and southeast.

REGULATORY FRAMEWORK

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. Areas designated "moderate" or worse for ozone non-attainment are 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. Selma is in an area that is in un-classified attainment for CO. This means that Selma is not subject to these Clean Air Act measures, but the enhanced vehicle inspection (Smog Check) program and the oxygenated fuels program are enforced in this area as part of the California Air Resources Board (CARB) CO maintenance plan.

Table 9-5 shows the CARB's estimated emissions inventory for the year 2005 in tons per day for Fresno County. Carbon Monoxide was the largest category of pollutant in the County, and mobile sources such as on-road motor vehicles accounted for 79.05 percent of the 360.91 tons per day emitted. Area-wide sources were the second-largest contributor of CO, accounting for 51.62 tons, or 14.3 percent, of total CO. Natural sources-emissions produced by plants and animals (biogenic), humans and human activity (anthropogenic), and wildfires- accounted for 4.05 percent of total CO. 100 percent of the natural source carbon monoxide was produced by wildfires. Stationary sources accounted for the remaining 2.6 percent of carbon monoxide.

The second-largest category of pollutant was the precursors of ozone, ROG and NOX. ROG was a bigger contributor to ozone precursors than NOX. 144.93 tons per day of ROG was produced in 2005, compared to 94.03 tons of NOX. 44.12 percent of the ROG was from natural sources (almost all of which were biogenic), 22.91 percent was from area-wide sources, 21.38 percent was from mobile sources, and 11.60 percent was from stationary sources. 76.74 percent of the NOX was from mobile sources, 19.08 percent was from stationary sources, 3.69 percent was from area-wide sources and 0.49 percent was from natural sources (wildfires). Combined, 43.16 percent of ozone precursors were from mobile sources, 26.95 percent were from natural sources, 15.35 percent were from area-wide sources, and 14.54 percent were from stationary sources. 97.64 percent of the natural source ozone precursors were from biogenic sources (animals or animal byproducts).

Area-wide sources produced 91.88 percent of all particulate matter (pm) was produced by area-wide sources. PM_{10} and $PM_{2.5}$ are sometimes-overlapping subsets of PM, and therefore add up to more than total PM. PM_{10} is all PM smaller than ten microns in diameter and $PM_{2.5}$ is all PM smaller than 2.5 microns in diameter.

The FCAA requires an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measures 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, rules 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.

Table 9-5
2005 Emission Inventory
Tons Per Day for Fresno County

	ROG	% of Grand Total	NOX	% of Grand Total	ROG + NOX	% of Grand Total	PM	% of Grand Total	PM_{10}	% of Grand Total	$PM_{2.5}$	% of Grand Total	CO	% of Grand Total	SOX	% of Grand Total
Stationary Sources																
Fuel Combustion	0.79	0.55	13.20	14.04	13.99	5.85	1.35	0.96	1.28	1.66	1.20	4.33	9.05	2.51	4.88	51.97
Waste Disposal	1.37	0.95	0.01	0.01	1.38	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.01	0.11
Cleaning and Surface Coatings	6.74	4.65	---	---	6.74	2.82	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---
Petroleum Production and Marketing	4.23	2.92	0.01	0.01	4.24	1.77	---	---	---	---	---	---	0.03	0.01	---	---
Industrial Processes	3.68	2.54	4.72	5.02	8.40	3.52	4.40	3.14	2.48	3.22	1.25	4.51	0.26	0.07	3.27	34.82
Total Stationary Sources	16.81	11.60	17.94	19.08	34.75	14.54	5.75	4.10	3.77	4.90	2.46	8.88	9.37	2.60	8.16	86.90
Area-Wide Sources																
Solvent Evaporation	15.91	10.98	---	---	15.91	6.66	---	---	---	---	---	---	---	---	---	---
Miscellaneous Processes	17.29	11.93	3.47	3.69	20.76	8.69	128.78	91.88	68.26	88.67	21.13	76.31	51.62	14.30	0.18	1.92
Total Area-Wide Sources	33.20	22.91	3.47	3.69	36.67	15.35	128.78	91.88	68.26	88.67	21.13	76.31	51.62	14.30	0.18	1.92
Mobile Sources																
On-Road Motor Vehicles	19.63	13.54	43.41	46.17	63.04	26.38	1.45	1.03	1.43	1.86	1.02	3.68	197.87	54.83	0.39	4.15
Other Mobile Sources	11.34	7.82	28.75	30.58	40.09	16.78	2.06	1.47	2.03	2.64	1.82	6.57	87.42	24.22	0.52	5.54
Total Mobile Sources	30.98	21.38	72.16	76.74	103.14	43.16	3.51	2.50	3.46	4.49	2.84	10.26	285.29	79.05	0.91	9.69
Natural Sources																
Biogenic Sources	62.88	43.39	---	---	62.88	26.31	---	---	---	---	---	---	---	---	---	---
Geogenic Sources	0.05	0.03	---	---	0.05	0.02	---	---	---	---	---	---	---	---	---	---
Wildfires	0.01	0.70	0.46	0.49	1.47	0.62	2.12	1.51	1.49	1.94	1.26	4.55	14.63	4.05	0.14	1.49
Total Natural Sources	63.94	44.12	0.46	0.49	64.40	26.95	2.12	1.51	1.49	1.94	1.26	4.55	14.63	4.05	0.14	1.49
Grand Total For Fresno County	**144.93**	**100.0**	**94.03**	**100.0**	**238.96**	**100.0**	**140.16**	**100.0**	**76.98**	**100.0**	**27.69**	**100.0**	**360.91**	**100.0**	**9.39**	**100.0**

Source: California Air Resources Board
Note: Percentages may not equal 100 due to rounding

STATE REGULATIONS

The CARB is responsible for enforcing the federally required SIP in an effort to achieve and maintain the national ambient air quality standards. The SIP is the plan prepared by states and submitted to U.S. EPA describing how each federal nonattainment area will attain and maintain national ambient standards. SIPs include the technical foundation for understanding the air quality (e.g. emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. The SIP incorporates the individual nonattainment plans for air quality districts. In addition, CARB has established State Ambient Air Quality Standards for the Federal "criteria" pollutants as well as for other pollutants for which there are no corresponding Federal standards. CARB is responsible for determining air basin attainment designations in California, and has the authority over mobile sources of pollutants. As of March 1, 2006, the Air District also implements Indirect Source Rule 9510 for projects that exceed two tons of PM_{10} per year. Dust Control Plans are also required.

The Indirect Source Review (ISR) Rule 9510 was included in both the 2003 PM10 Attainment Plan and the 2004 Extreme Ozone Attainment Plan. The goal of ISR Rule 9510 is to reduce air quality impacts from growth and new development. The Indirect Source Review rule requires most new development projects to reduce their emissions of NOx and PM_{10}. If the project cannot mitigate all of its emissions through on-site measures then it must pay the Air District an off-site mitigation fee. Selma is located in the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD will use the fees to fund air quality projects that reduce the overall emissions of NOx and PM_{10} in the San Joaquin Valley Air Basin. The Indirect Source Review rule applies to new developments expected to create a substantial amount of air pollution. Applications are required for projects that are at least:

- 50 residential units
- 2,000 square feet of commercial space
- 9,000 square feet of educational space
- 10,000 square feet of government space
- 20,000 square feet of medical or recreational space
- 25,000 square feet of light industrial
- 39,000 square feet of general office space
- 100,000 square feet of heavy industrial space
- Or, 9,000 square feet of any land use not identified above

ISR also applies to transportation/transit projects with construction emissions of 2 tons of NOx per year or 2 tons of PM_{10}. Transportation/transit projects include:

- New roads
- Expansions to existing roads
- Interchange and intersection improvements
- Transit projects that involve facility construction

ISR is particularly important to local land use agencies such as the City of Selma because an ISR application must be submitted no later than/concurrent with the last discretionary approval. The application must be completed prior to the start of construction. If a project is constructed and the applicant did not complete their ISR application they are in violation of the rule and the applicant may be subject to penalties.

Ambient Air Quality Standards. Under the federal *Clean Air Act, 42 U.S.C. Section 7401 et. seq. (1970) (as amended 1990)*, the federal government originally established National Ambient Air Quality Standards for "criteria" pollutants. Both the U.S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for such criteria pollutants. These ambient air quality standards are maximum levels of contaminants, which are intended to represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The air quality criteria pollutants under state and federal law include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10}, fine particulate matter ($PM_{2.5}$), lead, and hydrogen sulfide.

The federal and California state ambient air quality standards are summarized in Table 9-6. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes are intended to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and PM_{10}.

The U.S. Environmental Protection Agency in 1997 adopted new national air quality standards for ground-level ozone and for fine particulate matter. The existing one-hour ozone standard of 0.12 ppm was phased out and replaced by an eight-hour standard of 0.08 ppm. New national standards for fine Particulate Matter (diameter 2.5 microns or less) have also been established for 24-hour and annual averaging periods. The current PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised. Additionally, a $PM_{2.5}$ State standard was adopted effective July 5, 2003.

Source: California Environmental Protection Agency
Air Resources Board

Quad Knopf

CALIFORNIA AIR BASINS

Figure
9 - 7

Table 9-6
State and Federal Ambient Air Quality Standards
Ozone, Carbon Monoxide, PM_{10}, and Sulfur Dioxide

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--[8]	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)*		0.08 ppm (157 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		50 µg/m^3		
Fine Particulate Matter (PM_{10} and $PM_{2.5}$)	24 Hour	No Separate State Standard		65 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/$m^{3)}$		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg /m^3)		0.14 ppm (365 µg/m^3)	—	
	1 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.25 ppm (655 µg /m^3)		—	—	—

NOTES:
1) California standards for ozone, carbon monoxide (except Lake Tahoe) and suspended particulate matter PM_{10}, $PM_{2.5}$, and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2) National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3) Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4) Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7) Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8) The Federal One Hour National Ambient Air Quality Standard was revoked on June 15, 2005.

Source: State of California, Air Resources Board

Regional Air Quality Plans. Federal and state air quality laws require identification of areas not meeting the ambient air quality standards. These areas must develop regional air quality plans to eventually attain the standards. Under both the federal and state Clean Air Acts the San Joaquin Valley Air Basin is a non-attainment area (standards have not been attained) for ozone, PM_{10} and $PM_{2.5}$. The air basin is either in attainment or unclassified for other ambient standards.

To meet federal Clean Air Act requirements, the SJVAPCD adopted the 2007 Ozone Plan on April 30, 2007. The 2007 Ozone Plan requests a reclassification from serious nonattainment to extreme nonattainment and provides the District until the year 2024 to be in compliance for the federal 8-hour ozone standard.

Current Air Quality. According to the California Air Resource Board's 2006 California Almanac of Emissions and Air Quality, the estimated 2005 population within the San Joaquin Valley Air Basin (SJVAB) was about 3.6 million persons. The SJVAB has one of the most severe air pollution problems in the State. In fact, the American Lung Association ranks the Fresno-Madera metropolitan statistical area, which includes the City of Selma, as having the fourth highest ozone pollution level in the nation. The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of pollutants from the basin. Inversion layers are formed in the SJVAB throughout the year. During the summer, the San Joaquin Valley experiences daytime temperature inversions at elevations from 2,000 to 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor (California Air Resources Board, 1974).

The California Air Resources Board operates a series of monitoring stations throughout the San Joaquin Valley. The closest monitoring stations to Selma are Parlier, which only monitors ozone, and Fresno-Drummond and Hanford, both of which monitor both ozone and PM_{10}. The Parlier Air Monitoring Station is located approximately seven miles to the northeast, the Fresno-Drummond station about 15 miles northwest, and the Hanford station about 17 miles south of Selma. A summary of air quality data from these monitoring sites is shown in Table 9-7.

Although the SJVAB is often in violation of state and federal ozone ambient air quality standards and PM_{10} thresholds, data collected over the past ten years by the California Air Resources Board shows that air quality in the Valley is generally improving. PM_{10} concentrations in this area of the air basin have been trending downward slowly since monitoring began in 1989. The calculated number of days at the Fresno-Drummond station exceeding the national standard was 18 in 1990 and none in 2005. The calculated number of days of exceedance of the state standard was 196 in 1990 and 43 in 2006. The air basin is designated as a 'serious' nonattainment area for federal PM_{10} ambient air quality standards. Under this designation, the air district is required to meet the 24-hour and annual PM_{10} standards by 2010. Failure to meet the attainment deadline could, again, result in increased offset requirements for new industrial sources and potential sanctions, including withholding of federal grants for capacity-expanding transportation projects and new transportation plans, and could ultimately stop all federally funded transportation projects in the District, except safety projects.

Table 9-7
Ambient Air Quality

Days Exceeding Standards										
	Parlier[(a)]		Hanford				Fresno-Drummond			
Year	State Ozone (1-Hour)	Federal Ozone (1-Hour)	State Ozone (1-Hour)	Federal Ozone (1-Hour)	State PM_{10}[1]	Federal PM_{10}[1]	State Ozone (1-Hour)	Federal Ozone (1-Hour)	State PM_{10}[1]	Federal PM_{10}[1]
1989	93	20	---	---	---	---	53	5	*	*
1990	50	5	---	---	---	---	40	7	196	18
1991	74	14	---	---	---	---	44	8	*	*
1992	61	12	---	---	---	---	44	7	178	0
1993	65	10	---	---	*	*	27	5	152	0
1994	26	3	9	0	*	0	17	0	*	0
1995	42	9	2	0	150	6	20	0	137	0
1996	82	18	78	8	106	0	45	8	89	0
1997	68	9	23	2	102	0	19	1	107	0
1998	64	13	27	3	*	*	49	8	91	0
1999	81	15	28	2	*	*	38	4	*	*
2000	81	17	48	0	*	0	37	2	*	*
2001	93	12	21	1	*	14	33	1	*	*
2002	96	21	29	1	172	6	46	9	*	*
2003	103	14	19	0	149	0	51	4	128	0
2004	23	0	7	0	101	0	24	0	94	0
2005	36	1	6	0	110	0	13	0	113	0
2006	52	1	7	1	125	0	11	0	43	*

Source: Air Resources Board Aerometric Data Analysis and Management System (ADAM)

(1) Measurements of PM_{10} are made every sixth day. Data is the estimated number of days that the standard would have been exceeded had measurements been collected every day.

(a) Parlier Station does not monitor particulate pollutants.

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

CRITERIA POLLUTANTS

Table 9-8 summarizes pollutants, their sources, effects (including health effects), and means of prevention and control. In addition to the table, this section provides further analysis of key pollutants and their health affects as they apply to the San Joaquin Valley.

Ozone, (O_3), is not emitted directly into the environment, but is generated from complex chemical reactions that occur in the presence of sunlight. One of the primary components of the chemical reactions is nitrogen oxide (NOx), which is referred to as an ozone precursor. NOx generators in the San Joaquin Valley include mobile sources, solvents and fuel combustion. Another ozone precursor is reactive organic gases (ROGs), which are generated by anaerobic decomposition of organic substances such as manure and fossil fuel exhaust components.

Ozone exposure causes eye irritation and damage to lung tissue in humans. It accelerates deterioration of paints, finishes, rubber products, plastics, and fabrics. The San Joaquin Valley Air Basin is currently in non-attainment (the District recently requested a reclassification to extreme for the federal 8-hour ozone standard) for the Federal and State standards for ozone; the Parlier monitoring station, for example, exceeded State standards for ozone concentrations in ambient surface atmosphere on 52 days during 2006.

Carbon monoxide (CO), concentrations are seasonal, with the highest concentrations occurring in the winter. This may be due to the fact that automobiles create more carbon monoxide in

colder weather and partly due to the very stable atmospheric conditions that exist on cold winter evenings when winds are calm. Concentrations typically are highest during stagnant air periods within the period November through January.

Nitrogen dioxide (NO_2), is a reddish-brown gas that discolors the air and is formed during combustion. Major sources are automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants. The SJVAPCD is an attainment area for the state/federal nitrogen dioxide standards. It is an important pollutant, however, because nitrogen dioxide is one of several oxides of nitrogen (NOx) that participate in the formation of photochemical ozone.

Respirable particulate matter, (PM_{10}), is released directly into the atmosphere by stationary and mobile sources. PM_{10} consists of a wide range of solid and liquid particles, including smoke, dust, aerosols, and metallic oxides. Major sources of PM_{10} include vehicles, power generation, industrial processing, wood burning, road dust, construction/farming activities, and fugitive windblown dust. The 1995 PM_{10} emission inventory for the SJVAB indicated that fugitive windblown dust, farming operations and road dust were the three leading sources of PM_{10} (SJVAPCD, 2002). The San Joaquin Valley Air Basin is currently in non-attainment (Federally classified as serious) for the Federal and State PM_{10} standards.

Fine particulate matter, **(**$PM_{2.5}$), like PM_{10}, is also released directly into the atmosphere by stationary and mobile sources. It is also created in the atmosphere by photochemical and chemical processes acting on precursor pollutants. Sources of $PM_{2.5}$, the fine fraction of PM_{10}, include vehicles, power generation, industrial processes, and wood burning.

Regular monitoring of $PM_{2.5}$ in the atmosphere in California began in early 1999. The available data shows that the highest 24-hour and annual average $PM_{2.5}$ concentrations are found in the South Coast Air Basin and San Joaquin Valley Air Basin. On average, the highest 24-hour concentrations in 1999 and 2000 occurred in November, December and January, while the lowest concentrations occurred between March and August. This seasonality was most pronounced in the San Joaquin Valley Air Basin, where the December-January concentrations were on the order of 4 to 5 times greater than those for March through August. The highest 24-hour concentration measured at the monitoring site closest to Selma (Hanford) was 123.0 micrograms per cubic meter (CARB, 2001).

In July 1997, the EPA adopted an annual $PM_{2.5}$ standard set at 15 $\mu g/m^3$ (micrograms per cubic meter) and a new 24-hour $PM_{2.5}$ standard set at 65 $\mu g/m^3$. On May 3, 2002, the California Air Resources Board staff recommended establishing an annual standard for $PM_{2.5}$ micrometers in diameter and smaller. The new state standard became effective on July 5, 2003.

The San Joaquin Valley Air Basin has been designated nonattainment for $PM_{2.5}$ for both the state and federal standards.

Table 9-8
Air Pollution Sources, Effects, and Control

Pollutant	Sources	Effects	Prevention and Control
Ozone (O_3)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil);solvents; petroleum processing and storage; and pesticides	Breathing difficulties, lung tissue damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide emissions through emissions standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations and consumer products. Limit ROG and NOx emissions from industrial sources such as power plants and refineries. Conserve energy.
Respirable Particulate Matter (PM_{10})	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (acid rain, NOx, SOx, organics). Incomplete combustion of any fuel.	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, wood burning stoves and fireplaces. Reduce secondary pollutants which react to form PM_{10}. Conserve energy.
Fine Particulate Matter ($PM_{2.5}$)	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NOx, SOx, organics).	Increases respiratory disease, lung damage, cancer, premature death; reduced visibility; surface soiling.	Reduce combustion emissions from motor vehicles, equipment, industries, and agriculture and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Carbon Monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction equipment and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen Dioxide (NO_2)	See Carbon Monoxide	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint	Learning disabilities, brain and kidney damage	Control metal smelters, No lead in gasoline. Replace leaded paint with non-lead substitutes.
Sulfur Dioxide (SO_2)	Coal or oil burning power plants and industries, refineries, diesel engines	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce the use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Visibility Reducing Particles	See $PM_{2.5}$	Reduces visibility (e.g., obscures mountains and other scenery), reduced airport safety, lower real estate value, discourages tourism.	See $PM_{2.5}$
Sulfates	Produced by the reaction in the air of SO_2 (see SO_2 sources), a component of acid rain	Breathing difficulties, aggravates asthma, reduced visibility.	See SO_2
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, sewage treatment plants.

Source: California Air Resources Board, October 2001

Sensitive Receptors. One of the criteria for significance includes potential impacts on sensitive receptors. The SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI), Section 3, January 10, 2002 defines a sensitive receptor as a location where human populations, especially children, seniors, and sick persons are present and where there is a reasonable expectation of continuous human exposure to pollutants.

Sensitive receptors normally refer to land uses with heightened sensitivity to localized, rather than regional, pollutants. Examples include emissions of criteria or toxic air pollutants that have health effects (PM_{10}, ammonia, H_2S surface dioxide), and to a lesser extent odors or odorous compounds such as ammonia and H_2S. Sensitive receptors would not be directly affected by emissions of regional pollutants such as ozone precursors (ROG and NOx).

The term "sensitive receptor" does not have a distance associated with it; its "sensitivity" is a function of the land use and not necessarily the presence or lack of nearby sources. SJVAPCD CEQA guidance does offer some "screening" distances between various sources and sensitive receptors, but these are useful only for determining when no analysis is required, not for determining significance of impacts.

Possible Receptors. Because the Planning Area encompasses the entire City of Selma, its Sphere of Influence, and some surrounding areas, there are many possible sensitive receptors within this large and varied area. These include residences, schools, a hospital, and at least one retirement home. The location of existing residential areas is shown on the Existing Land Use Map (Figure 2-2) and schools are listed in section 7.5. Selma Community Hospital is located at Rose Avenue and Country Club Lane.

CHAPTER TEN

SAFETY

CHAPTER TEN - SAFETY

10.1 Identification of Geologic and Seismic Hazards

The San Joaquin Valley is a geologic structural trough with its axis oriented northwest-southeast. The Central Valley is bounded to the east by the granitic and metamorphic rocks of the Sierra Nevada, and to the west by the folded and faulted sedimentary, volcanic, and metamorphic rocks of the Coast Ranges. The crystalline rocks of the Sierra Nevada extend westward beneath the Valley. These rocks are overlain by a westward-thickening wedge of marine and continental deposit. The marine deposits are siltstone, shale, and sandstones. The thicker continental sediments overlie the marine deposits. These consist of unconsolidated alluvium, lacustrine, and flood plain sediments derived from the Sierra Nevada.

Earthquakes originate as movement or slippage occurs along an active fault. These movements generate shock waves that result in ground shaking. Structures of all types, if not designed or constructed to withstand ground shaking, may suffer severe damage or collapse. Likewise, some slopes will collapse due to the soil or geological characteristics resulting in hazards both in terms of collapse of structures located thereon, or collapse of structures within the path of resulting land slides.

Selma lies within a relatively seismically quiet area. Selma is not on the State Geological Survey's list of Cities and Counties affected by Alquist Priolo Earthquake Fault Zones as of May 1, 1999 (California Geological Survey, June 2007). This means it does not contain areas subject to surface fault rupture. The nearest faults are the San Joaquin fault about 60 miles to the west/northwest near Los Banos, the San Andreas Fault about 60 miles to the southwest near Parkfield, and the Sierra Nevada Fault Zone on the east side of the Sierra Nevada Mountains about 75 miles to the east. The Coalinga area, about 50 miles to the west-southwest of Selma experienced an earthquake measuring 6.7 on the Richter scale (Rs) in 1983 on a previously unknown "blind" thrust fault. A "blind" fault is one that does not produce a surface rupture and therefore shows no evidence of its presence at the surface.

The Five Counties Seismic Safety Element places Selma within the V1 Seismic Zone, characterized by a relatively thick section of sedimentary rock overlying a granitic basement. Primary hazards due to groundshaking are "low" because of the distance from seismic faults. Secondary hazards are as follows: landslides, minimal; subsidence/settlement, low to moderate; liquefaction, low; seiching, minimal. The Seismic Safety Element states that the Uniform Building Code, Zone II building standards should be adequate for normal facilities.

New buildings in Selma are constructed to prevent loss of life as a result of an earthquake. Older buildings, however, especially un-reinforced masonry buildings, could collapse causing injury and loss of life. According to a report in 1979 to the California Seismic Safety Committee, a building should be considered hazardous to life in the event of an earthquake if the building:

A. Was constructed prior to the adoption and enforcement of local building codes requiring the earthquake resistant design of buildings;

B. Is constructed of un-reinforced masonry;

C. Lacks an effective system for resisting lateral forces; and

D. Exhibits any one of the following characteristics:

1. Has exterior parapets and ornamentation that may fall on a public way;

2. Is constructed of un-reinforced masonry;

3. Has exterior walls of un-reinforced masonry that are not anchored to the floors or roof;

4. Has sheathing or a roof that is not capable of withstanding lateral loads or uniformly transferring horizontal loads to walls; or

5. Has large openings in walls that may result in damage due to torsional (twisting) forces.

In order to eliminate these problems, reconstruction is necessary to at least provide for the adequacy of: (a) un-reinforced masonry bearing walls, (b) the anchorage of exterior parapets and ornamentation, (c) the anchorage of un-reinforced bearing walls to the floors and roof, (d) floor and roof diaphragms, and (e) the development of a complete bracing system to resist horizontal wind and earthquake forces.

Enforcing the retrofitting of buildings to meet earthquake standards is a difficult task. First, Selma would have to commit staff to the project. In addition to being costly, this would require a policy decision on the part of the City Council that the potential problems were of such dimensions that the cost, both to the City and to the landowner, is warranted. Second, the cost to the property owner might be prohibitive, at the very least causing construction impacts on the existing tenants, possibly relocation and rent increase. The report referenced above stated that it was unlikely that building owners could feasibly afford the cost of making the necessary improvements and that some sort of grant funds would be needed.

Aside from structural damage, earthquake activity can produce three other types of adverse effects. The first is ground failure such as landslides, subsidence/settlement, and liquefaction, which itself is a factor in making some lands unsuitable for development. The risk of such effects in Selma is minimal to moderate. The second adverse effect would be from a seiche (an earthquake induced wave in a lake, reservoir, or harbor). As stated earlier, there are no bodies of water within the Selma area large enough to be subject to a seiche.

The third effect would be caused by damage to a dam that results in dam failure. Pine Flat Dam on the Kings River could produce flooding should it fail. There are requirements that the owners of dams prepare maps showing areas that would be flooded should a dam fail. Dam failure inundation maps are available for these dams. Figure 10-1 indicates that the City would be within the inundation zone if Pine Flat Dam failed. Although the Safety Element of Selma's current General Plan states that "…the City of Selma would be located in the center of a floodway approximately 17 miles wide and eight to ten feet in depth within three hours of the actual failure" (City of Selma, July 1983), information regarding the depth of the water should flooding occur is no longer available. It is the policy of the U.S. Army Corps of Engineers not to list depths since such a calculation depends on too many variables (amount of water stored, location of the failure, extent of the failure, etc).

10.2 Identification of Structural Hazards and Critical Facilities

Critical facilities include: underground utilities, schools, hospitals, transportation systems, etc. There are no active faults in the Selma area which could result in strong ground shaking in the event of an earthquake. Impacts to critical facilities by seismic events therefore would not be significant, but identification of critical facilities is still useful to assess risks from other hazards. A critical facilities analysis would be helpful in determining the vulnerability of individual facilities in the community. The analysis would include an inventory of critical facilities, the hazard risks associated with the critical facilities and a vulnerability assessment based on the various hazards.

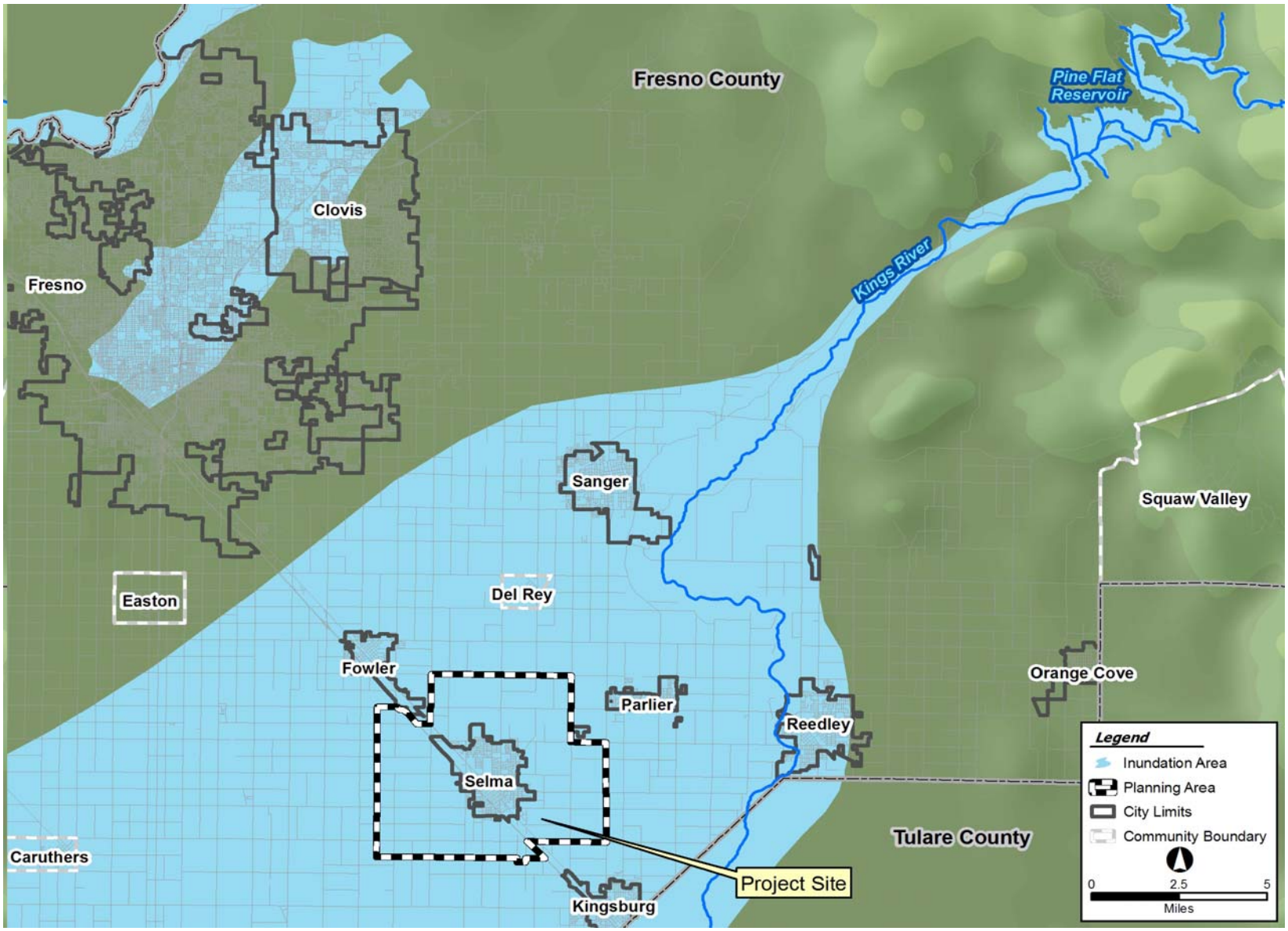
10.3 Wildland and Urban Fire Hazards

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. Selma and its immediately surrounding areas are developed for urban and agricultural uses and are therefore not subject to a strong threat 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. Enforcement of the City of Selma's zoning code, as well as standard fire codes, the Uniform Building Code, etc. will help to minimize risks of and from urban fires. For a more in-depth discussion of Selma's fire protection services please see section 7.6 of this report.

10.4 Areas Subject to Flooding and Dam Failure Inundation

The only areas in Selma that are within the 100-year flood zone as identified by the Federal Emergency Management Agency (FEMA) on its Flood Insurance Rate Map (see Figure 10-2) are ponds and basins such as Rockwell Pond; however, Selma is located within Pine Flat Dam's inundation zone and may flood if the dam failed (see Figure 10-1).



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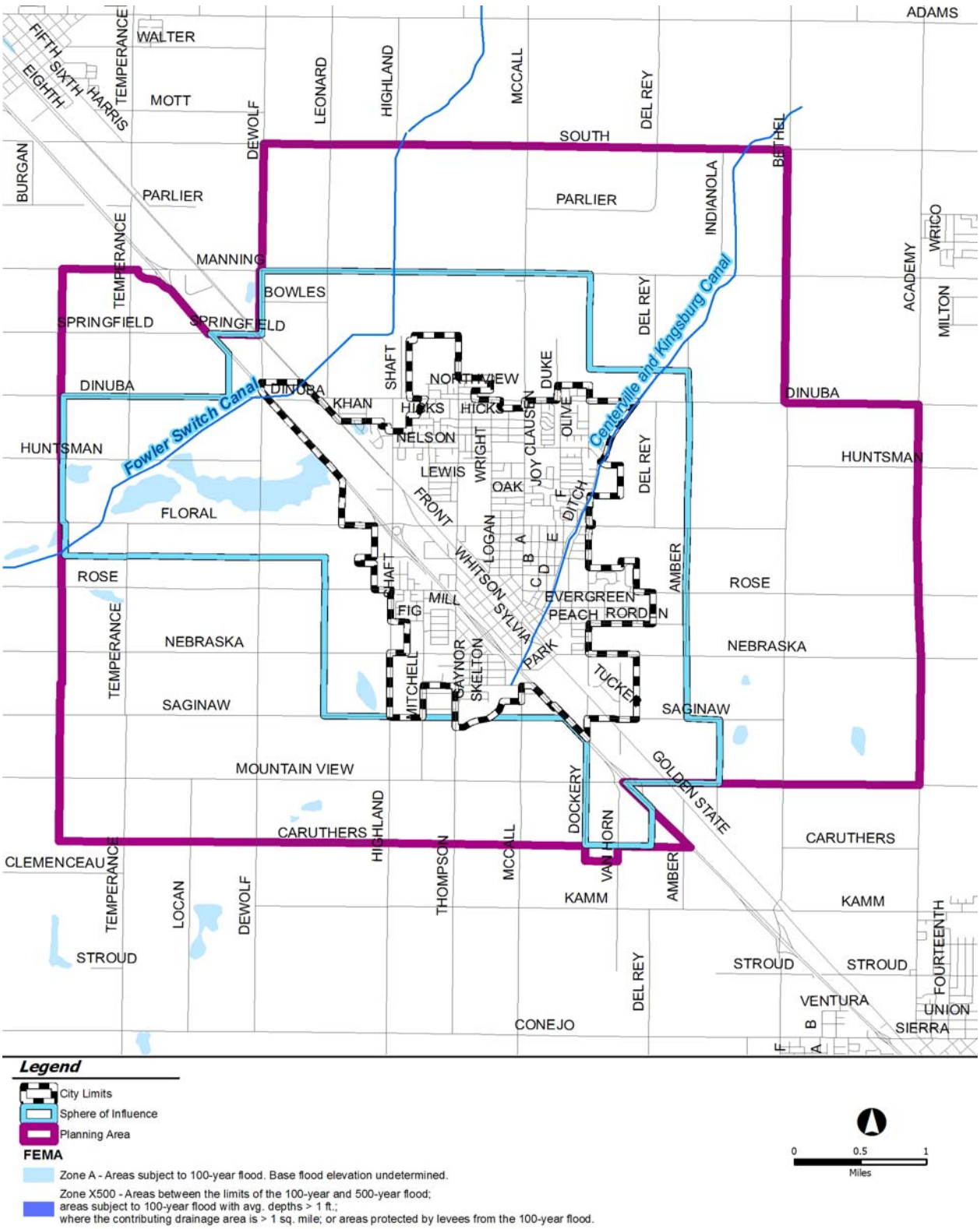
DAM INUDANTION AREAS

FIGURE
10 – 1



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FLOOD ZONES

Figure 10 - 2

CHAPTER ELEVEN

NOISE

CHAPTER ELEVEN - NOISE

11.1 Introduction

This chapter examines the existing noise environment within the City of Selma. The principal noise sources in the City of Selma are traffic on local roads, railroad noise, and industrial noise. The existing noise environment in the City of Selma was determined by a combination of noise level measurements and noise modeling conducted by Brown-Buntin Associates, Inc (BBA) in July of 2007.

11.2 Background Noise Level Survey

The purpose of the background noise level survey was to determine the baseline noise environment in those parts of the City that are both near and removed from obvious noise sources. Four residences were selected for the survey. Their locations are shown in Figure 11-1. Noise measurements were conducted continuously for 24 hours using unattended sound level analyzers. The results of the monitoring are shown in Figures 11-2 through 11-5.

The background noise levels in terms of the Day/Night Average Level (DNL) at the four residences ranged from about 59 to 71 dB. The range of these noise levels is fairly typical of small communities at locations near and away from major noise sources.

In Figures 11-2 through 11-5 the Lmax and Lmin represent the highest (maximum) and lowest (minimum) noise levels occurring during an hour. The Leq is the energy average noise level during an hour.

11.3 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 is applied. Noise production within industrial or commercial facilities is controlled indirectly by Federal and State employee health and safety regulations (OHSA and Cal-OSHA), but exterior noise emissions from such operations have the potential to exceed locally acceptable standards at nearby noise-sensitive land uses.

The following discussion provides generalized information concerning the relative noise impacts of three major industrial noise sources in the City of Selma. Other industries or other major noise sources may exist, but noise was not perceptible from them during our reconnaissance of the City on July 3, 2007. Worst-case 50 and 55 dBA hourly L_{eq} noise contours were calculated for the major stationary noise sources. The 50 dBA contours are included in Figure 11-6 of this document. The generalized contours contained within Figure 11-6 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. Table 11-1 summarizes noise levels from each industry.

Figure 11-1: Noise Monitoring Locations

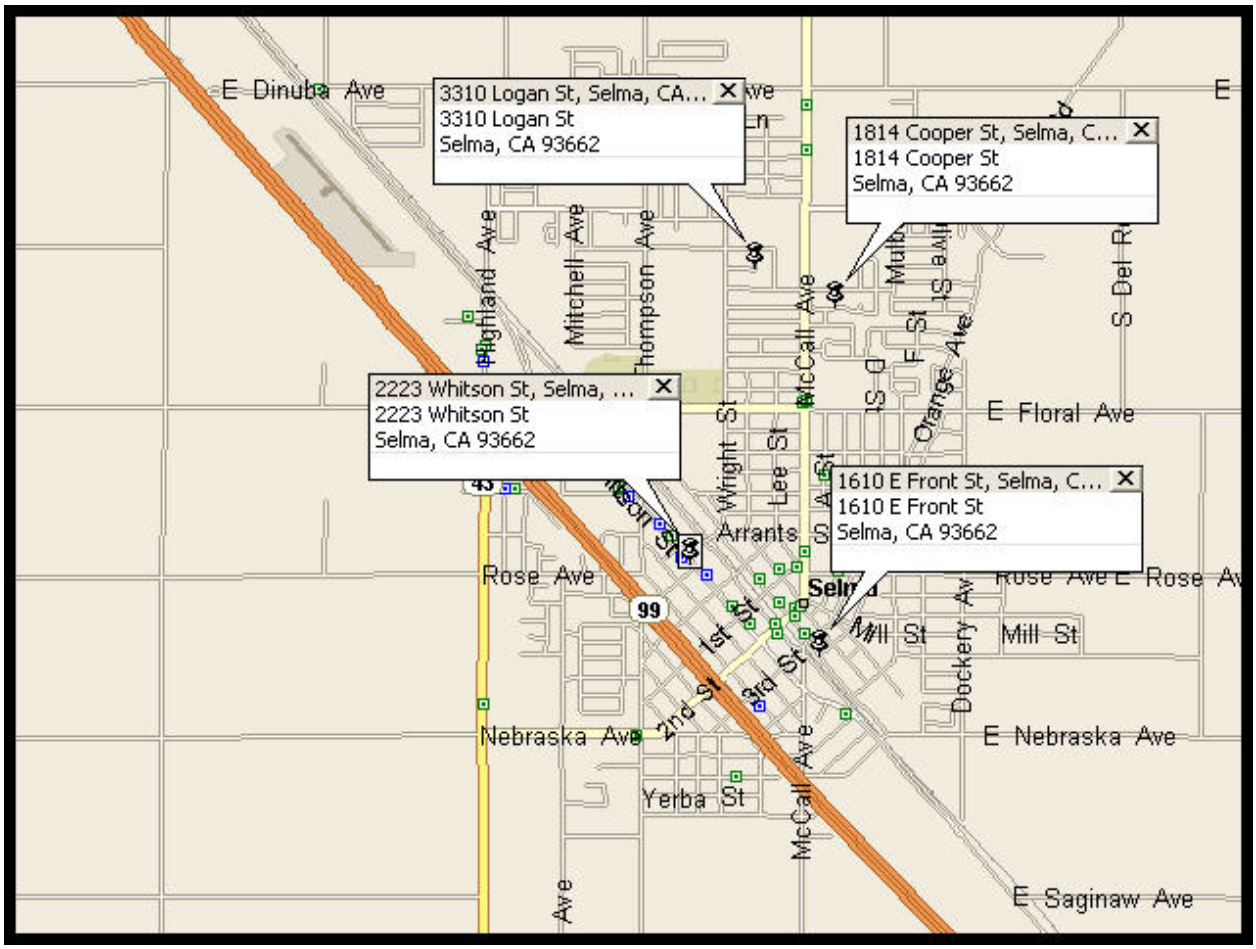


Figure 11-2: 1610 Front Street

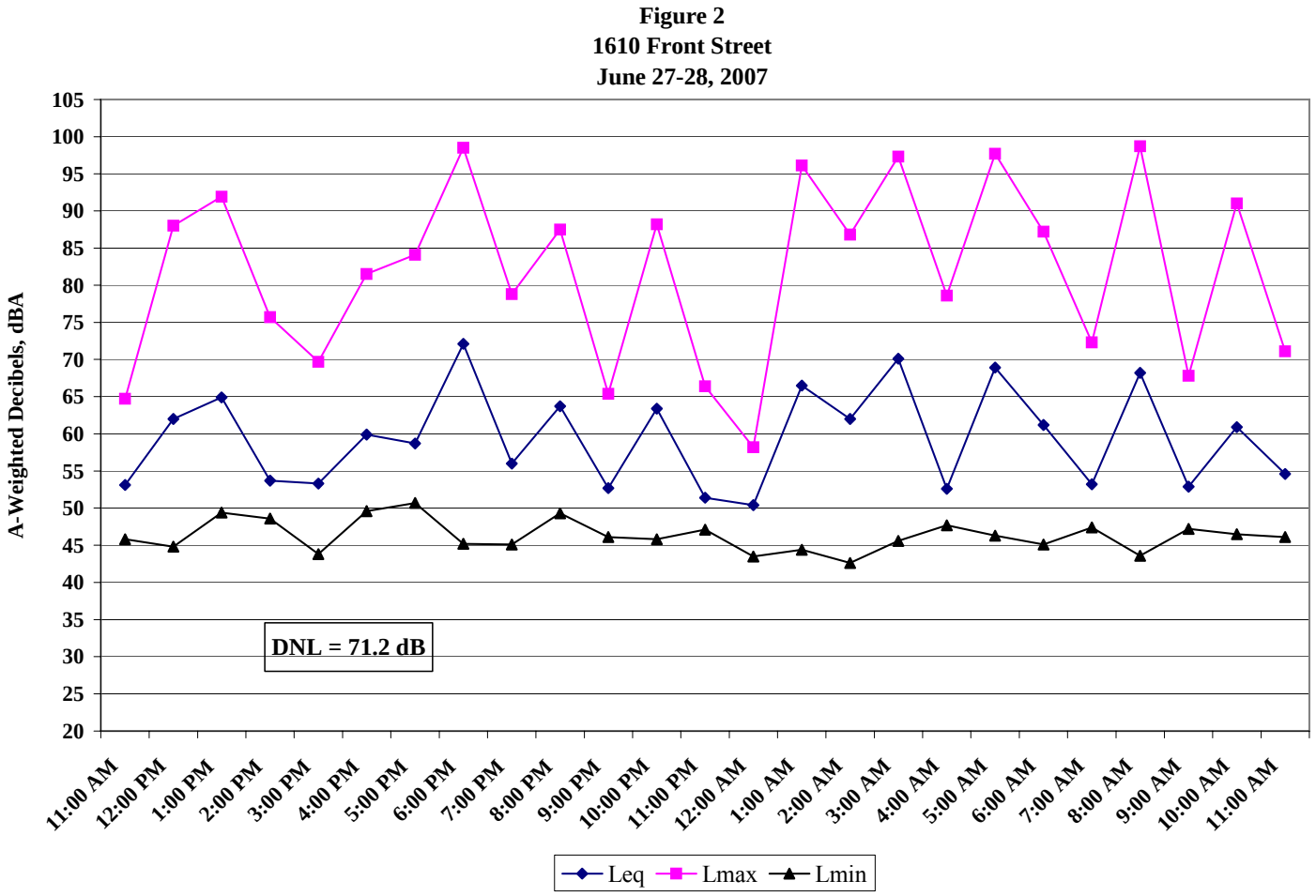


Figure 11-3: 1814 Cooper Street

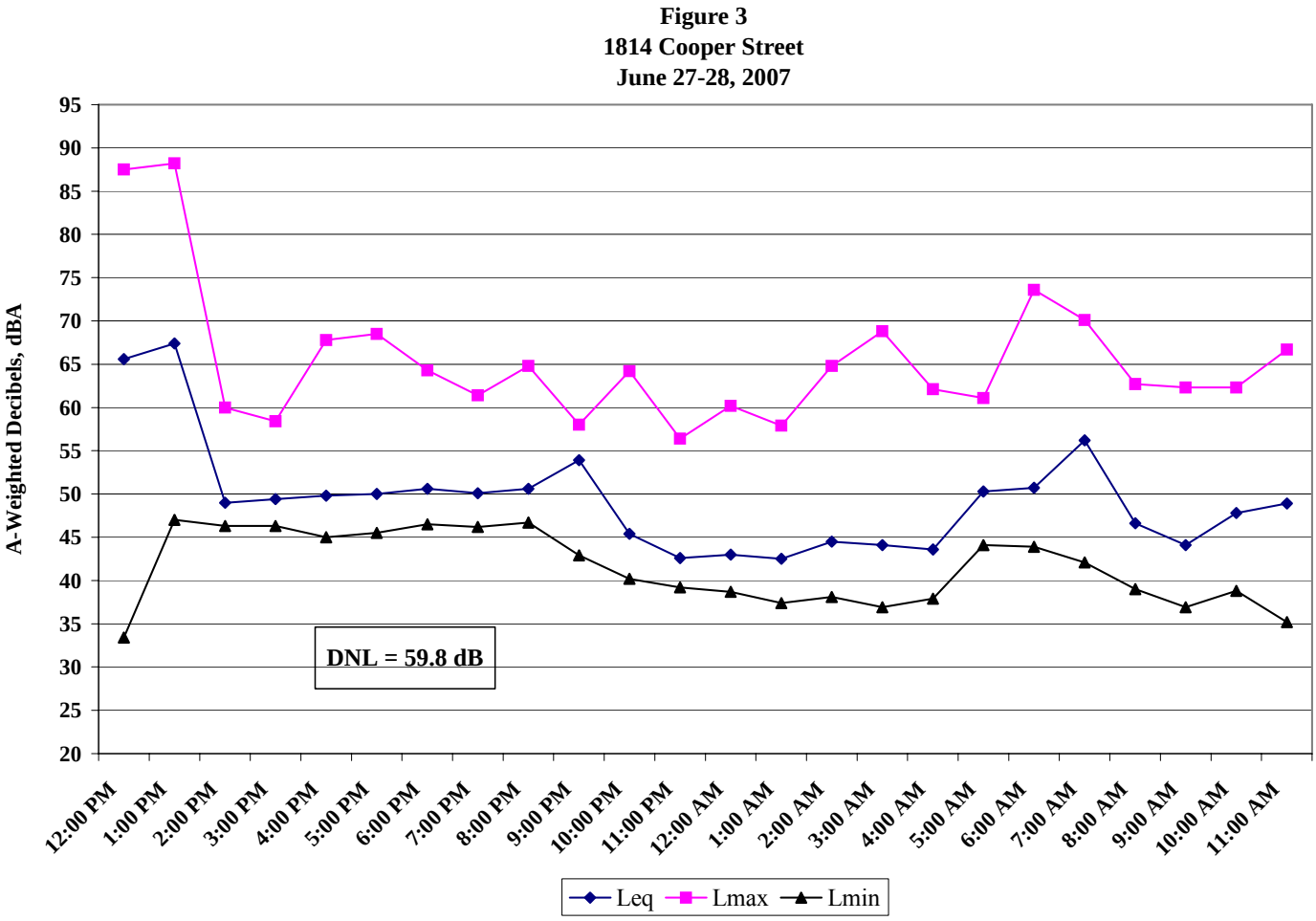


Figure 11-4: 3310 Logan Street

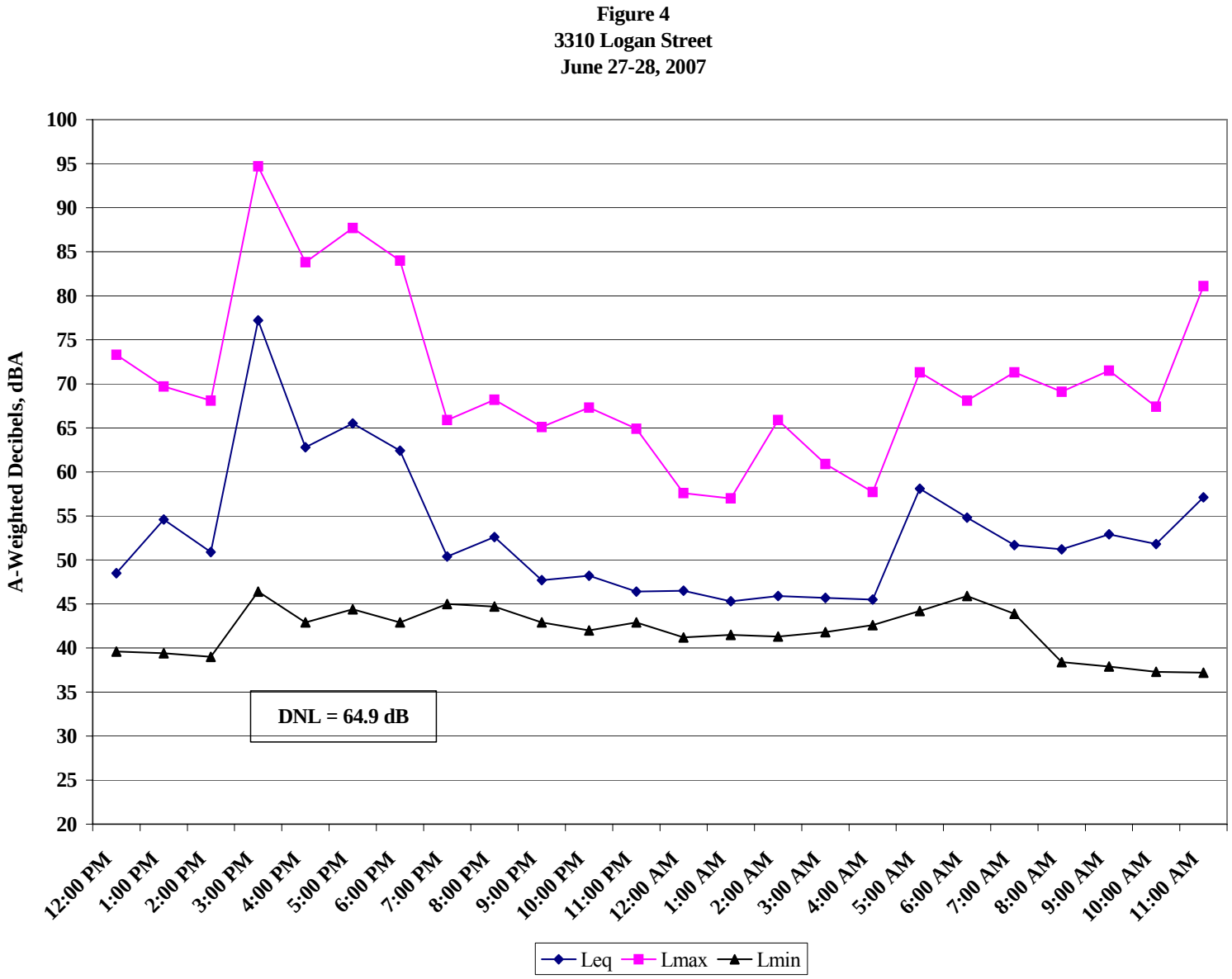


Figure 11-5: 2223 Whitson Street

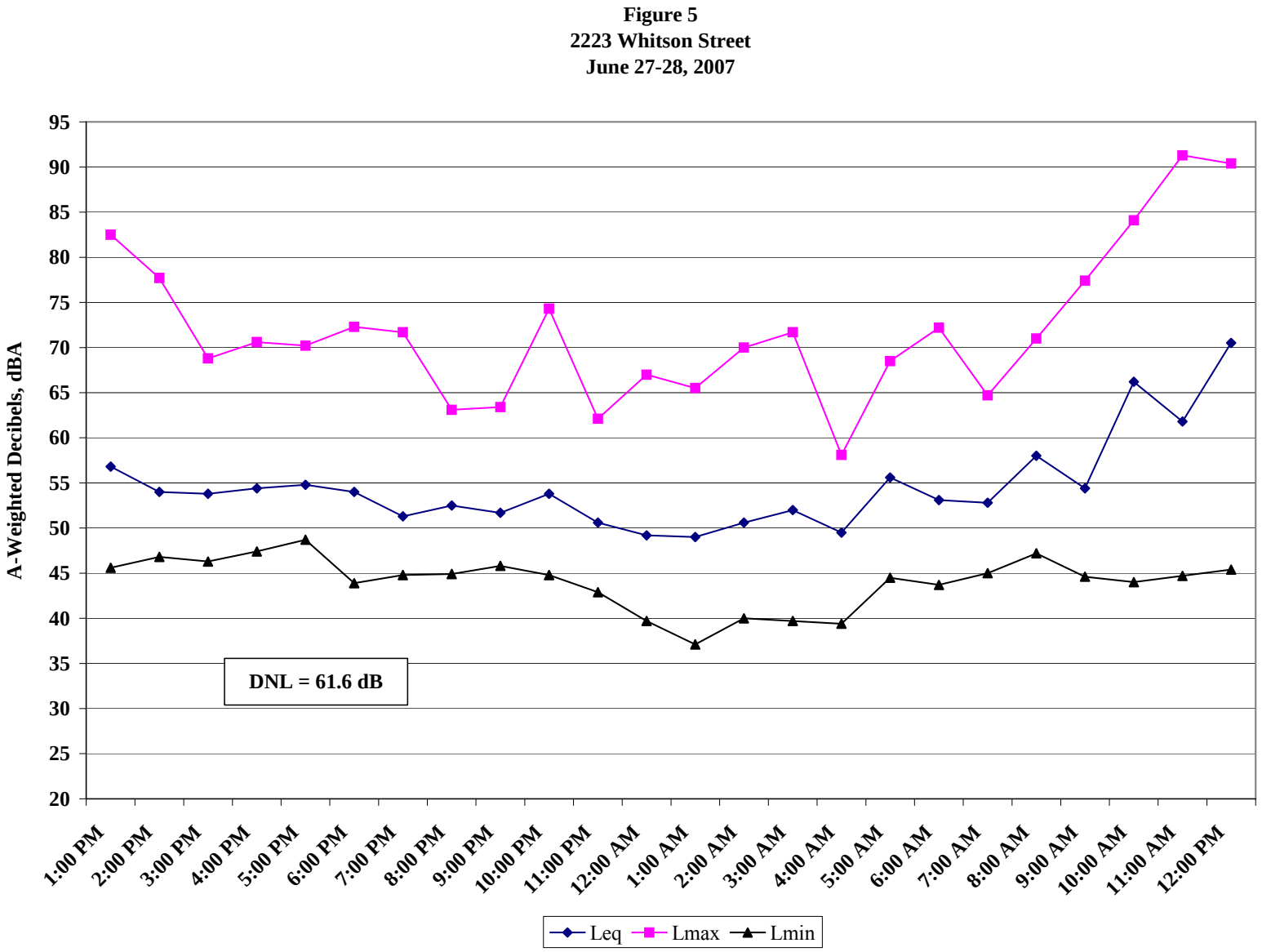


Figure 11-6: Industry Noise Contour

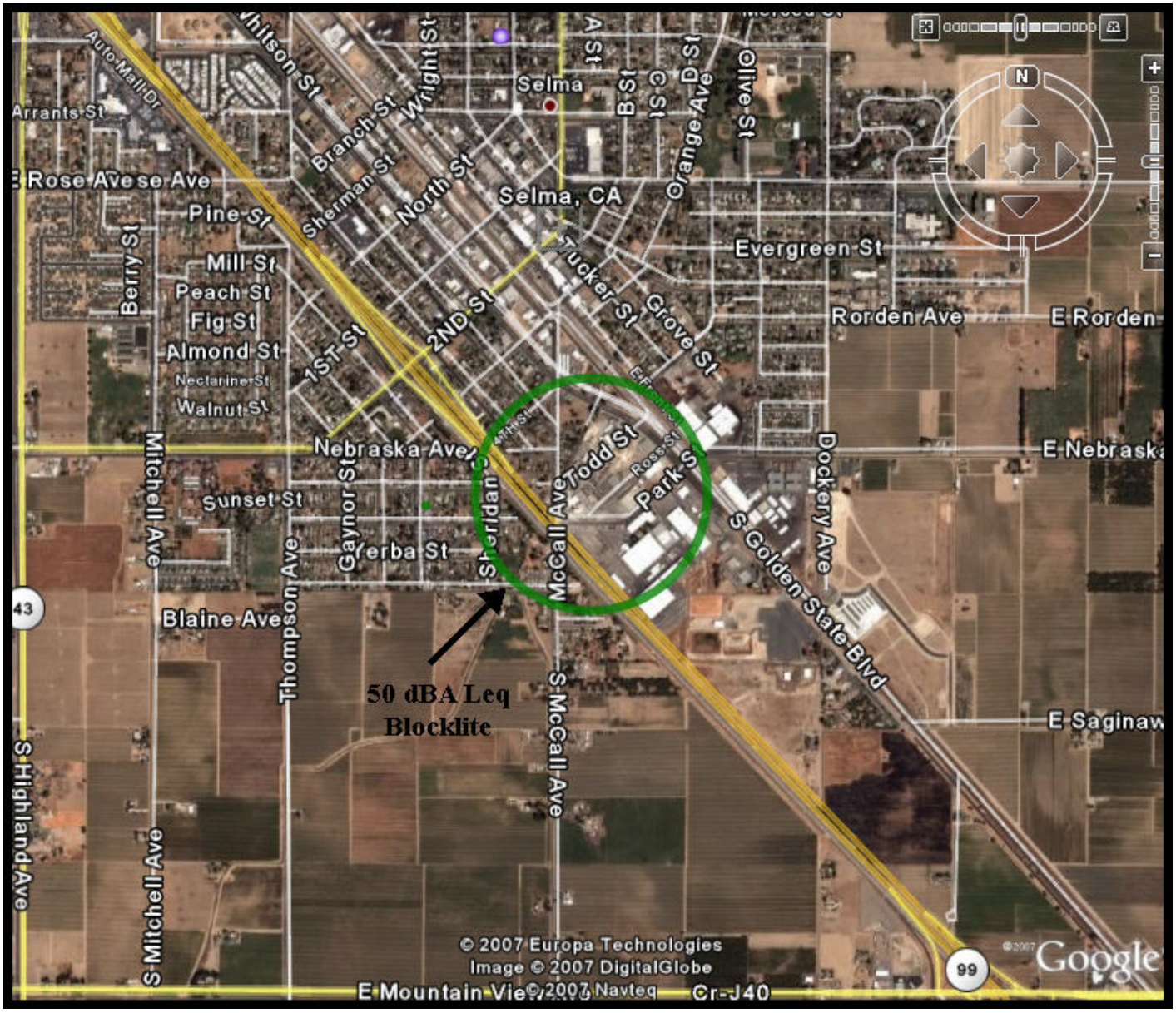


Table 11-1
Summary of Noise Levels Measured from Industries
July 3, 2007

Industry	Distance	L_{eq}, dBA	L_{max}, dBA	Distance to 50 dBA, L_{eq}	Distance to 55 dBA, L_{eq}
Blocklite Part St. & Merced Ave.	300′	68.2	71.9	2440′	1371′
Selma Disposal & Recycling Golden State & Dockery	100′	55.1	57.0	180′	101′
Selma Cold & Dry Storage* Park St. & Front St.	--	--	--	--	--
Sunmaid Plan #8* Nebraska Ave. & Golden State Ave.	--	--	--	--	--

*Sporadic noise from trucks, but not audible at property line.
Source: Brown-Buntin Associates, Inc.

Table 11-1 shows that the 50 dBA L_{eq} contour can be as far as 2440′ feet from Blocklite. In practice, it may not be possible to discern plant noise at distances greater than 500 feet during certain times of the day because of other community noise sources (traffic, etc.), and the effects of the atmosphere.

TRAFFIC NOISE

Traffic noise exposure was calculated using the Federal Highway Administration Traffic Noise Model (TNM). Version 2.5 of the TNM's Lookup Tables provides a reference of pre-calculated TNM results for simple highway geometrics that are adequate for the scope of a general plan.

Existing traffic volumes were provided by Peters Engineering Group. Appendix A of the Existing Noise Conditions Report, which is Appendix C of this Background Report, shows the traffic data used in the Model. Table 11-2 shows existing traffic noise level contours in tabular form. Figure 11-7 shows the streets where existing noise level contours were calculated. The streets are color coded to show the approximate distance to the 60 dB DNL noise contour.

Table 11-2
Distance to Noise Contours, Ft.
Existing Conditions

Road	Segment	60 dB DNL	65 dB DNL
Manning	Golden State to De Wolf	155	72
	De Wolf to McCall	158	73
	McCall to Del Rey	162	75
	Del Rey to Indianola	163	76
Dinuba	Golden State to Highland	82	38
	Highland to McCall	94	44
	McCall to Dockery	81	38
Floral	Highland to Whitson	142	66
	Whitson to McCall	119	55
	McCall to Orange	100	46
	Orange to Del Rey	98	46
	Del Rey to Amber	89	41
Whitson/Golden State	Thompson to Floral	125	58
	Floral to Highland	95	44
	Highland to Dinuba	98	46
	Dinuba to De Wolf	131	61
McCall	Floral to Dinuba	91	42
	Dinuba to Manning	92	43

Source: Brown-Buntin Associates, Inc.

RAILROAD NOISE

The Union Pacific (UP) rail line passes through Selma in a northwest-southeast direction adjacent to Golden State Boulevard Front Street. According to the railroad, about two freight trains daily pass through Selma. Grade crossings are located at several locations through the city. Train engineers usually start blowing the horn within 1,000 feet of the grade crossings, so train noise levels are higher.

Train noise levels in terms of the DNL were obtained from BBA's database. At locations that are within 1,000 feet of grade crossings the distance to the 60 dB DNL contours is 760 feet from the tracks. At distances greater than 1,000 feet from grade crossings the 60 dB DNL contour is 160 feet from the tracks.

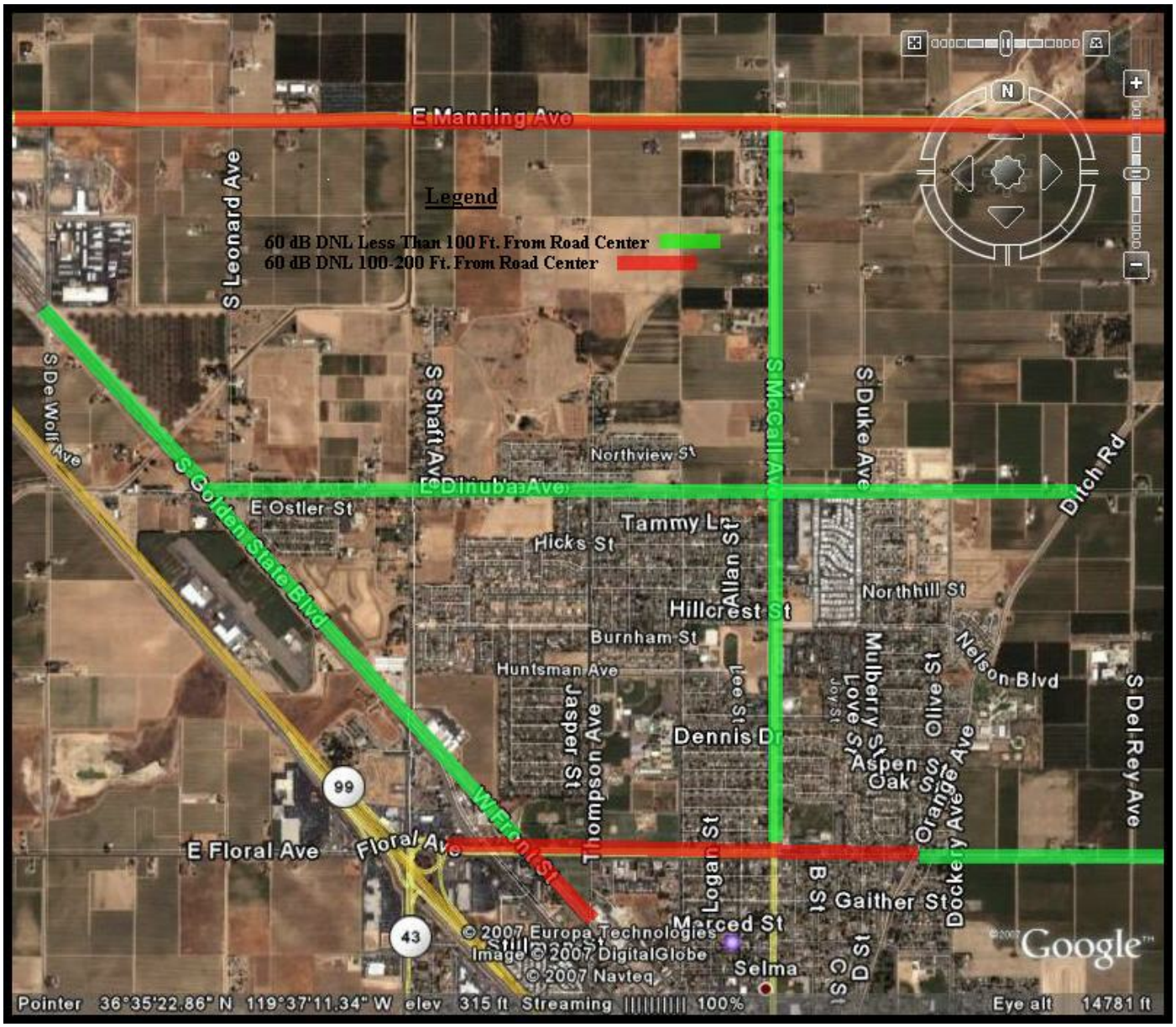
AIRCRAFT NOISE

There are two privately owned airports within the City's sphere of influence: Quinn Airport located near Golden State Boulevard and Dinuba Avenue, and the Selma Aerodrome near Huntsman and Temperance Avenues. Only a few aircraft are based at the Quinn Airport and there are no records of annual operations or noise contours on file. Based on its current level of use, it is unlikely that there are noise concerns about the airport.

According to FAA records, there were 15,000 annual operations at the Selma Aerodrome in 2007. The only noise contours on record were prepared in 1980. The data that were used for those contours are out of date and the methodology that was used to prepare the

contours is obsolete. The 1980 contours, that are on file in the Fresno County Airport Land Use Commission Adopted Plans & Policies, should not be used for land use planning purposes in the opinion of Brown-Buntin Associates, Inc. (BBA).

Figure 11-7: Traffic Noise Contours, Existing Conditions



CHAPTER TWELVE

ISSUES, OPPORTUNITIES AND CONSTRAINTS

CHAPTER TWELVE – ISSUES, OPPORTUNITIES, AND CONSTRAINTS

In its broadest context, the General Plan is a way of problem solving; it is a process for making informed decisions about a community's future and establishing priorities and action plans to achieve development objectives. For example, a City may choose to fund parks rather than streets because of the need for more open space, or it may construct an improved water system rather than building a new fire station, or vice versa. It may decide to grow to the east, west or both. As an exercise in community involvement and an examination of a city's resources, the General Plan update is an attempt to foresee the consequences of possible courses of action and select the best one.

This General Plan update process will include several important steps to identify local preferences. A visioning workshop will be conducted and the opinions of public and civic leaders on the City and its growth issues, opportunities, and constraints will be solicited. Planning Commission and City Council meetings will be held to discuss existing conditions, community visioning, development alternatives, and comments and expectations about the General Plan update process. Planning principles will be gleaned from this process and summarized in the final version of this report.

APPENDICES

APPENDIX A

Cultural Resources Records Search

Center for Archaeological Research
California State University, Bakersfield
9001 Stockdale Highway, 24 DDH
Bakersfield, CA 93311

661/654-6161 office
661/654-2143 fax

September 20, 2007

Elena Nuño
Quad Knopf, Inc.
P.O. Box 3699
Visalia, CA 93278

Re: Cultural Resources Records Search for the Selma General Plan Update, Selma, California (Quad Knopf Project No. 070214)

Dear Ms. Nuño:

Per your request, a cultural resources records search (RS#07-215; CAR Project No. 07-24) was conducted for the above-referenced project today, at the Southern San Joaquin Valley Historical Resources Information Center at California State University, Bakersfield. The purpose of this records search is for the General Plan Update for the City of Selma, California. The project area includes approximately 13,000 acres and encompasses the current Selma Sphere of Influence and additional properties. The records search included an examination of the *National Register of Historic Places, the California Register of Historical Resources, California Points of Historical Interest, California Inventory of Historic Resources*, *California State Historic Landmarks Registry,* and the HRIC files of pertinent historical and archaeological data

The results of the records search indicate that there have been twenty surveys conducted either on the project area or directly adjacent. Eighteen of the surveys resulted in negative results while two surveys identified 1) five historical structures *in situ* in Selma (Brady 2003b) and 2) three historical structures located in a City Park (Matthews 1972). Twelve additional properties are listed in the Historic Property Data File (California Office of Historic Preservation 2007). The Fowler Switch Bridge (ca. 1934) has also been recorded. The following table captures the structures and sites identified during the records search:

Table 1
Historical Properties, Selma, California

OHP #/APN/ Primary	Address	Description	Year of Construction
068382	Unknown	Restroom EA 3463-26	Unknown
053459	8262 Bethel Avenue	Jensen Home	1901
162580	8674 E. Khan Street		1958
053458	2415 Floral Avenue	Selma Japanese Mission Church	1956
156835	2134 Gaither Street		1923
150439	2428 Jasper Street		1930
155398	1445 Peach Street	Stockley Terrace	1952
067121	2639 Pine Street		Unknown
066039	12490 S. Highland Avenue	State Route 43 Widening	Unknown

143751	9727 S. Shaft Avenue		1930
074390	Selma Street	Selma Women's Clubhouse	Unknown
162649	2487 Thompson Avenue		1936
388-041-26	2564 Stillman Street	Single Family Residence	Ca. 1930
388-041-09	2600 Stillman Street	Single Family Residence	1926
388-041-26	2506 Stillman Street(1)	Single Family Residence	Ca. 1930
388-041-26	2506 Stillman Street (2)	Single Family Residence	Ca. 1915
388-041-26	2523 Whitson Avenue	Single Family Residence	Ca. 1925
	Art Gonzales Pkwy and Highland Ave	Historic buildings including a school, church, various residential buildings.	Various
P-10-002963	Fowler Switch Canal	Ca. 1934 bridge	

Only a small portion of the Selma Sphere of Influence and the planned areas of expansion have been surveyed for historical or archaeological resources, and given that limited coverage and the age of many of the surveys (see References), the possibility remains that resources do exist there. While a survey is not being suggested at this time, it is recommended that cultural resource surveys be performed for *all* areas outside the current Sphere of Influence as projects are proposed. Should as-yet undetected (i.e., buried) cultural resources or human remains be encountered on the property during *any* construction activities, a qualified archaeologist should be contacted to evaluate any such discoveries.

If you have any further questions or concerns, please feel free to contact me at 661-654-6161 or by email at rorfila@csub.edu.

Sincerely,

Rebecca S. Orfila, M.A., RPA
Assistant Director

REFERENCES

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APPENDIX B

Existing Conditions Analysis Report, Traffic

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

55 SHAW AVENUE, SUITE 220
CLOVIS, CALIFORNIA 93612

PHONE (559) 299-1544
FAX (559) 299-1722

TECHNICAL MEMORANDUM

TO: MS. ELENA NUÑO

REVIEWED BY: JOHN ROWLAND, P.E.

FROM: DAVID PADILLA

SUBJECT: CITY OF SELMA – GENERAL PLAN UPDATE
EXISTING CONDITIONS ANALYSIS REPORT

DATE: JULY 27, 2007

Introduction

Peters Engineering Group has been retained by Quad Knopf to perform traffic analyses and a circulation study in support of a General Plan Update for the City of Selma. The purpose of the existing conditions analysis portion of this project is to ascertain the current traffic volumes on various intersections and to calculate the existing levels of service for the study facilities. Level of service is a measure of the performance of a particular transportation facility. The Highway Capacity Manual defines the procedures to determine the level of service of various transportation facilities. Tables 1 and 2 present characteristics for both unsignalized and signalized intersections.

Table 1 – Level of Service Characteristics For Unsignalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Little or no delay.	0-10
B	Short traffic delays.	>10-15
C	Average traffic delays.	>15-25
D	Long traffic delays.	>25-35
E	Very long traffic delays.	>35-50
F	Stop-and-go conditions.	>50

Table 2 - Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Uncongested operations; all queues clear in a single cycle.	≤10
B	Very light congestion; an occasional phase is fully utilized.	>10-20
C	Light congestion; occasional queues on approaches.	>20-35
D	Significant congestion on critical approaches, but intersection is functional. Cars required to wait through more than one cycle during short peaks. No long-standing queues formed.	>35-55
E	Severe congestion with some long-standing queues on critical approaches. Traffic queue may block nearby intersection(s) upstream of critical approach(es).	>55-80
F	Total breakdown, stop-and-go conditions.	>80

Study Area and Time Period

This report includes analysis of the following intersections and roadway Intersections:

Study Intersections

1. Manning and De Wolf Avenues
2. Manning and McCall Avenues
3. Manning and Del Rey Avenues
4. Dinuba and Temperance Avenues
5. Dinuba and De Wolf Avenues
6. Dinuba Avenue and Golden State Boulevard
7. Dinuba and Highland Avenues
8. Dinuba and McCall Avenues
9. Dinuba and Del Rey Avenues
10. Floral and De Wolf Avenues
11. Floral Avenue and Whitson Street
12. Floral and McCall Avenues
13. Floral and Del Rey Avenues
14. Nebraska and Thompson Avenues
15. Nebraska and Del Rey Avenues
16. Dinuba and Orange Avenues
17. Floral and Orange Avenues
18. Dinuba and Dockery Avenues
19. Nebraska and Dockery Avenues
20. Rose and Dockery Avenues

Existing and Future Traffic Volumes

Existing traffic volumes were determined by performing manual turning movement counts at the study intersections between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. in July 2007. The

traffic counts were performed by the independent traffic counting firm of Southland Car Counters. It should be noted at the time the peak-hour turning movement volume counts were performed, Caltrans alternated ramp closures between the Floral Avenue / State Route (SR) 99 and Second Street / SR 99 interchanges as part of a current freeway construction project. Although none of the study intersections is adjacent to the interchanges; the closures may have influenced the traffic count data. The existing peak-hour turning movement volumes are presented in the attached Figures 1 and 2.

Analyses

The intersection levels of service were determined using the computer program Synchro (Build 614) for unsignalized and signalized intersections, which is based on the 2000 Highway Capacity Manual procedures for calculating levels of service. Tables 3 and 4 present the results of the a.m. and p.m. peak-hour intersection analyses. Where intersections include one-way or two-way stop sign control, the reported level of service is that for the approach with the greatest delay. The analysis output for the study intersections is attached to this report.

Table 3
Intersection Level of Service Summary – Weekday A.M. Peak Hour

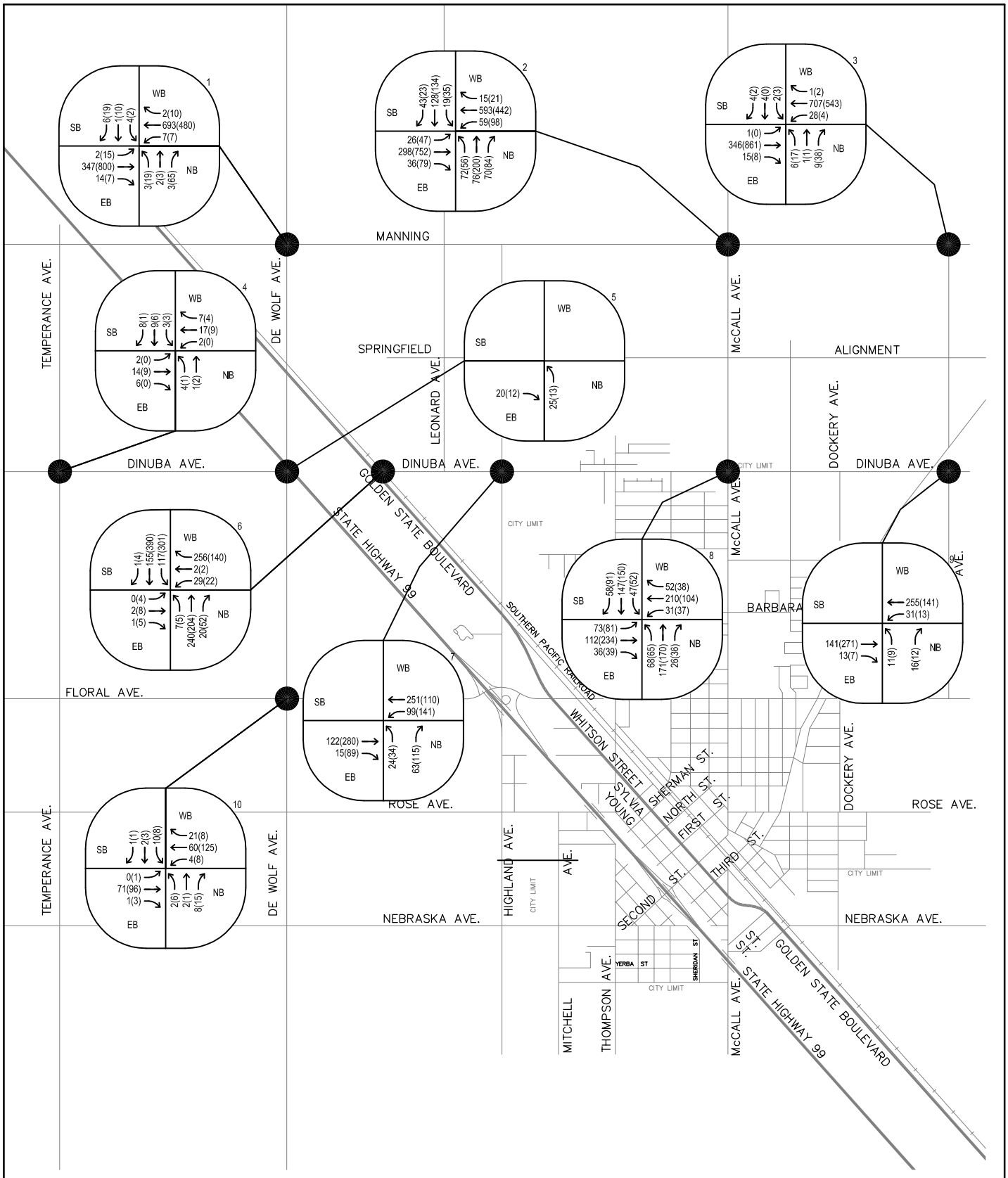
Intersection		Existing	
		Delay (sec)	LOS
1	Manning and De Wolf	16.7	C
2	Manning and McCall	17.9	B
3	Manning and Del Rey	20.3	C
4	Dinuba and Temperance	7.2	A
5	Dinuba and De Wolf	7.3	A
6	Dinuba and Golden State	13.9	B
7	Dinuba and Highland	11.2	B
8	Dinuba and McCall	16.8	C
9	Dinuba and Del Rey	10.5	B
10	Floral and De Wolf	9.7	A
11	Floral and Whitson	15.0	B
12	Floral and McCall	7.3	A
13	Floral and Del Rey	10.7	B
14	Nebraska and Thompson	9.0	A
15	Nebraska and Del Rey	DNE	-
16	Dinuba and Orange	12.0	B
17	Floral and Orange	9.1	A
18	Dinuba and Dockery	10.8	B
19	Nebraska and Dockery	7.2	A
20	Rose and Dockery	7.9	A

DNE – Does Not Exist

Table 4
Intersection Level of Service Summary – Weekday P.M. Peak Hour

Intersection		Existing	
		Delay (sec)	LOS
1	Manning and De Wolf	22.6	C
2	Manning and McCall	23.9	C
3	Manning and Del Rey	22.6	C
4	Dinuba and Temperance	7.1	A
5	Dinuba and De Wolf	7.2	A
6	Dinuba and Golden State	38.5	E
7	Dinuba and Highland	14.4	B
8	Dinuba and McCall	22.6	C
9	Dinuba and Del Rey	10.8	B
10	Floral and De Wolf	10.5	B
11	Floral and Whitson	19.5	B
12	Floral and McCall	9.4	A
13	Floral and Del Rey	12.0	B
14	Nebraska and Thompson	9.6	A
15	Nebraska and Del Rey	DNE	-
16	Dinuba and Orange	13.3	B
17	Floral and Orange	12.5	B
18	Dinuba and Dockery	10.2	B
19	Nebraska and Dockery	7.5	A
20	Rose and Dockery	7.8	A

DNE – Does Not Exist



EXISTING PEAK HOUR TRAFFIC VOLUMES

(INTERSECTIONS 1-10)

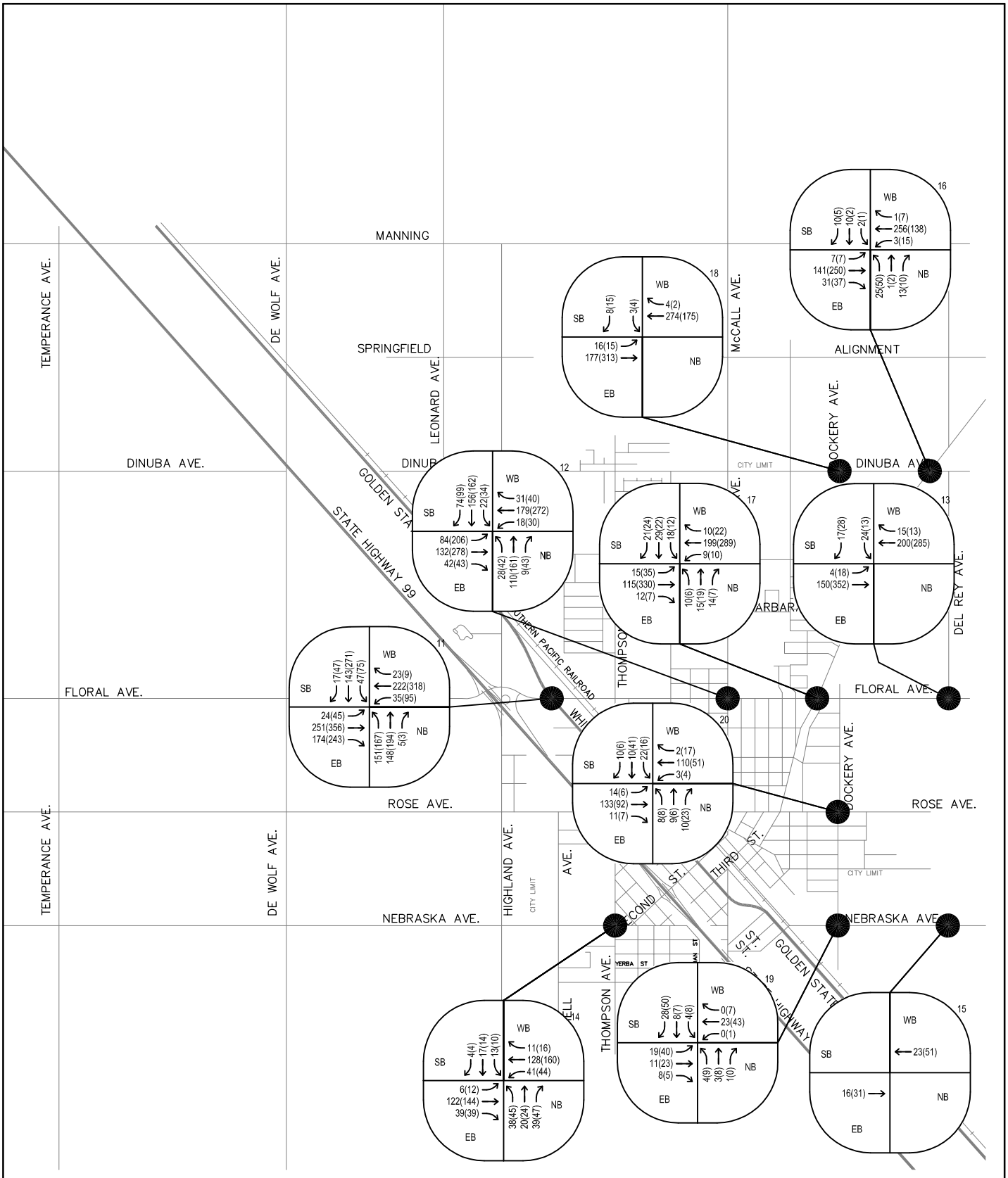
General Plan Update

Selma, California

LEGEND

XX (XX)-AM (PM) Peak Hour Volumes

Not to Scale



EXISTING PEAK HOUR TRAFFIC VOLUMES

(INTERSECTIONS 11-20)

General Plan Update

Selma, California

LEGEND

XX (XX)-AM (PM) Peak Hour Volumes

Not to Scale

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	347	14	7	693	2	3	2	3	4	1	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	377	15	8	753	2	3	2	3	4	1	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	755			392			788	1160	196	967	1166	378
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	755			392			788	1160	196	967	1166	378
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	99	100	98	99	99
cM capacity (veh/h)	851			1163			275	192	812	205	191	620

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	2	251	141	8	502	253	9	12
Volume Left	2	0	0	8	0	0	3	4
Volume Right	0	0	15	0	0	2	3	7
cSH	851	1700	1700	1163	1700	1700	320	319
Volume to Capacity	0.00	0.15	0.08	0.01	0.30	0.15	0.03	0.04
Queue Length 95th (ft)	0	0	0	0	0	0	2	3
Control Delay (s)	9.2	0.0	0.0	8.1	0.0	0.0	16.6	16.7
Lane LOS	A			A			C	C
Approach Delay (s)	0.1			0.1			16.6	16.7
Approach LOS							C	C

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	29.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.996			0.928			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3483	0	1770	3525	0	1770	1729	0	1770	1792	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3483	0	1770	3525	0	1770	1729	0	1770	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			3			65			24	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5322			5283			5320			945	
Travel Time (s)		121.0			120.1			120.9			21.5	
Volume (vph)	26	298	36	59	593	15	72	76	70	19	128	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	324	39	64	645	16	78	83	76	21	139	47
Lane Group Flow (vph)	28	363	0	64	661	0	78	159	0	21	186	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phases	7	4		3	8		5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	12.0	22.5		12.0	22.5		12.0	22.5		12.0	22.5	
Total Split (s)	12.0	23.0	0.0	12.0	23.0	0.0	12.0	23.0	0.0	12.0	23.0	0.0
Total Split (%)	17.1%	32.9%	0.0%	17.1%	32.9%	0.0%	17.1%	32.9%	0.0%	17.1%	32.9%	0.0%
Maximum Green (s)	8.0	18.5		8.0	18.5		8.0	18.5		8.0	18.5	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10			10			10			10	
Act Effct Green (s)	6.9	13.9		7.3	16.1		7.4	15.4		6.9	11.5	
Actuated g/C Ratio	0.13	0.30		0.15	0.35		0.15	0.33		0.13	0.25	
v/c Ratio	0.12	0.34		0.25	0.54		0.30	0.26		0.09	0.40	
Control Delay	27.9	16.4		27.5	16.9		28.0	10.8		29.6	19.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.9	16.4		27.5	16.9		28.0	10.8		29.6	19.5	
LOS	C	B		C	B		C	B		C	B	
Approach Delay		17.3			17.9			16.5			20.6	
Approach LOS		B			B			B			C	

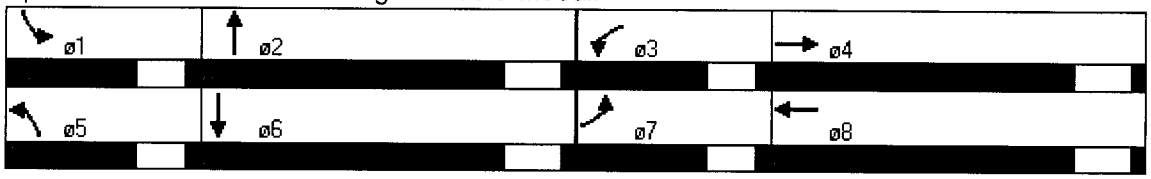
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	8	49		18	71		22	17		6	44	
Queue Length 95th (ft)	33	97		60	186		70	75		27	108	
Internal Link Dist (ft)		5242			5203			5240			865	
Turn Bay Length (ft)												
Base Capacity (vph)	291	1415		301	1503		301	786		284	706	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.26		0.21	0.44		0.26	0.20		0.07	0.26	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 46.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 17.9
Intersection Capacity Utilization 46.9%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 2: Manning Avenue & McCall



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	346	15	28	707	1	6	1	9	2	4	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	376	16	30	768	1	7	1	10	2	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	770			392			838	1217	196	1030	1224	385
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	770			392			838	1217	196	1030	1224	385
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			97	99	99	99	97	99
cM capacity (veh/h)	841			1163			247	175	812	181	173	613

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	251	142	30	512	257	17	11
Volume Left	1	0	0	30	0	0	7	2
Volume Right	0	0	16	0	0	1	10	4
cSH	841	1700	1700	1163	1700	1700	389	245
Volume to Capacity	0.00	0.15	0.08	0.03	0.30	0.15	0.04	0.04
Queue Length 95th (ft)	0	0	0	2	0	0	3	3
Control Delay (s)	9.3	0.0	0.0	8.2	0.0	0.0	14.7	20.3
Lane LOS	A			A			B	C
Approach Delay (s)	0.0			0.3			14.7	20.3
Approach LOS							B	C

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	14	6	2	17	7	4	1	0	3	9	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	15	7	2	18	8	4	1	0	3	10	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	24	28	5	22
Volume Left (vph)	2	2	4	3
Volume Right (vph)	7	8	0	9
Hadj (s)	-0.11	-0.11	0.19	-0.18
Departure Headway (s)	3.9	3.9	4.2	3.8
Degree Utilization, x	0.03	0.03	0.01	0.02
Capacity (veh/h)	916	919	830	921
Control Delay (s)	7.0	7.0	7.2	6.9
Approach Delay (s)	7.0	7.0	7.2	6.9
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.0		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	20	0	0	0	25	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	22	0	0	0	27	0	0	0	0	0

Direction, Lane #	EB 1	NB 1
Volume Total (vph)	22	27
Volume Left (vph)	0	27
Volume Right (vph)	22	0
Hadj (s)	-0.57	0.23
Departure Headway (s)	3.4	4.2
Degree Utilization, x	0.02	0.03
Capacity (veh/h)	1044	846
Control Delay (s)	6.5	7.3
Approach Delay (s)	6.5	7.3
Approach LOS	A	A

Intersection Summary			
Delay	6.9		
HCM Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	1	29	2	256	7	240	20	117	155	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	1	32	2	278	8	261	22	127	168	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	848	721	84	628	711	141	170			283		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848	721	84	628	711	141	170			283		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	91	99	68	99			90		
cM capacity (veh/h)	160	315	958	336	319	881	1405			1277		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	1	312	8	174	109	183	112	1
Volume Left	0	0	32	8	0	0	127	0	0
Volume Right	0	1	278	0	0	22	0	0	1
cSH	315	958	749	1405	1700	1700	1277	1700	1700
Volume to Capacity	0.01	0.00	0.42	0.01	0.10	0.06	0.10	0.07	0.00
Queue Length 95th (ft)	1	0	52	0	0	0	8	0	0
Control Delay (s)	16.5	8.8	13.2	7.6	0.0	0.0	5.9	0.0	0.0
Lane LOS	C	A	B	A			A		
Approach Delay (s)	13.9		13.2	0.2			3.6		
Approach LOS	B		B						

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	122	15	99	251	24	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	133	16	108	273	26	68

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	149	380	95
Volume Left (vph)	0	108	26
Volume Right (vph)	16	0	68
Hadj (s)	-0.03	0.09	-0.35
Departure Headway (s)	4.5	4.4	4.7
Degree Utilization, x	0.19	0.46	0.12
Capacity (veh/h)	767	796	687
Control Delay (s)	8.6	11.2	8.4
Approach Delay (s)	8.6	11.2	8.4
Approach LOS	A	B	A

Intersection Summary			
Delay	10.1		
HCM Level of Service	B		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	73	112	36	31	210	52	68	171	26	47	147	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	79	122	39	34	228	57	74	186	28	51	160	63

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	240	318	260	28	274
Volume Left (vph)	79	34	74	0	51
Volume Right (vph)	39	57	0	28	63
Hadj (s)	0.00	-0.05	0.18	-0.67	-0.07
Departure Headway (s)	6.5	6.3	7.1	6.2	6.5
Degree Utilization, x	0.44	0.56	0.51	0.05	0.49
Capacity (veh/h)	489	531	469	527	500
Control Delay (s)	14.4	16.8	16.0	8.3	15.6
Approach Delay (s)	14.4	16.8	15.3		15.6
Approach LOS	B	C	C		C

Intersection Summary			
Delay	15.6		
HCM Level of Service	C		
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	141	13	31	255	11	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	153	14	34	277	12	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			167		505	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			167		505	160
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		98	98
cM capacity (veh/h)			1410		514	885

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	167	311	29
Volume Left	0	34	12
Volume Right	14	0	17
cSH	1700	1410	684
Volume to Capacity	0.10	0.02	0.04
Queue Length 95th (ft)	0	2	3
Control Delay (s)	0.0	1.0	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	1.0	10.5
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	71	1	4	60	21	2	2	8	10	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	77	1	4	65	23	2	2	9	11	2	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	88			78			165	174	78	173	164	77
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	88			78			165	174	78	173	164	77
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	99	100	100
cM capacity (veh/h)	1508			1520			795	717	983	780	727	984

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	78	92	13	14
Volume Left	0	4	2	11
Volume Right	1	23	9	1
cSH	1508	1520	893	783
Volume to Capacity	0.00	0.00	0.01	0.02
Queue Length 95th (ft)	0	0	1	1
Control Delay (s)	0.0	0.4	9.1	9.7
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.4	9.1	9.7
Approach LOS			A	A

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

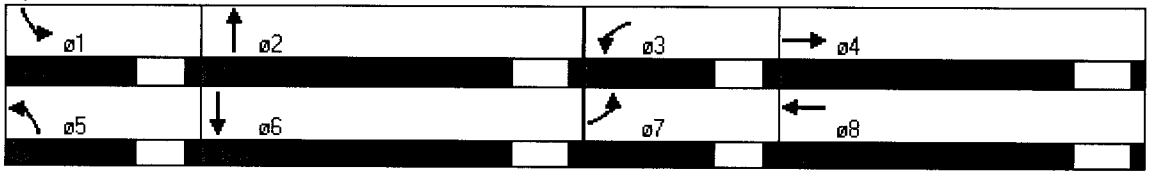
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Frt		0.939			0.986				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3323	0	1770	3490	0	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3323	0	1770	3490	0	3433	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		189			15				5			18
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			3762			923			850	
Travel Time (s)		11.8			85.5			21.0			19.3	
Volume (vph)	24	251	174	35	222	23	151	148	5	47	143	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	273	189	38	241	25	164	161	5	51	155	18
Lane Group Flow (vph)	26	462	0	38	266	0	164	161	5	51	155	18
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phases	7	4		3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	22.5		12.0	22.5		12.0	22.5	22.5	12.0	22.5	22.5
Total Split (s)	12.0	22.5	0.0	12.0	22.5	0.0	12.0	23.5	23.5	12.0	23.5	23.5
Total Split (%)	17.1%	32.1%	0.0%	17.1%	32.1%	0.0%	17.1%	33.6%	33.6%	17.1%	33.6%	33.6%
Maximum Green (s)	8.0	18.0		8.0	18.0		8.0	19.0	19.0	8.0	19.0	19.0
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5	3.5	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		10			10			10	10		10	10
Act Effct Green (s)	6.7	10.7		6.7	12.5		7.4	14.9	14.9	6.9	9.6	9.6
Actuated g/C Ratio	0.13	0.26		0.14	0.30		0.17	0.36	0.36	0.14	0.23	0.23
v/c Ratio	0.11	0.47		0.15	0.25		0.28	0.13	0.01	0.20	0.19	0.05
Control Delay	26.2	11.1		24.5	13.1		21.5	14.3	12.4	24.7	17.1	9.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	11.1		24.5	13.1		21.5	14.3	12.4	24.7	17.1	9.9
LOS	C	B		C	B		C	B	B	C	B	A
Approach Delay		11.9			14.5			17.8			18.3	
Approach LOS		B			B			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	4	22		6	20		13	6	0	8	13	0
Queue Length 95th (ft)	31	86		40	73		60	49	8	50	47	14
Internal Link Dist (ft)		438			3682			843			770	
Turn Bay Length (ft)												
Base Capacity (vph)	297	1437		307	1487		669	1604	720	307	1424	648
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.32		0.12	0.18		0.25	0.10	0.01	0.17	0.11	0.03

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 41.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 15.0
Intersection LOS: B
Intersection Capacity Utilization 37.4%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Floral Avenue & Whitson Street



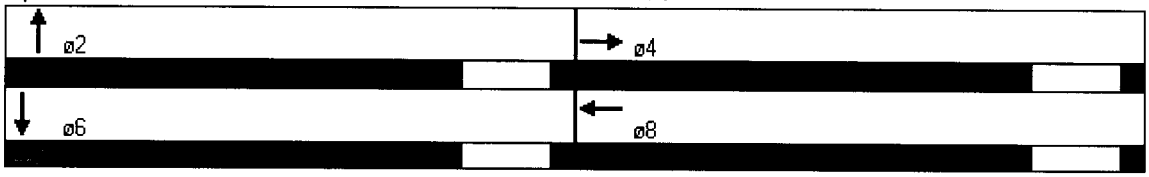
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963				0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1794	0	1770	1863	1583	1770	1840	0	1770	1863	1583
Flt Permitted	0.635			0.639			0.650			0.674		
Satd. Flow (perm)	1183	1794	0	1190	1863	1583	1211	1840	0	1255	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44				34		10				80
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3762			665			665			5361	
Travel Time (s)		85.5			15.1			15.1			121.8	
Volume (vph)	84	132	42	18	179	31	28	110	9	22	156	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	143	46	20	195	34	30	120	10	24	170	80
Lane Group Flow (vph)	91	189	0	20	195	34	30	130	0	24	170	80
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phases	4	4		8	8	8	2	2		6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	22.5	22.5	0.0	22.5	22.5	22.5	22.5	22.5	0.0	22.5	22.5	22.5
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	50.0%	50.0%	50.0%	0.0%	50.0%	50.0%	50.0%
Maximum Green (s)	18.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Min	Min		Min	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	10	10		10	10	10	10	10		10	10	10
Act Effct Green (s)	10.8	10.8		10.9	10.9	10.9	15.8	15.8		15.8	15.8	15.8
Actuated g/C Ratio	0.31	0.31		0.31	0.31	0.31	0.48	0.48		0.48	0.48	0.48
v/c Ratio	0.25	0.32		0.05	0.34	0.07	0.05	0.15		0.04	0.19	0.10
Control Delay	9.0	7.1		7.3	8.8	3.7	7.3	7.1		7.3	7.6	2.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	9.0	7.1		7.3	8.8	3.7	7.3	7.1		7.3	7.6	2.9
LOS	A	A		A	A	A	A	A		A	A	A
Approach Delay		7.7			8.0			7.2			6.2	
Approach LOS		A			A			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	7	11		1	15	0	2	9		2	13	0
Queue Length 95th (ft)	36	53		12	64	11	16	43		13	56	17
Internal Link Dist (ft)		3682			585			585			5281	
Turn Bay Length (ft)												
Base Capacity (vph)	541	844		544	852	743	729	1111		755	1121	984
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.17	0.22		0.04	0.23	0.05	0.04	0.12		0.03	0.15	0.08

Intersection Summary

Area Type: Other
Cycle Length: 45
Actuated Cycle Length: 33.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 7.3 Intersection LOS: A
Intersection Capacity Utilization 39.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: Floral Avenue & McCall Avenue



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	150	200	15	24	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	163	217	16	26	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	234				397	226
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	234				397	226
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	98
cM capacity (veh/h)	1334				606	814

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	167	234	45
Volume Left	4	0	26
Volume Right	0	16	18
cSH	1334	1700	678
Volume to Capacity	0.00	0.14	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.2	0.0	10.7
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	10.7
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↰	↱
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	6	122	39	41	128	11	38	20	39	13	17	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	133	42	45	139	12	41	22	42	14	18	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	182	196	105	33	4
Volume Left (vph)	7	45	41	14	0
Volume Right (vph)	42	12	42	0	4
Hadj (s)	-0.10	0.04	-0.13	0.25	-0.67
Departure Headway (s)	4.4	4.5	4.8	5.7	4.8
Degree Utilization, x	0.22	0.25	0.14	0.05	0.01
Capacity (veh/h)	787	761	694	576	680
Control Delay (s)	8.6	9.0	8.6	7.9	6.6
Approach Delay (s)	8.6	9.0	8.6	7.7	
Approach LOS	A	A	A	A	

Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑							
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	16	0	0	23	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	17	0	0	25	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	25			17			42	42	17	42	42	25
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	25			17			42	42	17	42	42	25
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1589			1600			961	850	1061	961	850	1051

Direction, Lane #	EB 1	WB 1
Volume Total	17	25
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.01	0.01
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	7	141	31	3	256	1	25	1	13	2	10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	153	34	3	278	1	27	1	14	2	11	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	279			187			487	471	170	485	488	279
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	279			187			487	471	170	485	488	279
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	100	98	100	98	99
cM capacity (veh/h)	1283			1387			472	487	874	480	476	760

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	195	283	42	24
Volume Left	8	3	27	2
Volume Right	34	1	14	11
cSH	1283	1387	558	574
Volume to Capacity	0.01	0.00	0.08	0.04
Queue Length 95th (ft)	0	0	6	3
Control Delay (s)	0.4	0.1	12.0	11.5
Lane LOS	A	A	B	B
Approach Delay (s)	0.4	0.1	12.0	11.5
Approach LOS			B	B

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	115	12	9	199	10	10	15	14	18	29	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	125	13	10	216	11	11	16	15	20	32	23

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	154	237	42	74
Volume Left (vph)	16	10	11	20
Volume Right (vph)	13	11	15	23
Hadj (s)	0.00	0.01	-0.13	-0.10
Departure Headway (s)	4.5	4.4	4.8	4.7
Degree Utilization, x	0.19	0.29	0.06	0.10
Capacity (veh/h)	778	790	687	692
Control Delay (s)	8.5	9.1	8.0	8.3
Approach Delay (s)	8.5	9.1	8.0	8.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	177	0	0	274	4	0	0	0	3	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	192	0	0	298	4	0	0	0	3	0	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	302			192			536	529	192	527	527	300
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	302			192			536	529	192	527	527	300
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	99	100	99
cM capacity (veh/h)	1259			1381			445	449	849	457	450	740

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	210	302	0	12
Volume Left	17	0	0	3
Volume Right	0	4	0	9
cSH	1259	1381	1700	633
Volume to Capacity	0.01	0.00	0.00	0.02
Queue Length 95th (ft)	1	0	0	1
Control Delay (s)	0.8	0.0	0.0	10.8
Lane LOS	A		A	B
Approach Delay (s)	0.8	0.0	0.0	10.8
Approach LOS			A	B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	19	11	8	0	23	0	4	3	1	4	8	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	12	9	0	25	0	4	3	1	4	9	30

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	41	25	9	43
Volume Left (vph)	21	0	4	4
Volume Right (vph)	9	0	1	30
Hadj (s)	0.01	0.03	0.06	-0.37
Departure Headway (s)	4.0	4.1	4.1	3.7
Degree Utilization, x	0.05	0.03	0.01	0.04
Capacity (veh/h)	874	866	843	955
Control Delay (s)	7.2	7.2	7.2	6.9
Approach Delay (s)	7.2	7.2	7.2	6.9
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.1		
HCM Level of Service	A		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	133	11	3	110	2	8	9	10	22	10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	145	12	3	120	2	9	10	11	24	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	88	84	63	62	29	46
Volume Left (vph)	15	0	3	0	9	24
Volume Right (vph)	0	12	0	2	11	11
Hadj (s)	0.12	-0.07	0.06	0.01	-0.13	0.00
Departure Headway (s)	4.9	4.7	4.9	4.8	4.5	4.6
Degree Utilization, x	0.12	0.11	0.09	0.08	0.04	0.06
Capacity (veh/h)	719	742	713	723	748	729
Control Delay (s)	7.4	7.1	7.1	7.1	7.7	7.9
Approach Delay (s)	7.2		7.1		7.7	7.9
Approach LOS	A		A		A	A

Intersection Summary			
Delay	7.3		
HCM Level of Service	A		
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	800	7	7	480	10	19	3	65	2	10	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	870	8	8	522	11	21	3	71	2	11	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	533			877			1208	1454	439	1082	1452	266
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	533			877			1208	1454	439	1082	1452	266
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			83	97	88	98	91	97
cM capacity (veh/h)	1031			766			124	126	566	145	126	732

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	16	580	297	8	348	185	95	34
Volume Left	16	0	0	8	0	0	21	2
Volume Right	0	0	8	0	0	11	71	21
cSH	1031	1700	1700	766	1700	1700	297	260
Volume to Capacity	0.02	0.34	0.17	0.01	0.20	0.11	0.32	0.13
Queue Length 95th (ft)	1	0	0	1	0	0	33	11
Control Delay (s)	8.5	0.0	0.0	9.7	0.0	0.0	22.6	20.9
Lane LOS	A			A			C	C
Approach Delay (s)	0.2			0.1			22.6	20.9
Approach LOS							C	C

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	40.2%	ICU Level of Service	A	
Analysis Period (min)	15			

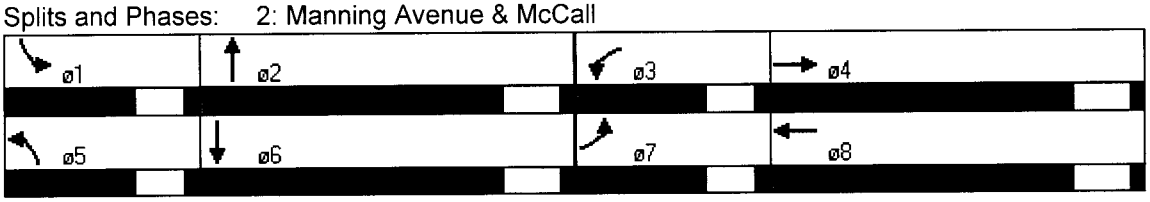
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.993			0.956			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3490	0	1770	3514	0	1770	1781	0	1770	1822	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3490	0	1770	3514	0	1770	1781	0	1770	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			7			30			12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5322			5283			5320			945	
Travel Time (s)		121.0			120.1			120.9			21.5	
Volume (vph)	47	752	79	98	442	21	56	200	84	35	134	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	817	86	107	480	23	61	217	91	38	146	25
Lane Group Flow (vph)	51	903	0	107	503	0	61	308	0	38	171	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phases	7	4		3	8		5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	12.0	22.5		12.0	22.5		12.0	22.5		12.0	22.5	
Total Split (s)	12.0	23.0	0.0	12.0	23.0	0.0	12.0	23.0	0.0	12.0	23.0	0.0
Total Split (%)	17.1%	32.9%	0.0%	17.1%	32.9%	0.0%	17.1%	32.9%	0.0%	17.1%	32.9%	0.0%
Maximum Green (s)	8.0	18.5		8.0	18.5		8.0	18.5		8.0	18.5	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10			10			10			10	
Act Effct Green (s)	7.1	18.7		7.5	21.3		7.2	15.5		7.0	13.4	
Actuated g/C Ratio	0.12	0.34		0.13	0.38		0.12	0.28		0.11	0.24	
v/c Ratio	0.24	0.76		0.46	0.37		0.29	0.59		0.19	0.38	
Control Delay	30.5	25.9		34.4	17.2		31.2	23.0		30.9	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.5	25.9		34.4	17.2		31.2	23.0		30.9	21.9	
LOS	C	C		C	B		C	C		C	C	
Approach Delay		26.2			20.2			24.4			23.5	
Approach LOS		C			C			C			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	18	160		38	75		21	76		13	54	
Queue Length 95th (ft)	51	#314		#93	140		58	182		41	104	
Internal Link Dist (ft)		5242			5203			5240			865	
Turn Bay Length (ft)												
Base Capacity (vph)	246	1266		257	1437		246	637		239	605	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.71		0.42	0.35		0.25	0.48		0.16	0.28	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 55.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 61.0% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Manning Avenue & McCall



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	861	8	4	543	2	17	1	38	3	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	936	9	4	590	2	18	1	41	3	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	592			945			1246	1541	472	1110	1545	296
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	592			945			1246	1541	472	1110	1545	296
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			86	99	92	98	100	100
cM capacity (veh/h)	979			722			129	113	538	150	113	700

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	624	321	4	393	199	61	5
Volume Left	0	0	0	4	0	0	18	3
Volume Right	0	0	9	0	0	2	41	2
cSH	1700	1700	1700	722	1700	1700	265	218
Volume to Capacity	0.00	0.37	0.19	0.01	0.23	0.12	0.23	0.02
Queue Length 95th (ft)	0	0	0	0	0	0	22	2
Control Delay (s)	0.0	0.0	0.0	10.0	0.0	0.0	22.6	21.9
Lane LOS				B			C	C
Approach Delay (s)	0.0			0.1			22.6	21.9
Approach LOS							C	C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	9	0	0	9	4	1	2	0	3	6	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	10	0	0	10	4	1	2	0	3	7	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	10	14	3	11
Volume Left (vph)	0	0	1	3
Volume Right (vph)	0	4	0	1
Hadj (s)	0.03	-0.15	0.10	0.03
Departure Headway (s)	4.0	3.8	4.1	4.0
Degree Utilization, x	0.01	0.01	0.00	0.01
Capacity (veh/h)	895	941	868	892
Control Delay (s)	7.0	6.8	7.1	7.0
Approach Delay (s)	7.0	6.8	7.1	7.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.0		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	12	0	0	0	13	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	13	0	0	0	14	0	0	0	0	0

Direction, Lane #	EB 1	NB 1
Volume Total (vph)	13	14
Volume Left (vph)	0	14
Volume Right (vph)	13	0
Hadj (s)	-0.57	0.23
Departure Headway (s)	3.4	4.2
Degree Utilization, x	0.01	0.02
Capacity (veh/h)	1057	850
Control Delay (s)	6.4	7.2
Approach Delay (s)	6.4	7.2
Approach LOS	A	A

Intersection Summary			
Delay	6.8		
HCM Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	8	5	22	2	140	5	204	52	301	390	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	9	5	24	2	152	5	222	57	327	424	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1353	1367	212	1137	1343	139	428			278		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1353	1367	212	1137	1343	139	428			278		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	92	99	80	98	83	100			74		
cM capacity (veh/h)	71	108	793	117	112	884	1128			1281		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	5	178	5	148	130	468	283	4
Volume Left	4	0	24	5	0	0	327	0	0
Volume Right	0	5	152	0	0	57	0	0	4
cSH	92	793	450	1128	1700	1700	1281	1700	1700
Volume to Capacity	0.14	0.01	0.40	0.00	0.09	0.08	0.26	0.17	0.00
Queue Length 95th (ft)	12	1	47	0	0	0	25	0	0
Control Delay (s)	50.6	9.6	18.1	8.2	0.0	0.0	6.9	0.0	0.0
Lane LOS	F	A	C	A			A		
Approach Delay (s)	38.5		18.1	0.2			4.3		
Approach LOS	E		C						

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	280	89	141	110	34	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	304	97	153	120	37	125
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			401		779	353
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			401		779	353
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			87		88	82
cM capacity (veh/h)			1158		316	691

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	401	273	162
Volume Left	0	153	37
Volume Right	97	0	125
cSH	1700	1158	544
Volume to Capacity	0.24	0.13	0.30
Queue Length 95th (ft)	0	11	31
Control Delay (s)	0.0	5.4	14.4
Lane LOS		A	B
Approach Delay (s)	0.0	5.4	14.4
Approach LOS			B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	81	234	39	37	104	38	65	170	36	52	150	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	88	254	42	40	113	41	71	185	39	57	163	99

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	385	195	255	39	318
Volume Left (vph)	88	40	71	0	57
Volume Right (vph)	42	41	0	39	99
Hadj (s)	0.01	-0.05	0.17	-0.67	-0.12
Departure Headway (s)	6.5	6.9	7.4	6.5	6.6
Degree Utilization, x	0.69	0.37	0.52	0.07	0.59
Capacity (veh/h)	520	448	449	502	497
Control Delay (s)	22.6	14.0	16.9	8.8	18.5
Approach Delay (s)	22.6	14.0	15.8		18.5
Approach LOS	C	B	C		C

Intersection Summary			
Delay	18.4		
HCM Level of Service	C		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	271	7	13	141	9	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	295	8	14	153	10	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			302		480	298
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			302		480	298
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	98
cM capacity (veh/h)			1259		539	741

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	302	167	23
Volume Left	0	14	10
Volume Right	8	0	13
cSH	1700	1259	638
Volume to Capacity	0.18	0.01	0.04
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	0.8	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	10.8
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	96	3	8	125	8	6	1	15	8	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	104	3	9	136	9	7	1	16	9	3	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	145			108			268	270	106	283	267	140
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	145			108			268	270	106	283	267	140
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	98	99	99	100
cM capacity (veh/h)	1438			1483			677	632	948	654	634	908

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	109	153	24	13
Volume Left	1	9	7	9
Volume Right	3	9	16	1
cSH	1438	1483	838	664
Volume to Capacity	0.00	0.01	0.03	0.02
Queue Length 95th (ft)	0	0	2	2
Control Delay (s)	0.1	0.5	9.4	10.5
Lane LOS	A	A	A	B
Approach Delay (s)	0.1	0.5	9.4	10.5
Approach LOS			A	B

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		

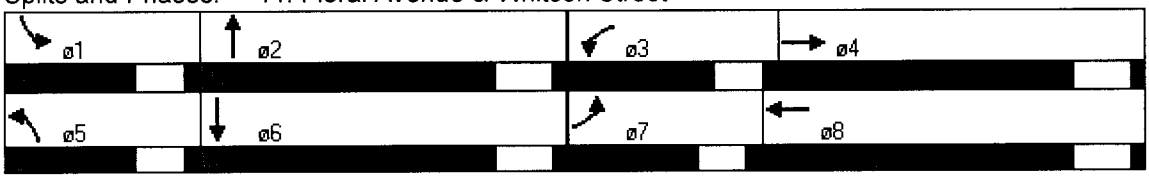
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Frt		0.939			0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3323	0	1770	3525	0	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3323	0	1770	3525	0	3433	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		234			4				3			51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			3762			923			850	
Travel Time (s)		11.8			85.5			21.0			19.3	
Volume (vph)	45	356	243	95	318	9	167	194	3	75	271	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	387	264	103	346	10	182	211	3	82	295	51
Lane Group Flow (vph)	49	651	0	103	356	0	182	211	3	82	295	51
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phases	7	4		3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	22.5		12.0	22.5		12.0	22.5	22.5	12.0	22.5	22.5
Total Split (s)	12.0	22.5	0.0	13.0	23.5	0.0	12.0	22.5	22.5	12.0	22.5	22.5
Total Split (%)	17.1%	32.1%	0.0%	18.6%	33.6%	0.0%	17.1%	32.1%	32.1%	17.1%	32.1%	32.1%
Maximum Green (s)	8.0	18.0		9.0	19.0		8.0	18.0	18.0	8.0	18.0	18.0
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5	3.5	3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		10			10			10	10		10	10
Act Effct Green (s)	7.2	13.6		8.0	16.5		7.6	14.0	14.0	7.5	11.7	11.7
Actuated g/C Ratio	0.13	0.26		0.15	0.32		0.14	0.27	0.27	0.13	0.23	0.23
v/c Ratio	0.21	0.62		0.39	0.32		0.38	0.22	0.01	0.34	0.37	0.13
Control Delay	28.4	15.2		29.7	16.9		27.3	19.3	14.0	30.4	21.4	7.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	15.2		29.7	16.9		27.3	19.3	14.0	30.4	21.4	7.8
LOS	C	B		C	B		C	B	B	C	C	A
Approach Delay		16.2			19.7			22.9			21.5	
Approach LOS		B			B			C			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	16	64		32	50		29	33	0	26	47	0
Queue Length 95th (ft)	50	132		87	98		67	63	6	73	85	24
Internal Link Dist (ft)		438			3682			843			770	
Turn Bay Length (ft)												
Base Capacity (vph)	267	1309		308	1353		538	1261	566	267	1196	569
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.50		0.33	0.26		0.34	0.17	0.01	0.31	0.25	0.09

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 51.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 19.5 Intersection LOS: B
Intersection Capacity Utilization 48.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Floral Avenue & Whitson Street



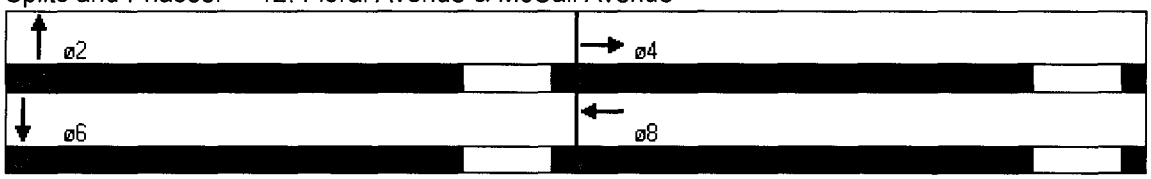
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980				0.850		0.968				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1825	0	1770	1863	1583	1770	1803	0	1770	1863	1583
Flt Permitted	0.541			0.481			0.646			0.620		
Satd. Flow (perm)	1008	1825	0	896	1863	1583	1203	1803	0	1155	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				43		36				108
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3762			665			665			5361	
Travel Time (s)		85.5			15.1			15.1			121.8	
Volume (vph)	206	278	43	30	272	40	42	161	43	34	162	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	224	302	47	33	296	43	46	175	47	37	176	108
Lane Group Flow (vph)	224	349	0	33	296	43	46	222	0	37	176	108
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phases	4	4		8	8	8	2	2		6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	22.5	22.5	0.0	22.5	22.5	22.5	22.5	22.5	0.0	22.5	22.5	22.5
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	50.0%	50.0%	50.0%	0.0%	50.0%	50.0%	50.0%
Maximum Green (s)	18.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Min	Min		Min	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	10	10		10	10	10	10	10		10	10	10
Act Effct Green (s)	12.3	12.3		12.3	12.3	12.3	9.9	9.9		9.9	9.9	9.9
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40	0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.56	0.47		0.09	0.40	0.07	0.12	0.37		0.10	0.29	0.18
Control Delay	14.2	9.4		7.5	9.0	3.4	9.0	9.2		8.9	9.9	3.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	14.2	9.4		7.5	9.0	3.4	9.0	9.2		8.9	9.9	3.4
LOS	B	A		A	A	A	A	A		A	A	A
Approach Delay		11.2			8.2			9.1			7.6	
Approach LOS		B			A			A			A	

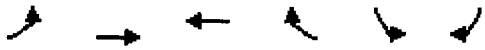
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	21	30		3	26	0	5	20		4	18	0
Queue Length 95th (ft)	95	110		17	96	12	21	64		18	58	20
Internal Link Dist (ft)		3682			585			585			5281	
Turn Bay Length (ft)												
Base Capacity (vph)	514	941		456	950	828	577	884		555	894	816
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.44	0.37		0.07	0.31	0.05	0.08	0.25		0.07	0.20	0.13

Intersection Summary

Area Type: Other
Cycle Length: 45
Actuated Cycle Length: 30.8
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 9.4 Intersection LOS: A
Intersection Capacity Utilization 53.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: Floral Avenue & McCall Avenue





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	18	352	285	13	13	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	383	310	14	14	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	324				739	317
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	324				739	317
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	96
cM capacity (veh/h)	1236				379	724

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	402	324	45
Volume Left	20	0	14
Volume Right	0	14	30
cSH	1236	1700	562
Volume to Capacity	0.02	0.19	0.08
Queue Length 95th (ft)	1	0	6
Control Delay (s)	0.5	0.0	12.0
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	12.0
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	12	144	39	44	160	16	45	24	47	10	14	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	157	42	48	174	17	49	26	51	11	15	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	212	239	126	26	4
Volume Left (vph)	13	48	49	11	0
Volume Right (vph)	42	17	51	0	4
Hadj (s)	-0.07	0.03	-0.13	0.24	-0.67
Departure Headway (s)	4.5	4.6	5.0	6.0	5.0
Degree Utilization, x	0.27	0.30	0.17	0.04	0.01
Capacity (veh/h)	763	749	664	546	637
Control Delay (s)	9.2	9.6	9.0	8.0	6.9
Approach Delay (s)	9.2	9.6	9.0	7.9	
Approach LOS	A	A	A	A	

Intersection Summary			
Delay	9.2		
HCM Level of Service	A		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑							
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	31	0	0	51	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	34	0	0	55	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	55			34			89	89	34	89	89	55
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	55			34			89	89	34	89	89	55
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1549			1578			896	801	1040	896	801	1011

Direction, Lane #	EB 1	WB 1
Volume Total	34	55
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.02	0.03
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	7	250	37	15	138	7	50	2	10	1	2	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	272	40	16	150	8	54	2	11	1	2	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	158			312			500	497	292	505	514	154
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	158			312			500	497	292	505	514	154
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			88	100	99	100	100	99
cM capacity (veh/h)	1422			1248			470	466	747	462	456	892

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	320	174	67	9
Volume Left	8	16	54	1
Volume Right	40	8	11	5
cSH	1422	1248	500	658
Volume to Capacity	0.01	0.01	0.13	0.01
Queue Length 95th (ft)	0	1	12	1
Control Delay (s)	0.2	0.8	13.3	10.5
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	0.8	13.3	10.5
Approach LOS			B	B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	330	7	10	289	22	6	19	7	12	22	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	359	8	11	314	24	7	21	8	13	24	26

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	404	349	35	63
Volume Left (vph)	38	11	7	13
Volume Right (vph)	8	24	8	26
Hadj (s)	0.04	0.00	-0.06	-0.17
Departure Headway (s)	4.6	4.6	5.7	5.5
Degree Utilization, x	0.52	0.45	0.05	0.10
Capacity (veh/h)	759	748	536	564
Control Delay (s)	12.5	11.4	9.0	9.1
Approach Delay (s)	12.5	11.4	9.0	9.1
Approach LOS	B	B	A	A

Intersection Summary			
Delay	11.7		
HCM Level of Service	B		
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	313	0	0	175	2	0	0	0	4	0	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	340	0	0	190	2	0	0	0	4	0	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	192			340			580	565	340	564	564	191
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192			340			580	565	340	564	564	191
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	99	100	98
cM capacity (veh/h)	1381			1219			413	429	702	432	430	850

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	357	192	0	21
Volume Left	16	0	0	4
Volume Right	0	2	0	16
cSH	1381	1219	1700	706
Volume to Capacity	0.01	0.00	0.00	0.03
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	0.5	0.0	0.0	10.2
Lane LOS	A		A	B
Approach Delay (s)	0.5	0.0	0.0	10.2
Approach LOS			A	B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	23	5	1	43	7	9	8	0	8	7	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	25	5	1	47	8	10	9	0	9	8	54

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	74	55	18	71
Volume Left (vph)	43	1	10	9
Volume Right (vph)	5	8	0	54
Hadj (s)	0.11	-0.04	0.14	-0.40
Departure Headway (s)	4.2	4.1	4.4	3.8
Degree Utilization, x	0.09	0.06	0.02	0.07
Capacity (veh/h)	824	850	784	913
Control Delay (s)	7.7	7.4	7.5	7.1
Approach Delay (s)	7.7	7.4	7.5	7.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.4		
HCM Level of Service	A		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	6	92	7	4	51	17	8	6	23	16	41	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	100	8	4	55	18	9	7	25	17	45	7

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	57	58	32	46	40	68
Volume Left (vph)	7	0	4	0	9	17
Volume Right (vph)	0	8	0	18	25	7
Hadj (s)	0.09	-0.06	0.10	-0.25	-0.30	0.03
Departure Headway (s)	4.9	4.8	4.9	4.6	4.1	4.4
Degree Utilization, x	0.08	0.08	0.04	0.06	0.05	0.08
Capacity (veh/h)	715	732	699	755	826	781
Control Delay (s)	7.1	6.9	7.0	6.7	7.3	7.8
Approach Delay (s)	7.0		6.8		7.3	7.8
Approach LOS	A		A		A	A

Intersection Summary			
Delay	7.2		
HCM Level of Service	A		
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX C

Existing Conditions Noise Report

CITY OF SELMA GENERAL PLAN UPDATE
EXISTING NOISE CONDITIONS

PREPARED FOR

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AUGUST 7, 2007

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INTRODUCTION

This report examines the existing noise environment within the City of Selma, California. The principal noise sources in the City of Selma are traffic on local roads, railroad noise, and industrial noise. The existing noise environment in the City of Selma was determined by a combination of noise level measurements and noise modeling.

BACKGROUND NOISE LEVEL SURVEY

The purpose of the background noise level survey was to determine the baseline noise environment in those parts of the City that are both near and removed from obvious noise sources. Four residences were selected for the survey. Their locations are shown in Figure 1. Noise measurements were conducted continuously for 24 hours using unattended sound level analyzers. The results of the monitoring are shown in Figures 2-5.

The background noise levels in terms of the Day/Night Average Level (DNL) at the four residences ranged from about 59 to 71 dB. The range of these noise levels is fairly typical of small communities at locations near and away from major noise sources.

In Figures 2-5 the L_{max} and L_{min} represent the highest (maximum) and minimum noise levels occurring during an hour. The L_{eq} is the energy average noise level during an hour.

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 is applied. Noise production within industrial or commercial facilities is controlled indirectly by Federal and State employee health and safety regulations (OHSA and Cal-OSHA), but exterior noise emissions from such operations have the potential to exceed locally acceptable standards at nearby noise-sensitive land uses.

The following discussion provides generalized information concerning the relative noise impacts of three major industrial noise sources in the City of Selma. Other industries or other major noise sources may exist, but noise was not perceptible from them during our reconnaissance of the City on July 3, 2007. Worst-case 50 and 55 dBA hourly L_{eq} noise contours were calculated for the major stationary noise sources. The 50 dBA contours are included in Figure 6 of this document. The generalized contours contained within Figure 6 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. Table I summarizes noise levels from each industry.

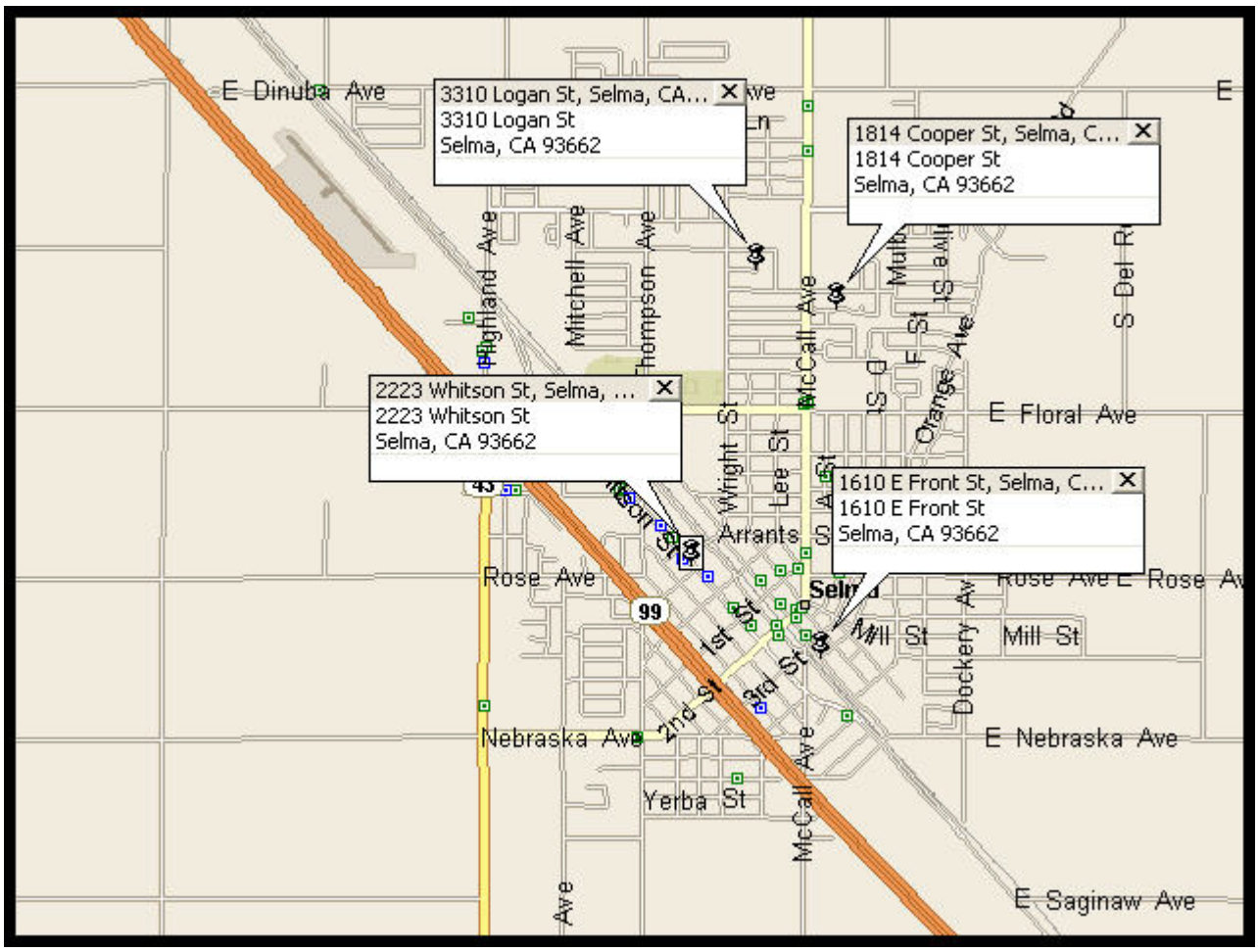


Figure 1: Noise Monitoring Locations

Figure 2
1610 Front Street
June 27-28, 2007

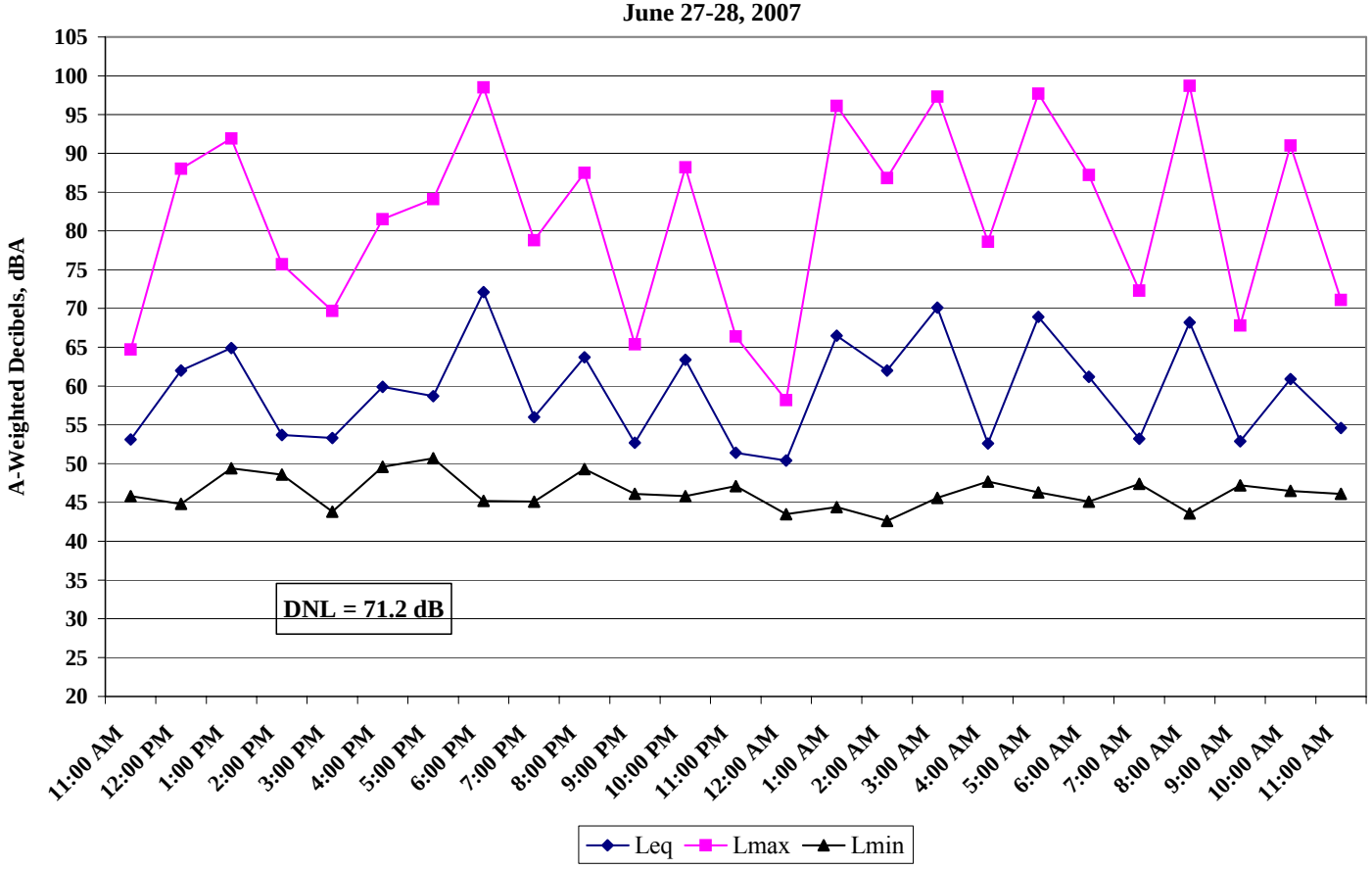


Figure 3
1814 Cooper Street
June 27-28, 2007

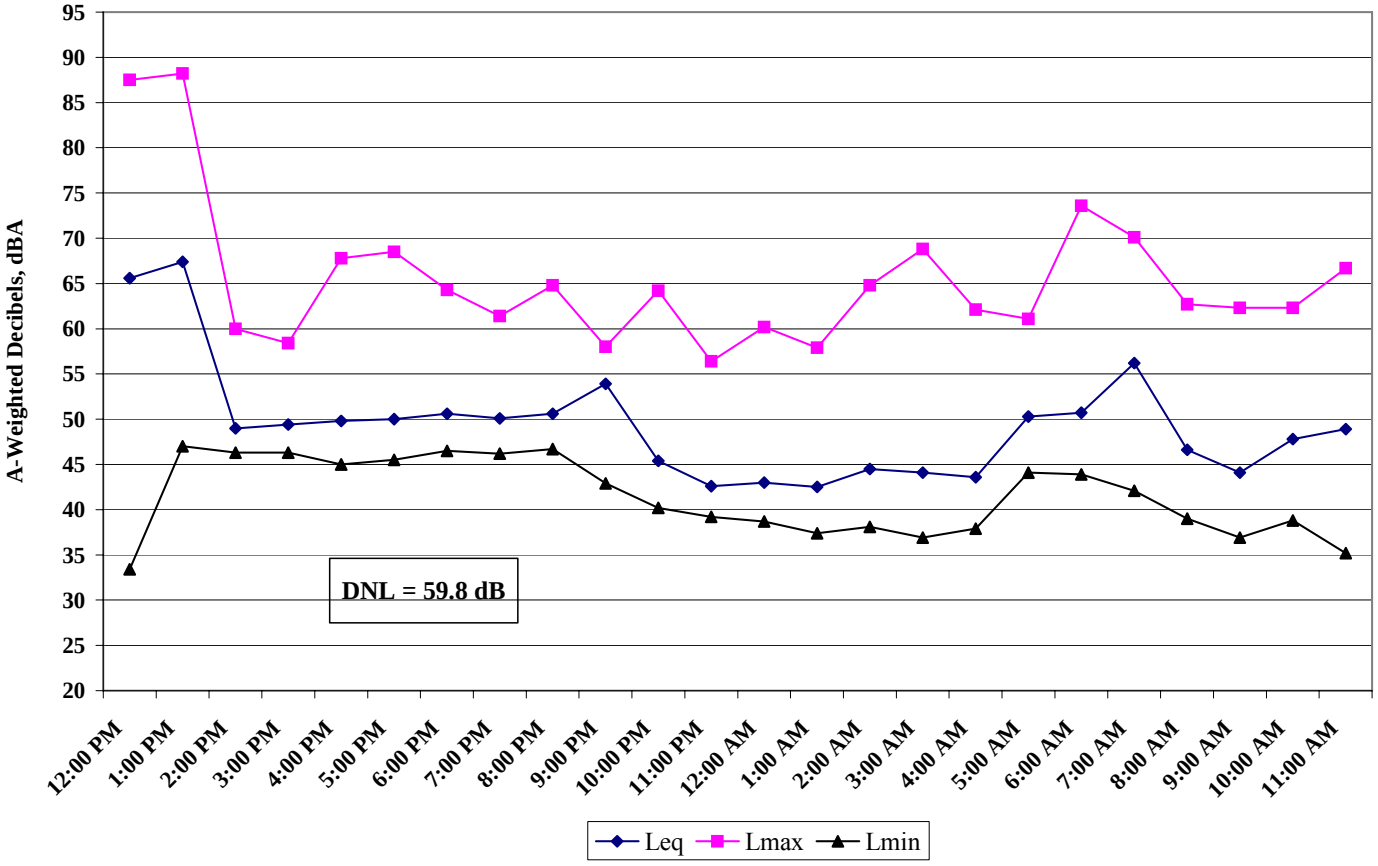


Figure 4
3310 Logan Street
June 27-28, 2007

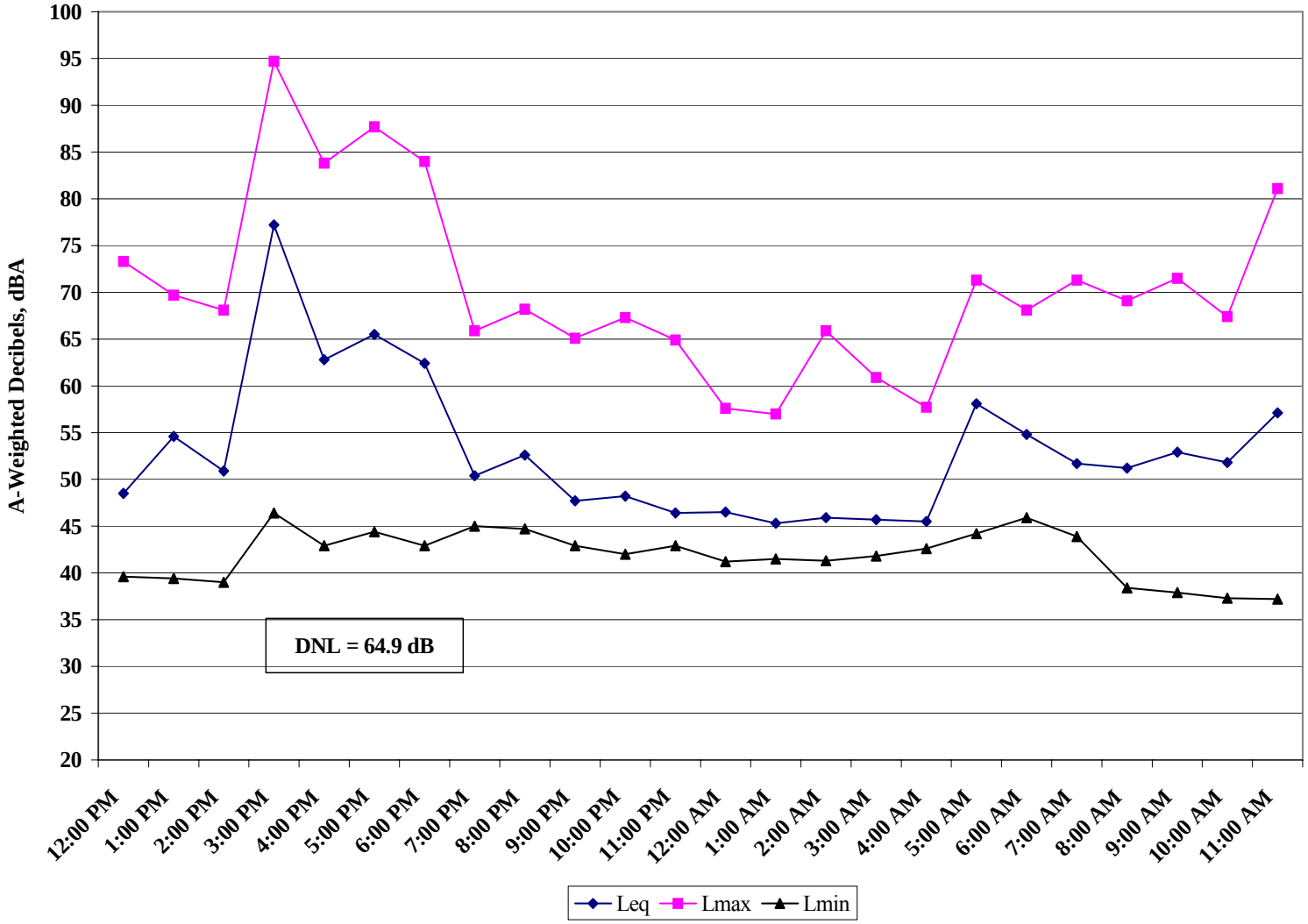
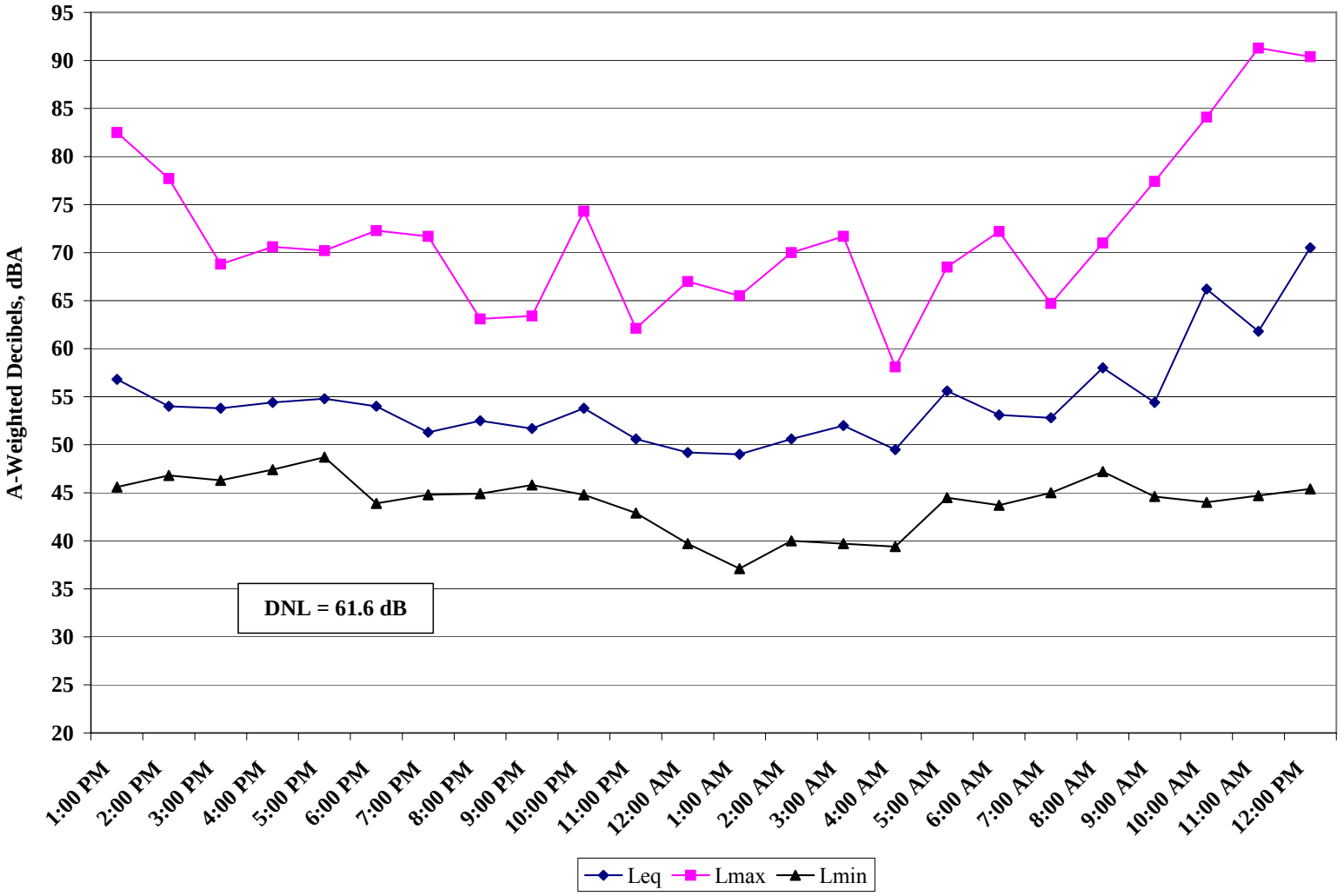


Figure 5
2223 Whitson Street
June 27-28, 2007



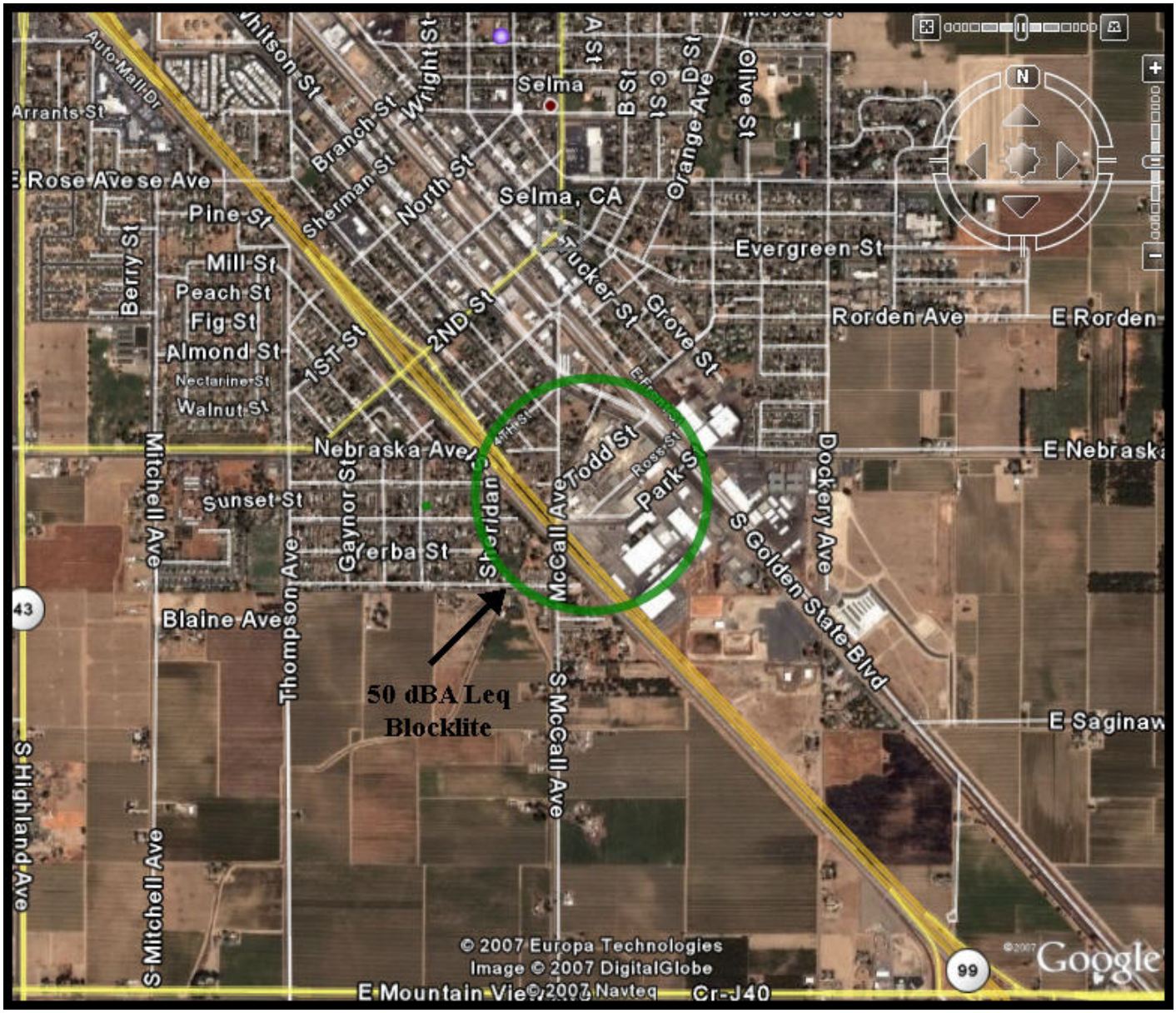


Figure 6: Industry Noise Contour

TABLE I

SUMMARY OF NOISE LEVELS MEASURED FROM INDUSTRIES
JULY 3, 2007

Industry	Distance	L_{eq}, dBA	L_{max}, dBA	Distance to 50 dBA, L_{eq}	Distance to 55 dBA, L_{eq}
Blocklite Park St. & McCall Ave.	300′	68.2	71.9	2440′	1371′
Selma Disposal & Recycling Golden State & Dockery	100′	55.1	57.0	180′	101′
Selma Cold & Dry Storage* Park St. & Front St.	--	--	--	--	--
Sunmaid Plant #8* Nebraska Ave. & Golden State Ave.	--	--	--	--	--

*Sporadic noise from trucks, but not audible at property line.

Source: Brown-Buntin Associates, Inc.

Table I shows that the 50 dBA L_{eq} contour can be as far as 2440 feet from the Blocklite. In practice, it may not be possible to discern plant noise at distances greater than 500 feet during most times of the day because of other community noise sources (traffic, etc.), and the effects of the atmosphere.

Traffic Noise:

Traffic noise exposure was calculated using the Federal Highway Administration Traffic Noise Model (TNM). Version 2.5 of the TNM's Lookup Tables provides a reference of pre-calculated TNM results for simple highway geometrics that are adequate for the scope of a general plan.

Existing traffic volumes was provided by Peters Engineering Group. Appendix A shows the traffic data used in the Model. Table II shows existing traffic noise level contours in tabular form. Figure 7 shows the streets where existing noise level contours were calculated. The streets are color coded to show the approximate distance to the 60 dB DNL noise contour.

TABLE II

DISTANCE TO TRAFFIC NOISE CONTOURS, FT.
EXISTING CONDITIONS

Road	Segment	60 dB DNL	65 dB DNL
Manning	Golden State to De Wolf	155	72
	De Wolf to McCall	158	73
	McCall to Del Rey	162	75
	Del Rey to Indianola	163	76
Dinuba	Golden State to Highland	82	38
	Highland to McCall	94	44
	McCall to Dockery	81	38
Floral	Highland to Whitson	142	66
	Whitson to McCall	119	55
	McCall to Orange	100	46
	Orange to Del Rey	98	46
	Del Rey to Amber	89	41
Whitson/Golden State	Thompson to Floral	125	58
	Floral to Highland	95	44
	Highland to Dinuba	98	46
	Dinuba to De Wolf	131	61
McCall	Floral to Dinuba	91	42
	Dinuba to Manning	92	43

Source: Brown-Buntin Associates, Inc.

Railroad Noise:

The Union Pacific (UP) rail line passes through Selma in a northwest-southeast direction adjacent to Golden State Boulevard/Front Street. According to the railroad, about 22 freight trains daily pass through Selma. Grade crossings are located at several locations through the city. Train engineers usually start blowing the hour within 1000 feet of the grade crossings, so train noise levels are higher at those locations.

Train noise levels in terms of the DNL were obtained from BBA's database. At locations that are within 1000 feet of grade crossings the distance to the 60 dB DNL contours is 760 feet from the tracks. At distances greater than 1000 feet from grade crossings the 60 dB DNL contour is 160 feet from the tracks.

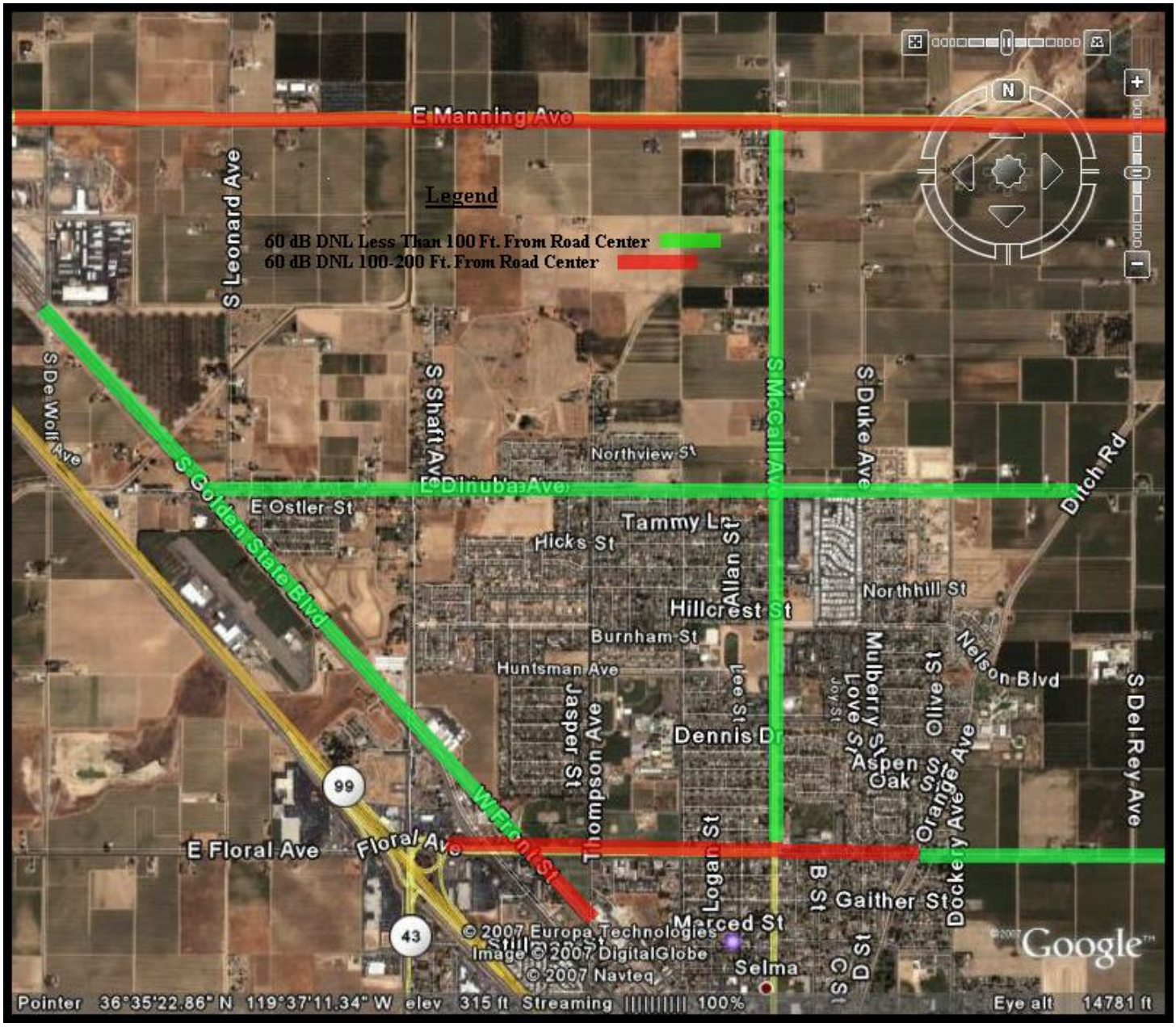


Figure 7: Traffic Noise Contours, Existing Conditions

Aircraft Noise:

There are two privately owned airports within the City's sphere of influence: Quinn Airport located near Golden State Boulevard and Dinuba Avenue, and the Selma Aerodrome near Huntsman and Temperance Avenues. Only a few aircraft are based at the Quinn Airport and there are no records of annual operations or noise contours on file. Based on its current level of use, it is unlikely that there are noise concerns about the airport.

According to FAA records, there were 15,000 annual operations at the Selma Aerodrome in 2007. The only noise contours on record were prepared in 1980. The data that were used for those contours are out of date and the methodology that was used to prepare the contours is obsolete. The 1980 contours, that are on file in the Fresno County Airport Land Use Commission Adopted Plans & Policies, should not be used for land use planning purposes in the opinion of Brown-Buntin Associates, Inc. (BBA).

Appendix A

Brown-Buntin Associates, Inc
TNM-Soft Ground Based on formulas derived from lookup tables to 100 meters DCL
Calculation Sheets
August 8, 2007

Project #: 07-040 **Contour Levels (dB)** 60 65 70 75
Description: Selma Existing Conditions
Ldn/Cnel: Ldn
Site Type: Soft

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	Manning	Golden State to De Wolf	13,400	90		10	2	3	45	75	
		De Wolf to McCall	13,820	90		10	2	3	45	75	
		McCall to Del Rey	14,320	90		10	2	3	45	75	
		Del Rey to Indianola	14,510	90		10	2	3	45	75	
1	Dinuba	Golden State to Highland	5190	90		10	2	3	45	75	
		Highland to McCall	6310	90		10	2	3	45	75	
		McCall to Dockery	5100	90		10	2	3	45	75	
1	Floral	Highland to Whitson	11760	90		10	2	3	45	75	
		Whitson to McCall	8990	90		10	2	3	45	75	
		McCall to Orange	6950	90		10	2	3	45	75	
		Orange to Del Rey	6770	90		10	2	3	45	75	
		Del Rey to Amber	5800	90		10	2	3	45	75	
1	Whitson/Golden State	Thompson to Floral	9730	90		10	2	3	45	75	
		Floral to Highland	6410	90		10	2	3	45	75	
		Highland to Dinuba	6780	90		10	2	3	45	75	
		Dinuba to De Wolf	10430	90		10	2	3	45	75	
1	McCall	Floral to Dinuba	6000	90		10	2	3	45	75	
		Dinuba to Manning	6170	90		10	2	3	45	75	

APPENDIX D

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Bryant Hemby, Assistant Planner, City of Selma Community Development Department, personal conversation, July 26, 2007

Jeff Kestly, Fire Chief, City of Selma Fire Department

Dwayne Morine, Assessor-Collector, Consolidated Irrigation District, personal conversation, June 12th, 2007

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