CIRCULATION ELEMENT

I. INTRODUCTION

The purpose of the *Circulation Element* is to determine a baseline of existing transportation and circulation conditions in Kings County, establish projected future circulation needs through 2035, and provide policy direction and implementation efforts to ensure the continued efficient movement of people and goods while simultaneously striving towards reduced vehicle emissions and associated green house gases. *Circulation Element* policies and implementation are designed to promote enhanced compatibility between transportation modes and land use, while serving to reduce the adverse air quality impacts of transportation. As the County continues to direct urban growth to the four incorporated cities and four unincorporated community districts, a primary focus of the Circulation within the County is the coordinated transportation planning and provision of essential transportation connections between the cities and the unincorporated communities within Kings County, and the enhanced multi-modal circulation planning within each community district where the vast majority of the County's unincorporated urban population resides. Such improvements are intended to fulfill required existing and future circulation needs, increase alternative transportation mode options, increase short distance connectivity between residences and jobs/services, and thereby reduce the potential for projected vehicle miles traveled that will result in decreased vehicle emissions. Implementation of planned improvements to the street and highway network, provision of mass transportation services and facilities, identification of additional bikeways and pedestrian improvements and improved transportation systems that accommodate existing and future goods movement, will have beneficial effects on a localized and region-wide basis.

A. Existing Systems

The circulation systems within Kings County include streets and highways, public transit, rail, non-motorized, and aviation. Of these systems, streets and highways serve as the dominant mode of transportation, with highway traffic generally composed of farm-to-market, business and commuter trips. Local roads are utilized largely for movement of agricultural products, and to a lesser extent local travel to destinations where goods and services are provided. As the urban populations continue to increase, traffic demand upon the County's major streets and highways is anticipated to occur with added commuter and business trips.

As a County that is predominantly rural in nature, limited alternative modes of transportation are currently available. However, some public transit options are available and the growing preference for Agricultural Industries Transportation System (AITS) and Kings Area Rural Transit (KART) Commuter Vanpool services have spread to several adjacent counties and serves as a successful local approach to reducing the number of vehicles on the roadway and their associated emissions. Public bus transit services are provided by KART and the Corcoran Area Transit (CAT). The Kings County Area Public Transit Agency (KCAPTA) which oversees the operations of the local transit providers consists of Kings County, Avenal, Hanford, and Lemoore. Other local agency and common carrier transit services are also provided. Rail service within the County includes Amtrak passenger rail service and freight rail service.

Public, private and military aviation facilities exist within the County, with the Hanford Municipal Airport and Corcoran Airport serving as the publicly accessible sites, and the Naval Air Station Lemoore as a strategic military installation for the western United States.

All together in 2008, the County contains approximately 27 miles of interstate freeway, 130 miles of state facilities, 956 miles of county roads, and 337 miles of city streets. There are two public use airports and approximately 67 miles of rail lines within the county, including the Amtrak "San Joaquin" corridor.

B. Scope and Organization

This Element is organized into sections that provide more detailed information on each of the circulation systems and transportation management approaches (sections II thru VII). Section VIII combines all Circulation Goals, Objectives and Policies into one section and is organized according to the area of relevance. Policies are grouped into four categories: Countywide Circulation Policies emphasize the intra-connectivity between cities and communities within the County, while Community District Policies focus more closely on the enhancement of transportation and mobility within the centralized core community areas of the County's four unincorporated community districts. Regional transportation addresses the larger regional connectivity to areas of interest outside the County. Aviation covers public, private and military airport and airstrip services.

This element is organized into the following sections:

II. Streets and Highways – Existing Conditions, Goods Movement, and Large Employers as Trip Attractors.

III. Public Transportation – Transit Services, Paratransit Services, Unmet Transit Needs, Park & Ride Facilities, and Common Carriers.

IV. Rail Transportation – Passenger Rail, Freight Rail, Cross Valley Rail, and High Speed Rail.

V. Non-Motorized Systems – Recreational Walkways, Safe Routes to School, and Bicycle Paths.

VI. Aviation Systems – Existing Facilities.

VII. Transportation Management - Transportation System Management, Transportation Demand Management, Applicable Regions, and Strategies.

VIII. Circulation Policies – Countywide Circulation, Community Districts, Regional Transportation System, and Aviation.

II. STREETS AND HIGHWAYS

This section identifies the regional Streets and Highways setting as it pertains to streets, highways, and freeways; the general Goods Movement throughout the County; and locations of Major Trip Attractors (Large Employers). Streets and Highways discussion also provides a description of the County's federal functional classification, existing roadway operations, lane geometrics, and daily traffic count data. Due to the interrelationship between urban and rural activities (employment, housing, services, etc.) and the low average density/intensity of land uses, the private automobile is the dominant mode of travel for residents in Kings County. Heavy-duty trucks account for the majority of goods movement throughout the County, while rail provides regional shipment of goods. Large employers within the County are primarily located in cities, however, employees must utilize county roads to travel between jurisdictions. Kings County must therefore work with the cities to accommodate commuter traffic patterns.

Travel within Kings County is a function of the size and spatial distribution of its population, economic activity, and the relationship to other major activity centers within the Central Valley (such as Visalia, Fresno and Bakersfield) as well as more distant urban centers such as Southern California, Sacramento, and the Bay Area. While most out of County travelers pass through the County along Interstate 5, the majority of inter-county travel occurs in north Kings County with trips to and from Fresno and Tulare Counties. The county link to the regional urban centers of Fresno (Fresno County) and Visalia (Tulare County) are principally by State Route 41, State Route 43, and State Route 198. Major urban centers in Southern California, the Bay Area, and Sacramento utilize Interstate 5 in Kings County. These routes provide the only continuous routes through the County and are heavily used for regional travel. The entire length of Interstate 5 in Kings County and portions of State Route 198 near Hanford and Lemoore are constructed to freeway standards.

Streets and Highway systems throughout the County encompass Interstate 5, several State Routes, including 33, 41, 43, 137, 198, and 269 (SR 269 is entirely within the Avenal city boundary), and numerous county and city streets and roads. Prominent county roadways include Avenal Cutoff Road, Excelsior Avenue, Flint Avenue, Grangeville Bypass, Grangeville Boulevard, Lacey Boulevard, Houston Avenue, Jackson Avenue, Kansas Avenue, Laurel Avenue, Whitley Avenue, Nevada Avenue, Pueblo Avenue, Utica Avenue, 6th Avenue, 10th Avenue, 10 ½ Avenue, 12th Avenue, 12 ¾ Avenue, 14th Avenue, 18th Avenue and 22nd Avenue. Additionally, the highway system includes numerous county-maintained local roads, as well as local streets and highways within each of the four cities and four unincorporated communities.

The Kings County Association of Governments (KCAG) serves as the state-designated Regional Transportation Planning Agency (RTPA) and the federally-designated Metropolitan Planning Organization (MPO). A primary responsibility of KCAG is to update the Regional Transportation Plan (RTP) every three years that contains a constrained list of transportation projects (that are federally funded), air quality determination and set policies for spending federal and state funds. The RTP, with a 2035 planning horizon, is the key that unlocks federal and state funding for transportation projects.

Key Terms

- **Functional Classification System.** Functional Classification System identifies existing roadway classification based upon number of lanes, capacity, location, etc. Typically, functional classification refers to collectors, arterials, expressways, freeways, etc.
- **Level of Service (LOS).** LOS is used to measure the operating conditions of an intersection or a roadway segment by considering many factors including traffic volume and capacity. LOS is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment representing progressively worsening traffic conditions.
- **Highway Capacity Manual 2000 (HCM).** The Transportation Research Board's (TRB) HCM provides a collection of state-of-the-art techniques for estimating the capacity and determining the LOS for transportation facilities, including intersections and roadways as well as facilities for transit, bicycles, and pedestrians.
- **Average Daily Traffic (ADT) or Average Annual Daily Traffic (AADT).** ADT volume is based upon traffic counts that record the number of vehicles (cars and trucks) that travel on the roadway during a typical weekday (Tuesday, Wednesday, or Thursday). These counts are typically conducted by using "hose" or "tube" counts, but can also be collected utilizing more advanced sensor devices. These methods have the ability to collect heavy-duty vehicle classification counts and directional information. In this element, the total ADT is used for the LOS analysis. It should be noted that in the transportation industry ADT is an acronym that is interchangeable with AADT.
- **Peak Hour.** That hour during which the maximum amount of travel occurs. It is typically specified as the peak one hour of traffic experience during the morning peak hour (between 7:00 and 9:00 AM) and/or the afternoon peak hour (between 4:00 and 6:00 PM).

Figure C-1 shows Kings County's relationship to the State Route system, nearby counties, cities and communities. Figure C-2 identifies the designated street and highway network contained in the existing *Circulation Element* adopted by the county in 1993. It provides a definition of roads of significance throughout the county. The county's State Route network, which lies primarily within the Central San Joaquin Valley, includes Interstate 5, State Routes 33, 41, 43, 137, 198 and 269.

Kings County Circulation Element

Legend

- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Interstate
- State Highway
- Streets

0 1.5 3 6 Miles

N W E S

Prepared by:

omni·means ENGINEERS·PLANNERS

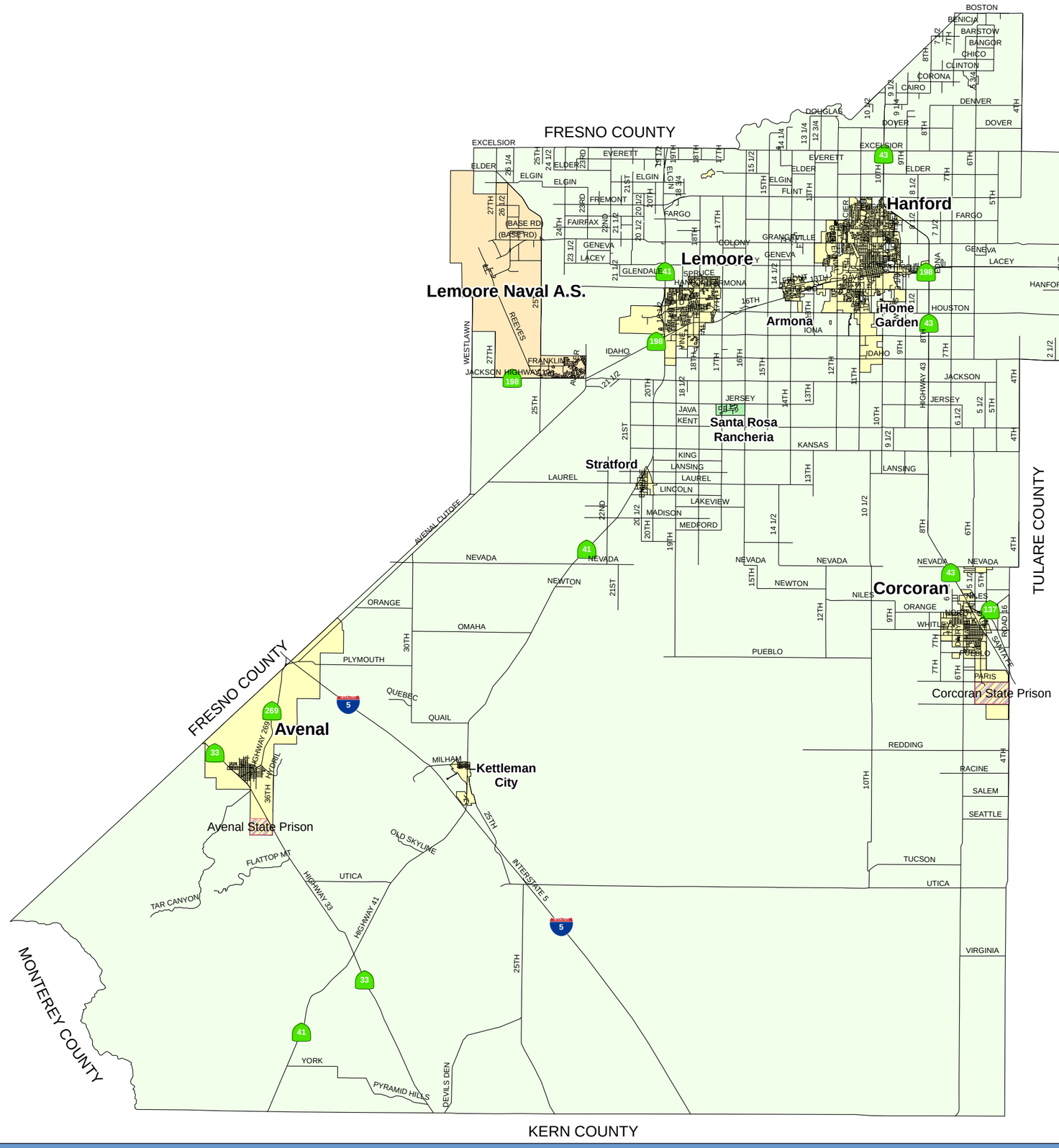
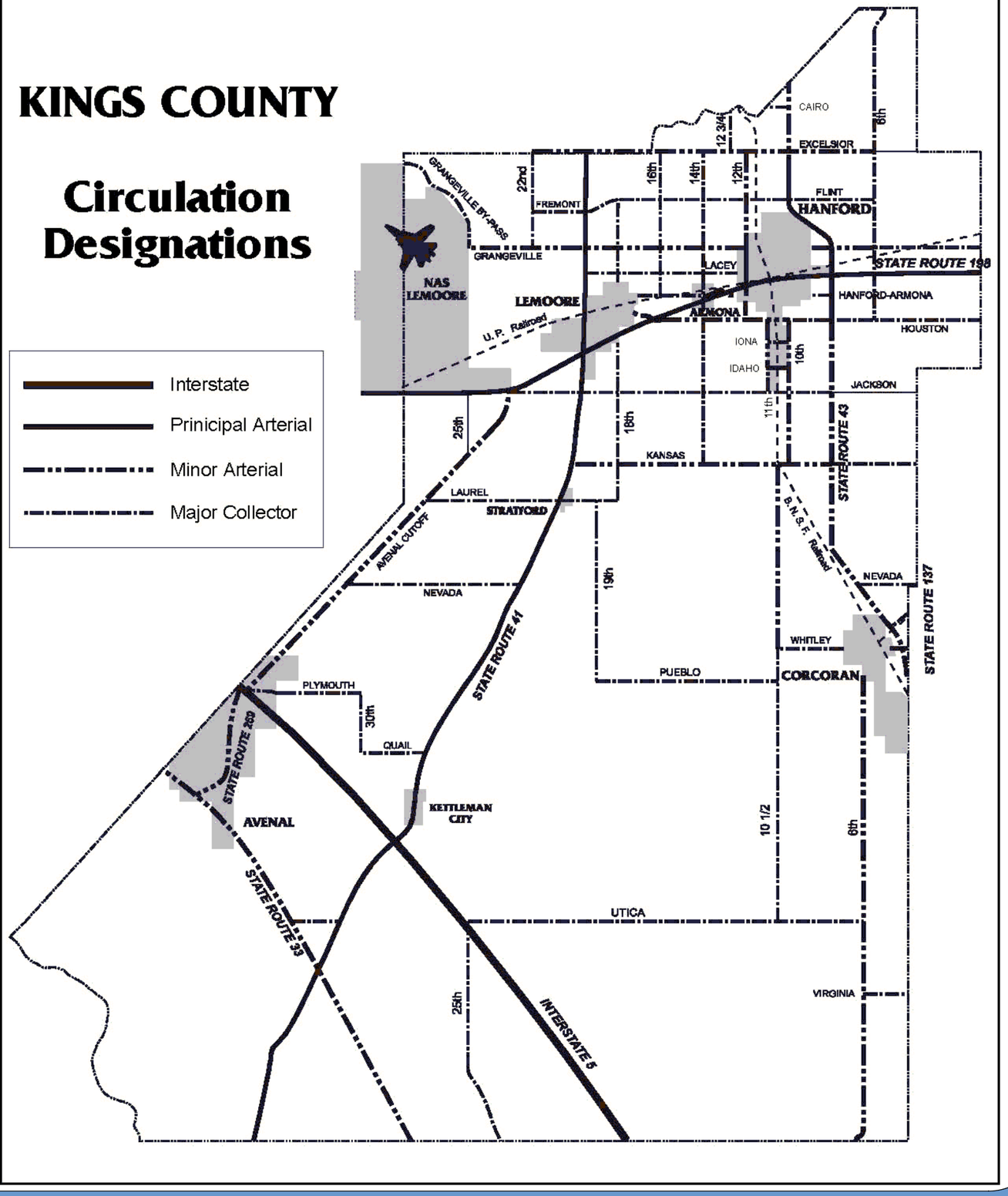


Figure C-1
Regional Setting

g1255av003.mxd/011508/55-1740-01

KINGS COUNTY

Circulation Designations



Kings County Circulation Element

Source:
2007 Kings County Regional Transportation Plan

N
W E
S

Prepared by:
omni·means
ENGINEERS·PLANNERS

Figure C-2
Circulation Diagram

A. Functional Classification System

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently in any major way. Rather, most travel involves movement through a network of streets and roads.

The following sections define roadway classification systems currently used by the Federal Highway Administration (FHWA), the county and local agencies. Since issues related to the classification of roadways range from funding to operational considerations, each agency has its own classification system. These sections define and clarify the role of each system and present the classification system used in this Element. A description of how the county roadway classification system relates to the others is also provided in this section.

It is necessary to determine how travel can be directed along the street and highway system in a logical and efficient manner. Functional classifications define the channeling process by defining the area that a particular street or highway should service through a circulation network. Table C-1 defines the functional classes based on the residential road requirements and TableC-2 defines the urban road requirements of the County.

Federal functional classifications designated for rural areas are as follows:

- Interstate and Other
- Principal Arterial
- Minor Arterials
- Major Collectors
- Minor Collectors
-

Federal functional classifications designated for urban areas are as follows:

- Interstate and Other
- Freeways and Expressways
- Other Principal Arterials
- Minor Arterials
- Collectors

Table C -1: Residential Road Requirements

Design Feature	Residential Minor Density is Dwelling Units Per Acre			Residential Collector Density is Dwelling Units Per Acre		
	<2	2 to 7	> 7	<2	2 to 7	> 7
	Low	Medium	High	Low	Medium	High
Right of Way	50'	56'	56'	60'	60'	60'
Pavement Width	26' or 36'	36'	36'	32' or 40'	40'	40'
Type Curbs	#	Vertical Face	Vertical Face	#	Vertical Face	Vertical Face
Sidewalk Width	None	5' or 5 ½'	5' or 5 ½'	None	5' or 5 ½'	5' or 5 ½'
Sidewalk distance from curb face	None	5' or attached	5' or attached	None	5' or attached	5' or attached
Minimum Stopping Sight Distance	200'	200'	200'	250'	250'	250'
Maximum Grade	4%	4%	4%	4%	4%	4%
Maximum cul-de-sac length**	1,320'	500'	500'	No cul-de-sacs*	No cul-de-sacs	No cul-de-sacs
Minimum cul-de-sac radius of right-of-way (with or without curb)	50'	50'	50'	No cul-de-sacs*	No cul-de-sacs	No cul-de-sacs
Design speed	30 mph	30 mph	30 mph	35 mph	35 mph	35 mph
Minimum centerline radius	250'	250'	250'	350'	350'	350'
Minimum tangent between curves	70'	70'	70'	100'	100'	100'
Off street parking	See Article 15, Kings County Zoning Ordinance (Ord. No. 269 as amended).					

* May be allowed as interim in phase development to accommodate traffic.
** Number of dwellings served shall not exceed twenty (20).
# Curbs and gutters are not required if adequate setbacks are provided (Section 404C).
Source: County of Kings Improvement Standards (May 6, 2003).

Table C -2: Urban Road Requirements

Design Feature	Minor	Collector	Arterial
Right of Way width	60'	84'	100'
Curb-to-Curb width	40'	64'	84'
Type Curbs	Vertical	Face: see drawing	#3031
Sidewalk width	5 ½'	6 ½'	7 ½'
Distance from curb face to sidewalk (for alternate detached sidewalk)	5'	4'	Attached walk required
Minimum stopping sight distance.	275'	350'	475'
Maximum grade	5%	4%	3%
Design speed	40 mph	50 mph	60 mph
Minimum centerline radius	550'	850'	1,150'
Minimum tangent between curves	100'	200'	250'
Off street parking	See Either Section 15 or Section 150X-150Y of Ordinance #269		

Source: County of Kings Improvement Standards (May 6, 2003).

Functional Classification Used in this Element

In order to identify roadway infrastructure needs for the county to Year 2030 and beyond, several broad roadway classifications have been identified. These roadway classifications, though not as detailed or specific as those used for some urban areas in the county, are sufficient to identify roadway infrastructure needs from the county's perspective. The roadway classifications used in this document are:

- **Freeways.** A freeway is a divided, limited access highway. Access is provided at grade separated interchanges and vehicular crossing of these facilities is provided at grade separations. Freeways are designed to carry large volumes of traffic traveling long distances, although localized use of freeways in urban areas is present. Caltrans designs and constructs all freeways to State design standards. Federal standards are used if federal monies will be used to fund or partially fund the improvement. Alignments and key design details such as interchange locations are determined in consultation with local and federal authorities when applicable. Nothing actually precludes local jurisdictions from building their own freeways. However, Caltrans' State Highway System contains virtually all candidate routes for freeways. The high cost of freeways has historically made it impractical for any agency other than Caltrans to construct new freeways.

- **Expressways.** These are highways that carry large volumes of traffic relatively long distances within or through an urban or rural area. They also often serve considerable local traffic traveling short distances. Along these facilities, priority is placed on individual fronting parcels is not allowed – fully controlled frontage access is required. Expressways should be continuous through the urban or rural community they serve and link to arterial routes. The designated right-of-way for expressways varies

dependant upon the needs of the specific facility. Additional right-of-way may be required at some intersections.

- **Urban Arterials*.** These are highways within the Sphere of Influence (SOI) that carries large volumes of traffic relatively long distances within or through an urban area. They also serve considerable local traffic traveling short distances. Along these facilities, priority is placed on through traffic mobility rather than access to fronting property and direct access to individual fronting parcels is discouraged. An urban arterial with fully controlled frontage access is an expressway. Urban Arterials should be continuous through the urban community they serve and link to arterial routes in adjacent communities or the rural areas. The designated right-of-way for urban arterials is 100 feet. Additional right-of-way may be required at some intersections.

- **Urban Collectors*.** These are highways within the UAB or UDB that are intended to carry local traffic between the local street system and the arterial highway system. Urban collectors may serve average daily volumes in excess of 10,000 although volumes are normally less. The right-of-way standard for these facilities is 84 feet, and additional right-of-way may be required at some intersections.

- **Urban Minor*.** These roads provide access to abutting property and link properties to the collector system. The right-of-way standard for urban minor roads is 60 feet.

- **Rural Residential Collector*.** These highways are located outside the UAB or UDB and provide access to adjacent property. These facilities also provide for traffic movement to and from the arterial system. Residential collectors generally serve less than 10,000 AADT. The right-of-way needed for residential collector is 60 feet.

- **Rural Residential Minor*.** These roads provide access to property and activity nodes in sparsely settled areas of the County. The right-of-way standard for these facilities is 60 feet, although in some instances a 50-foot right-of-way may apply. All County roads not shown on the *Circulation Element* Map are considered residential minor roads or rural minor roads.

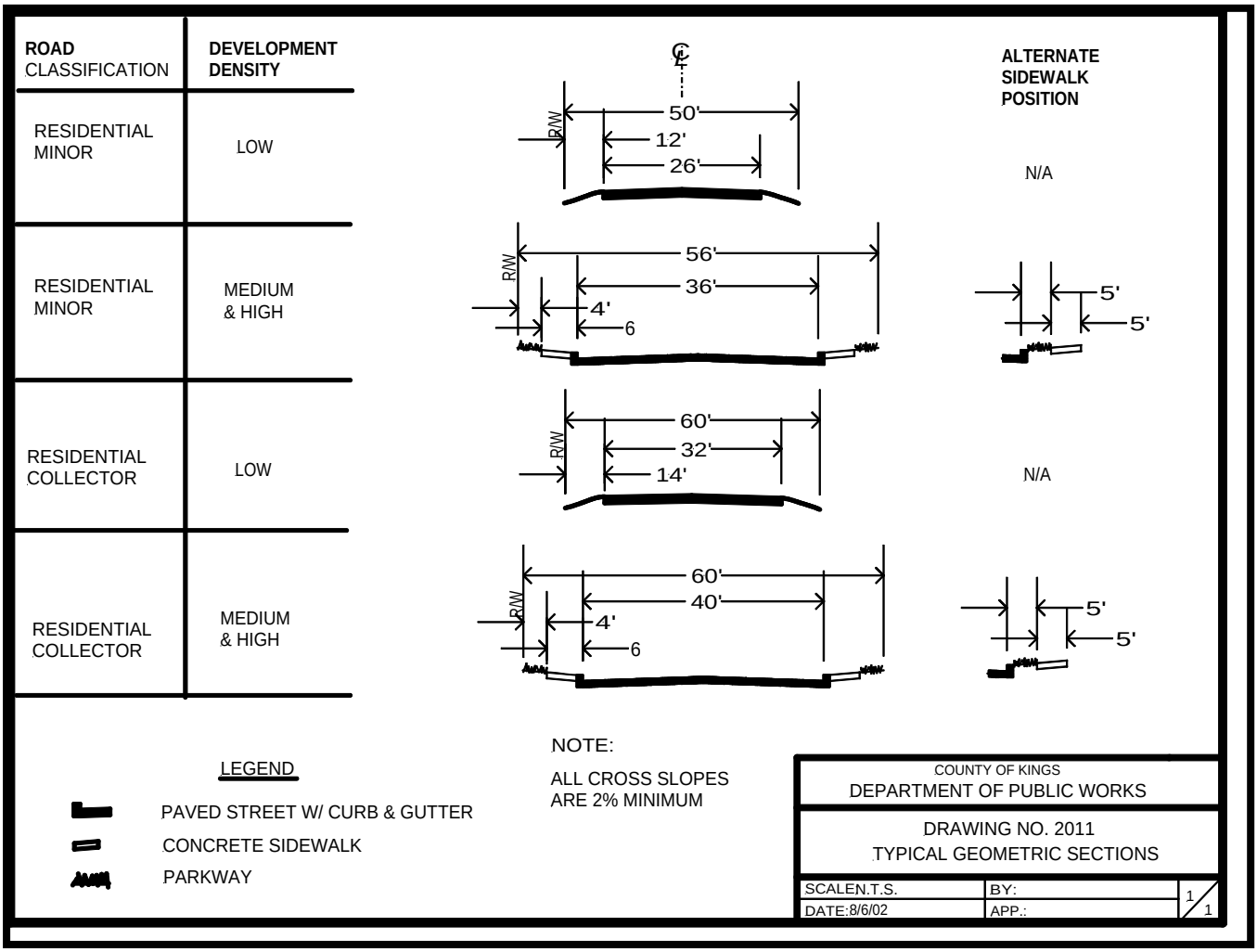
*All new roads in Urban Fringe areas must comply with the improvement standards of the adjacent city.

The intent of the functional classification system used in this Element and in city and community circulation elements is to describe the intensity and character of traffic using each type of facility, the character of adjacent uses, the priority placed on access to adjacent property versus through traffic mobility and roadway right-of-way standards. The intent of the Federal Functional Classification System described previously, is to identify what types of federal funding each type of facility is eligible to receive. The intent is not to characterize usage, adjacent development and right-of-way standards.

B. Existing Improvement Standards

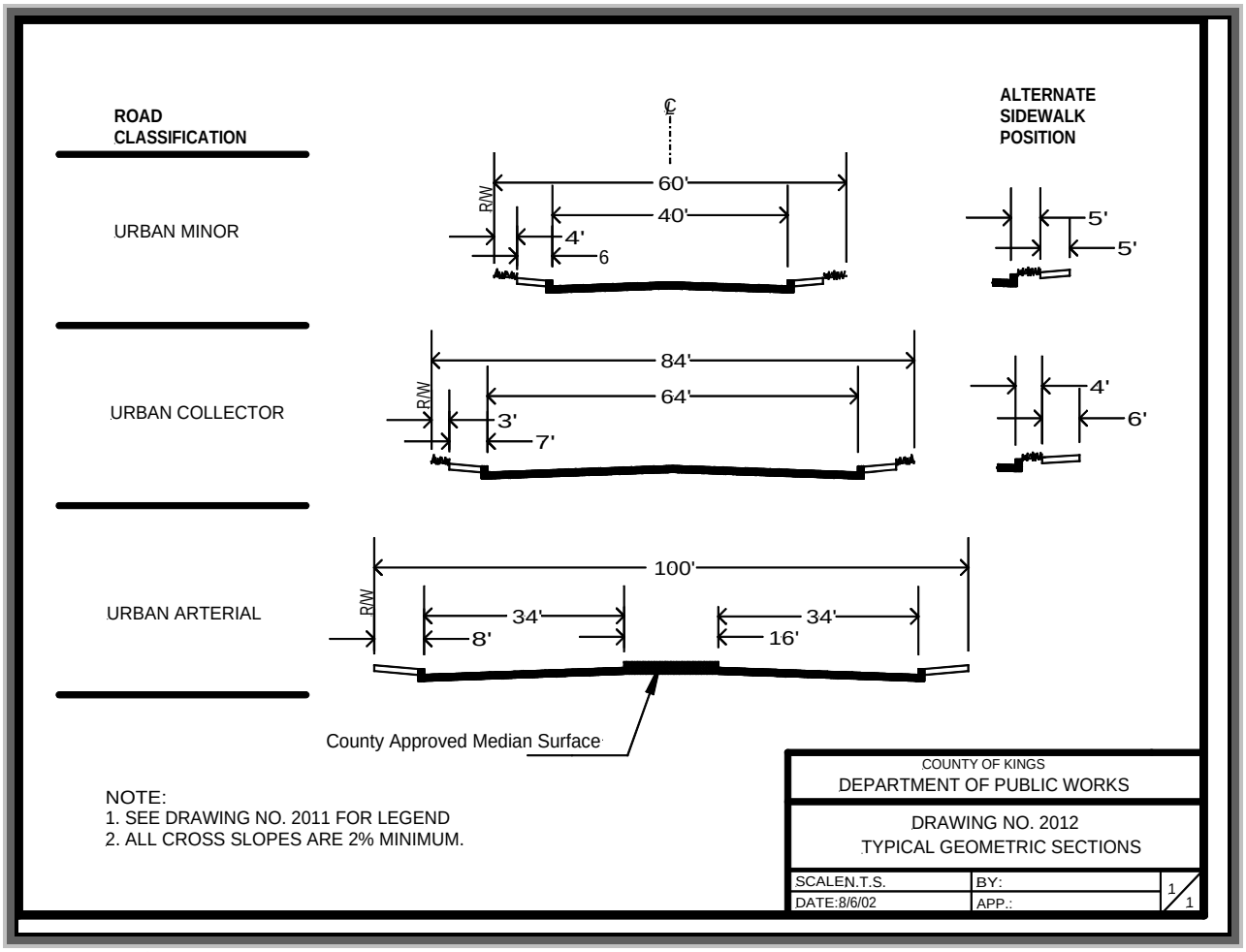
Improvement standards for local roads are broken into several classes; the standards vary depending on the minimum parcel sizes in the area and the number of parcels to be served by the roadway. The illustration below shows typical cross sections for each class of local roadway. This illustration is shown as reference only; however, it closely follows the Federal Road Functional Classification.

Figure C-3. Kings County Roads Typical Cross Sections – Residential Roads



Source: County of Kings Improvement Standards (May 6, 2003).

Figure C-4. Kings County Roads Typical Cross Sections – Urban Roads



Source: County of Kings Improvement Standards (May 6, 2003).

Freeways:

Interstate 5: Currently, Interstate 5 is a 4 lane divided freeway with a 75 foot wide median. The northbound segment contains two travel lanes as does the southbound segments. With approximately 39,500 daily trips near State Route 41, Interstate 5 is the most traveled roadway in the county. In addition, it is estimated that 30% of these trips are trucks. The City of Avenal and the community of Kettleman City are located near Interstate 5 and are directly impacted by this freeway with highway commercial type land uses.

C. Interchanges

No single design feature has a greater impact on the urban corridor than the interchange. An interchange is a high volume intersection characterized by a grade separation between highway and the cross street that is accessed by a ramp. The ability to accommodate high volumes of traffic safely and efficiently through the interchanges depends largely on the type of ramp, ramp volumes and the conditions between the ramp connections and local roads. Today, simple modifications to existing interchanges on Interstate 5 and State Routes 198, 43 and 41 are limited by the state owned right of

way and local development. Spot congestion or bottlenecks are becoming more common as traffic volumes increase.

Some interchanges in Kings County have geometric concerns as related to turning radius and the at-grade intersections have short acceleration and deceleration lengths. This creates congestion when high volumes of traffic back up on ramps, when drivers must slow down on the freeway or when slow moving trucks interrupt the flow of traffic.

Figure C -5. 13th Avenue and SR 198 Interchange

Limited spacing between interchanges has a negative impact on the flow of traffic. This is evident in Lemoore near 18 ½ Avenue and 19th Avenue urban areas during peak commute periods when the traffic is forced to slow because of the traffic entering and exiting the highway. Whenever possible, spacing between interchanges needs to be increased to reduce congestion. In the future, this may result in closing some interchanges to improve spacing. Based upon Caltrans Highway Design Manual, interchanges in urban areas should have a minimum of one mile spacing; in rural areas and freeway to freeway interchanges, the minimum spacing should be no less than two miles.

Improvements to existing interchanges are limited by adjacent development, environmental issues and cost. Minor changes to the existing geometry have provided some improvements, but more congestion can be expected unless modifications are made.

D. Existing Conditions Analysis (Street & Highway Level of Service)

The first step toward the development of a functional street and highway system is to evaluate existing traffic operating conditions. To accomplish this task, an existing roadway segment level of service (LOS) analysis was conducted. LOS standards are used by Kings County, KCAG, Caltrans, and local agencies to quantitatively assess the street and highway system's performance. In order to determine the type and number of transportation projects that may be necessary to accommodate Kings County's projected growth, freeway, expressway, arterial, and collector facility LOS was assessed. According to the Highway Capacity Manual, LOS is categorized by two parameters of traffic: uninterrupted and interrupted flow. Uninterrupted flow facilities do not have fixed elements such as traffic signals that impede traffic flow. Examples of such facilities would be freeways, including Interstate 5 within Kings County. Interrupted flow facilities have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections along arterial roads. The LOS threshold volumes for roadway segments are defined in Table C-3.

An important goal is to maintain an acceptable LOS on the highway, street and road networks. To accomplish this, the county, Caltrans, and local agencies adopt minimum LOS standards in an attempt to manage congestion that may result as new development occurs.

LOS standards vary throughout the county and the four incorporated cities. The LOS threshold is identified that the "minimum" LOS standard within the county shall be no lower than LOS "E" for urban areas and LOS "D" for rural areas. However, each local agency that owns and operates transportation facilities may select a LOS standard more stringent than the minimum LOS standards.

For purposes of this report, a peak-hour LOS of "D" is taken as the threshold for acceptable traffic operations for the Kings County road network.

Table C -3: Level of Service Threshold Volumes

Roadway Type	Total Daily Vehicles in Both Directions (ADT)				
	Level of Service A	Level of Service B	Level of Service C	Level of Service D	Level of Service E
6-Lane Freeway	36,900	61,100	85,300	103,600	115,300
4-Lane Freeway	23,800	39,600	55,200	67,100	74,600
6-Lane Arterial	7,300	44,700	52,100	53,500	----
4-Lane Arterial (turn lanes)	4,800	29,300	34,700	35,700	----
4-Lane Collector	2,400	14,650	17,350	17,850	----
2-Lane Facility	----	4,200	13,800	16,400	16,900

Note: 1 Based upon Florida DOT Tables (2000 Highway Capacity Manual). ADT = Average Daily Traffic

2. All volumes are approximate and assume ideal roadway characteristics. Actual threshold volumes for each Level of Service listed above may vary depending on a number of factors including curvature and grade, intersection or interchange spacing, percentage of trucks and other heavy vehicles, lane widths, signal timing, on-street parking, amount of cross traffic and pedestrians, driveway spacing, etc.

To determine the existing LOS for each segment of the street and highway network, segment LOS was identified from information referenced from the Caltrans website, in the existing Regional Transportation Plan (RTP), and from data provided by KCAG from the modeling efforts. LOS was also estimated using the Modified HCM-Based LOS Tables (Florida Tables). These tables consider the capacity of individual street and highway segments based on numerous roadway variables (freeway design speed, signalized intersections per mile, number of lanes, saturation flow, intersection control, etc.). These variables were identified and applied to reflect existing traffic LOS conditions in Kings County. The variables are consistent with HCM variables referenced above in Table C-3.

E. Existing Traffic Counts & Future Travel Forecast

Traffic volumes used to develop LOS calculations were obtained from Caltrans, KCAG, and various local agencies (reference Figure C-6 and Table C-4). Traffic volumes were available from these agencies from 2006-07. In areas where recent traffic counts were not available (within three years), traffic counts were subcontracted to get the available data.

Existing traffic count data was obtained from a variety of sources, including Caltrans website for State Route information; 2007 Kings County Association of Governments (KCAG) Regional Transportation Plan (RTP); KCAG traffic data (2006-07); Recently prepared Traffic Impact Studies and Environmental Impact Reports; and Traffic counts conducted for this *Circulation Element*. In order to evaluate roadway facilities, the latest methodologies from the Highway Capacity Manual (HCM) were utilized.

Kings County Circulation Element

Legend

- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Interstate
- State Highway
- Streets

0 1.5 3 6 Miles

N W E S

Prepared by:

omni·means ENGINEERS·PLANNERS

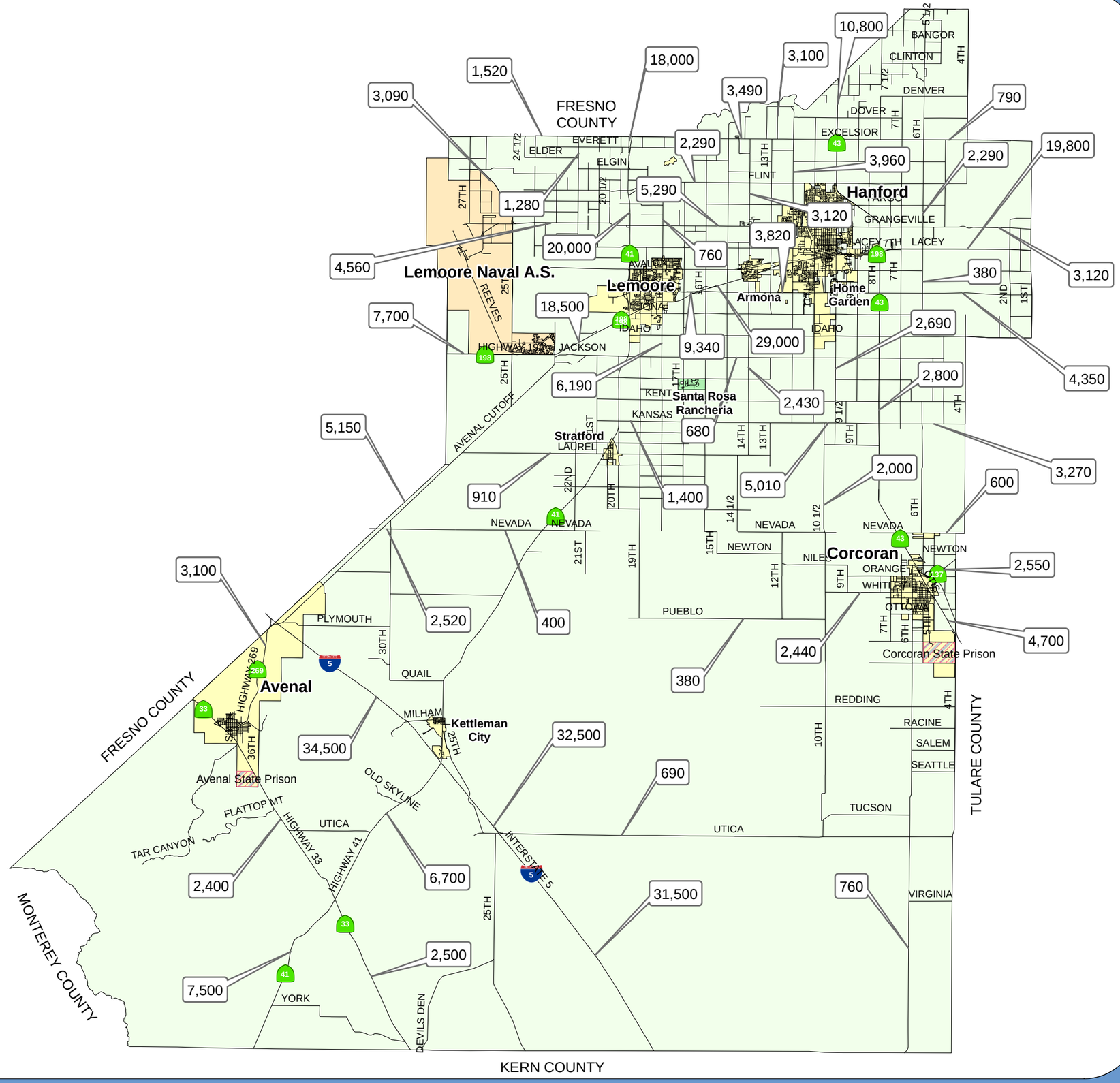


Figure C-6
Existing Daily Traffic Volumes

g1255av010.mxd/022008/55-1740-01

This page was intentionally left blank

Table C-4: Annual Average Daily Traffic Volumes and Levels of Service 2006 and 2035

		2006			2035		
Roadway Segment	Limits	No. of Lanes	AADT	LOS	No. of Lanes	AADT	LOS
Interstate 5	Kern Co. Line – Utica Avenue	4	31,500	B	4	49,420	C
Interstate 5	Utica Avenue – State Route 41	4	32,500	B	4	52,990	C
Interstate 5	State Route 41 – Fresno Co. Line	4	34,500	B	4	48,490	C
State Route 33	Kern Co. Line – State Route 41	2	2,500	B	2	4,130	B
State Route 33	State Route 41 – 7th Avenue	2	2,400	B	2	9,000	C
State Route 33	7th Avenue – State Route 269	2	2,400	B	2	8,580	C
State Route 33	State Route 269 – Fresno Co. Line	2	2,300	B	2	4,980	C
State Route 41	Kern Co. Line – State Route 33	2	7,500	C	2	11,550	C
State Route 41	State Route 33 – Interstate 5	2	6,700	C	2	8,340	C
State Route 41	Interstate 5 – Bernard Drive	4	9,500	B	2	13,940	D
State Route 41	Bernard Drive – Quail Avenue	2	7,100	C	2	13,260	C
State Route 41	Quail Avenue – Nevada Avenue	2	8,300	C	2	10,840	C
State Route 41	Nevada Avenue – Jackson Avenue	2	8,500	C	2	13,370	C
State Route 41	Jackson Avenue – State Route 198	2	9,700	C	2	19,340	F
State Route 41	State Route 198 – Bush Street	4	14,200	B	4	43,840	C
State Route 41	Bush Street – Houston Avenue	4	18,000	B	4	29,910	C
State Route 41	Houston Ave. – Hanford –Armona Rd.	4	18,000	B	4	29,910	C
State Route 41	Hanford-Armona Road – Grangeville Boulevard	4	20,000	B	4	31,390	C
State Route 41	Grangeville Blvd. – Fresno Co. Line	4	18,000	B	4	23,330	B
State Route 43	Tulare Co. Line – Railroad Drive	2	4,700	C	2	6,860	C
State Route 43	State Route 137 – Corcoran Bypass	2	3,500	B	2	9,730	C
State Route 43	Corcoran Bypass – Kansas Avenue	2	6,300	C	2	18,190	F
State Route 43	Kansas Avenue – Houston Avenue	2	5,800	C	2	12,950	C
State Route 43	Houston Avenue – State Route 198	2	8,700	C	2	13,070	C
State Route 43	State Route 198 – Lacey Boulevard	2	11,300	C	2	14,230	D
State Route 43	Lacey Boulevard – Grangeville Blvd.	2	10,300	C	2	13,840	D
State Route 43	Grangeville Boulevard – 10th Avenue	2	9,800	C	2	11,720	C
State Route 43	10th Avenue - Excelsior Avenue	2	10,300	C	2	17,040	F
State Route 43	Excelsior Avenue – Fresno Co. Line	2	10,800	C	2	18,590	F
State Route 137	State Route 43 – Tulare Co. Line	2	2,550	B	2	5,390	C
State Route 198	Fresno Co. Line – LNAS	2	7,700	C	4	11,940	A
State Route 198	LNAS – Avenal Cutoff Road	4	14,700	B	4	31,890	B
State Route 198	Avenal Cutoff Road – State Route 41	4	18,500	B	4	43,990	C
State Route 198	State Route 41 – 18th Avenue	4	20,900	B	6	54,820	C
State Route 198	18th Avenue – Houston Avenue	4	21,800	B	4	58,280	D

		2006			2035		
Roadway Segment	Limits	No. of Lanes	AADT	LOS	No. of Lanes	AADT	LOS
State Route 198	Houston Avenue – 14th Avenue	4	29,000	B	4	67,350	E
State Route 198	14th Avenue – Hanford-Armona Road	4	32,000	B	4	67,710	E
State Route 198	Hanford-Armona Road – 12th Avenue	4	28,500	B	4	60,250	D
State Route 198	12th Avenue – 11th Avenue	4	20,700	B	4	59,780	D
State Route 198	11th Avenue – 10th Avenue	4	19,500	B	4	39,650	C
State Route 198	10th Avenue – State Route 43	4	19,800	B	4	33,040	B
State Route 198	State Route 43 – 6th Avenue	4	18,900	B	4	35,110	B
State Route 198	6th Avenue – Tulare Co. Line	2	19,800	F	4	33,910	B
State Route 269	State Route 33 – Hydril Road	2	5,000	C	2	11,380	C
State Route 269	Hydril Road – Interstate 5	2	3,100	B	4	15,330	B
Avenal Cutoff	State Route 269 – Nevada Avenue	2	3,000	B	2	10,770	C
Avenal Cutoff	Nevada Avenue – State Route 198	2	5,150	C	2	10,610	C
Excelsior Avenue	22nd Avenue – State Route 41	2	1,520	B	2	1,720	B
Excelsior Avenue	State Route 41 – 19th Avenue	2	2,190	B	2	2,990	B
Excelsior Avenue	19th Avenue – 14th Avenue	2	3,300	B	2	3,770	B
Excelsior Avenue	14th Avenue – 12 ¾ Avenue	2	3,490	B	2	4,780	C
Excelsior Avenue	12 ¾ Avenue – 12th Avenue	2	4,550	C	2	5,470	C
Excelsior Avenue	12th Avenue – State Route 43	2	3,140	B	2	7,410	C
Excelsior Avenue	State Route 43 – 6th Avenue	2	790	B	2	2,410	B
Flint Avenue	6th Avenue – State Route 43	2	1,380	B	2	1,430	B
Flint Avenue	State Route 43 – 11th Avenue	2	2,490	B	4	6,020	B
Flint Avenue	11th Avenue – State Route 41	2	2,290	B	2	4,510	C
Fremont Avenue	State Route 41 – 22nd Avenue	2	800	B	2	2,590	B
Grangeville Boulevard	Grangeville Bypass – 22nd Avenue	2	3,120	B	2	12,010	C
Grangeville Boulevard	22nd Avenue – State Route 41	2	4,560	C	2	9,170	C
Grangeville Boulevard	State Route 41 – 18th Avenue	2	4,940	C	2	7,440	C
Grangeville Boulevard	18th Avenue – 12th Avenue	2	5,290	C	2	6,700	C
Grangeville Blv Boulevard d	Hanford City Limits – 6th Avenue	2	3,080	B	4	13,180	B
Grangeville Boulevard	6th Avenue – Tulare Co. Line	2	3,120	B	2	8,370	C

		2006			2035		
Roadway Segment	Limits	No. of Lanes	AADT	LOS	No. of Lanes	AADT	LOS
Grangeville Bypass	Grangeville Blvd. – Fresno Co. Line	2	3,090	B	2	5,860	C
Houston Avenue	17th Avenue – 14th Avenue	2	9,340	C	2	10,170	C
Houston Avenue	14th Avenue – 12th Avenue	2	2,090	B	2	4,980	C
Houston Avenue	12th Avenue – 10th Avenue	2	3,820	B	2	6,160	C
Houston Avenue	10th Avenue – State Route 43	2	3,520	B	2	4,400	C
Houston Avenue	State Route 43 – 2nd Avenue	2	4,350	C	2	5,730	C
Jackson Avenue	State Route 198 – 18th Avenue	2	1,380	B	2	9,110	C
Jackson Avenue	18th Avenue – State Route 43	2	680	B	2	4,980	C
Kansas Avenue	State Route 41 – 18th Avenue	2	1,400	B	2	2,030	B
Kansas Avenue	18th Avenue – 15th Avenue	2	3,670	B	2	4,740	C
Kansas Avenue	15th Avenue – 10 ½ Avenue	2	2,170	B	2	7,130	C
Kansas Avenue	10 ½ Avenue – State Route 43	2	5,010	C	2	5,610	C
Kansas Avenue	State Route 43 – Tulare Co. Line	2	3,270	B	2	3,290	B
Lacey Boulevard	13th Avenue – 18th Avenue	2	8,110	C	2	10,750	C
Lacey Boulevard	18th Avenue – State Route 41	2	1,630	B	2	3,150	B
Laurel Avenue	18th Avenue – State Route 41	2	740	B	2	1,690	B
Laurel Avenue	State Route 41 – Avenal Cutoff	2	910	B	2	1,030	B
Nevada Avenue	Fresno Co. Line – Avenal Cutoff	2	2,520	B	2	3,220	B
Nevada Avenue	Avenal Cutoff – State Route 41	2	390	B	2	880	B
Nevada Avenue	22nd Avenue – Tulare Co. Line	2	600	B	2	970	B
Pueblo Avenue	19th Avenue – 10th Avenue	2	380	B	2	730	B
Utica Avenue	25th Avenue – 14th Avenue	2	690	B	2	2,150	B
Utica Avenue	14th Avenue – 12th Avenue	2	550	B	2	1,860	B
Utica Avenue	12th Avenue – 6th Avenue	2	540	B	2	2,490	B
Whitley Avenue	6 ½ Avenue – 10th Avenue	2	2,440	B	2	3,740	B
6th Avenue	Utica Avenue – Kern Co. Line	2	760	B	2	6,320	C
6th Avenue	Plymouth Avenue – Utica Avenue	2	2,020	B	2	4,410	C
6th Avenue	Houston Avenue – State Route 198	2	380	B	2	1,570	B
6th Avenue	State Route 198 – Fargo Avenue	2	2,290	B	2	2,230	B
6th Avenue	Fargo Avenue – Tulare Co. Line	2	1,920	B	2	440	B

		2006			2035		
Roadway Segment	Limits	No. of Lanes	AADT	LOS	No. of Lanes	AADT	LOS
10th Avenue	Kansas Avenue – Idaho Avenue	2	1,200	B	2	1,700	B
10th Avenue	Idaho Avenue – Houston Avenue	2	2,024	B	2	2,690	B
10th ½ Avenue	Utica Avenue – Nevada Avenue	2	2,900	B	2	4,250	C
10th ½ Avenue	Nevada Avenue – Niles	2	2,000	B	2	5,470	C
12th Avenue	Grangeville Boulevard – Fargo Avenue	2	5,170	C	4	18,740	B
12th Avenue	Fargo Avenue – Excelsior Avenue	2	3,960	B	2	6,470	C
12 ¾ Avenue	Excelsior Avenue – Fresno Co. Line	2	3,100	B	2	5,860	C
14th Avenue	Excelsior Avenue – Flint Avenue	2	1,190	B	2	1,620	B
14th Avenue	Flint Avenue – Grangeville Boulevard	2	3,120	B	2	3,220	B
14th Avenue	Grangeville Boulevard – Houston Avenue	2	5,880	C	2	3,790	B
14th Avenue	Houston Avenue – Kansas Avenue	2	2,430	B	2	2,540	B
18th Avenue	Flint Avenue – Grangeville Boulevard	2	760	B	2	2,250	B
18th Avenue	Grangeville Boulevard – Lacey Boulevard	2	2,930	B	2	3,940	B
18th Avenue	State Route 198 – Jackson Avenue	2	6,190	C	4	16,160	B
18th Avenue	Jackson Avenue – Laurel Avenue	2	1,690	B	2	2,650	B
22nd Avenue	Grangeville Blvd. – Excelsior Avenue	2	1,280	B	2	1,560	B

As shown in Table C-4, all of the roadway segments, except for one, are currently operating at acceptable LOS "D" conditions or better. The roadway segment of State Route 198 between 6th Avenue and the Tulare County line is currently operating at LOS "E" conditions. The deficiency is a result of increased traffic due to population growth and with no improvements to the roadway. Improvements, including widening this segment from two to four lanes, are planned for this corridor within the next five years.

F. Goods Movement

Figure C -7. Heavy-Duty Truck on Interstate

Goods movement throughout the County is primarily attributed to traditional means of transporting materials and products. Heavy-duty trucks (gross vehicle weight of 8,500 lbs. or greater) account for the majority of goods movement in Kings County, while rail transport provides shipment for agricultural, industrial and manufacturing industries. The 2007 KCAG RTP was the primary source used to obtain data related to goods movement in Kings County. In addition, the Caltrans and California Trucking Association (CTA) websites were researched.

Agricultural and industrial land uses are the principal generators of truck traffic in the county. Since agriculture is a relatively mature industry in the county, overall truck traffic generated by agricultural uses should remain stable in the future. However, relocation and replacement of individual agricultural processing plants and other new industries can significantly alter both regional and localized patterns and concentrations of truck traffic within cities and unincorporated communities. As continued industrial growth is expected to increase within the county, the scale of industrial-related truck traffic will continue to increase.

One interstate and five state facilities in Kings County are designated STAA (Surface Transportation Assistance Act 1982) routes or terminal access routes that are part of the established National Network of long haul truck routes, also known as Terminal Access Routes. Interstate 5 and State Route 198 are designated as National Network routes. State Route 33, State Route 41, State Route 43, State Route 269 are designated as Terminal Access routes. STAA routes permit a single trailer with a 48-foot maximum length or double trailers with a maximum length of 28 ½ feet (each trailer).

Portions of State Routes 137 (east of Corcoran) which is predominantly located in rural areas are designated as STAA Advisory Routes. This designation means that travel is not advised for trailers longer than 38 feet. In general, city streets and county roads are not included in the STAA network.

According to Caltrans, the percentage of heavy duty trucks on State highways ranges by location. For instance, the vehicle composition on Interstate 5 contains 30 percent heavy duty trucks and State Route 33 contains 8 percent heavy duty trucks. Many of the truck trips on Interstate 5 are not generated by trucks in Kings County; rather they are inter-regional with origins and destinations generally north and south of Kings County. A list of facilities and heavy duty truck percentages is listed below:

- Interstate 5 – 30 percent heavy vehicles;
- State Route 33 – 8 percent heavy vehicles;
- State Route 41 – 18 percent heavy vehicles;
- State Route 43 – 16 percent heavy vehicles;
- State Route 137 – 18 percent heavy vehicles;
- State Route 198 – 16 percent heavy vehicles; and
- State Route 269 – 19 percent heavy vehicles (SR 269 Fresno County data).

Figure C -8. Transportation Terminal

Types and locations of freight terminals in Kings County are as diverse as the commodities that are produced here. Many of the terminals are agriculture based in the form of packing and processing plants. These facilities are spread throughout the county. There are fruit and vegetable related facilities in the northern portions of the county and many of these are located along rail lines or spurs. The Kettleman City Community, located along the Interstate 5 and State Route 41 corridor, also serves as a strategic highway connection for truck transfers. The truck terminal identified on Figure C-8 is located on the east side of State Route 41 immediately north of 25th Avenue. Other truck facilities also include cotton gins and other grain facilities located in the Corcoran area. Economics dictate the most efficient use of trucks, but cooperation and communication between operators, terminals, trucking associations and transportation planners ensures the most efficient use of resources.

G. NAFTA Cross Border Trucking Regulations

According to the General Accounting Office, cross-border traffic has soared 170 percent since NAFTA went into effect, with more than 4.2 million truck crossings in 1999 and 4.8 million trucks in 2006.

This corridor has shown a dramatic growth in vehicle traffic since NAFTA was implemented in 1994. Prior to NAFTA, 15,000 to 20,000 trucks crossed the border via this route in an average year. With this increase in traffic, existing facilities and infrastructure have been overwhelmed, resulting in lengthy delays for vehicles waiting to clear customs and inspection. Trucks, notorious as heavy emitters of nitrogen oxides and soot-like particulates, can idle for hours while waiting to cross the border. Moreover, once they do so, their sheer numbers are severely congesting the roadways in Texas and California, further exacerbating air quality problems.

More than 4.4 million trucks enter the United States from Mexico every year, but they are now required to stay within 20 miles of the border (also known as the Port-of-Entry Commercial Zones). The federal government estimates the most recent court decision would allow more Mexican Trucks to enter the United States and travel farther into the country. The latest court decision allows certified Mexican trucks to travel beyond the original Port-of-Entry Commercial Zones on federal highways as well as into municipalities. National special interest groups oppose the extended service areas of the trucks based on air quality and labor union concerns.

Figure C -9. U.S. Commercial Port of Entry

H. Large Employers

Large employment centers and businesses serve to identify locations of concentrated trip attractors. The majority of large employers in Kings County are located in the four incorporated Cities of Avenal, Corcoran, Hanford and Lemoore. Most often, however, employees of these large employers live elsewhere in the County or commute from outside the County. As a result, employees must utilize County roadways to travel between their residence and work site. Kings County must therefore work with the cities to accommodate commuter traffic patterns.

Table C-5 shows Kings County's top employers by jurisdiction. The table does not provide data relating to government employment. As shown below, major employers in Kings County range from retail department stores to major corporate companies. Many industrial companies also employ hundreds of Kings County's residents, and many of these industries are related to agricultural industries.

Table C-5: Kings County Top Employers

City of Hanford		No. of Employees
	Baker Commodities	40
	Beco Dairy Automation	20
	Britz Fertilizers	24
	CALCOT LTD.	31
	Central Valley Meat	270
	Conagra Foods	250
	Del Monte Food	1,400
	Exopack	181
	Fagundes Agribusiness	25
	Hanford Sentinel	85
	Helena Chemical	26
	International Paper	112
	Kings Waste & Recycling Authority	200
	Marquez Brothers	306
	McLellan Industries	67
	Morgan & Slates	38
	Netto Ag	111
	Penny Newman Milling	48
	South Valley Materials	25
	Thresher Industries	21
	Valley Pallet	20
	Verdegaal Brothers	30
	Wal-Mart Pharmacy Warehouse	29
	Warmerdam Packing	250
	Western Farm Service	20
City of Lemoore		**No. of Employees**
	Agusa, Inc.	18
	Crisp Warehouse	10
	Leprino Foods – East	291
	Leprino Foods - West	327
	SK Foods	120-500 Seasonal
	Viking Ready Mix	50

City of Corcoran		No. of Employees
	Bioproducts	19
	Calarco Inc.	35
	Camfil Farr Company	52
	CDR Systems	40
	Corcoran Machine Works	24
	Gilkey Enterprises	50
	Hansen Farms	20
	Homac Mfg.	92
	JG Boswell Company	1,200
	Lakeland Dusters	20
	Midstate Precast	40
	Mt. Whitney Packing	120
	Proctor-Crookshanks	50
	Sawtelle & Rosprim	35
	Quinn Company	21
City of Avenal		**No. of Employees**
	Keenan Farms	100
Unincorporated Areas		**No. of Employees**
	Central Valley Cabinet	12
	Chemical Waste Management	87

Source: Kings County Economic Development Website (January 2008).

This page intentionally left blank.

III. PUBLIC TRANSPORTATON

This section describes the existing transit service providers in the county and provides transit ridership data for Fixed Route Bus and Dial-a-Ride services. Discussion on other local agency paratransit services (AITS & KART Vanpool), and common carrier services (Greyhound and Orange Belt Stages) are also provided. The agricultural economy of the county depends upon the safe and efficient movement of workers as well as goods. Vanpools services have substantially grown as one of the primary means of transporting agricultural labor and the commuter workforce. As the sprawling pattern of typical California transportation networks provide fewer modal options to commuters, multi-modal efforts in the County will increase in prominence to enhance existing conditions and create environmentally favorable patterns of travel. Three main areas of focus involve enhancement of park-and-ride facilities, vanpools and transit.

Key Terms

- Fixed Route. Regularly scheduled routes that operate on set days and times. Transit riders are able to obtain route maps that show pick-up and drop-off times and bus stop locations.
- Dial-a-Ride. Elderly and handicapped passengers generally use this service. This service picks up and drops off passengers anywhere within the designated jurisdiction for a reasonable price.
- Paratransit. An alternative mode of flexible passenger transportation that does not follow fixed routes or schedules. Typically vans or mini-buses are used to provide paratransit service, and are operated by public transit agencies, community groups or not-for-profit corporations, and for-profit private companies or operators.
- Common Carrier. A privately owned bus or charter service is a company that generally provides service to destinations beyond the county, i.e., Orange Belt Stages, Greyhound Bus Lines and Santa Rosa Rancheria Shuttle.
- Flag Stop. A bus stop where the riders 'flag' down the bus along a particular route.

The following subsections further describe each of the primary modes of transportation identified above.

A. Transit Services

Figure C -10. Kings Area Rural Transit

Kings Area Rural Transit (KART) is Kings County's public rural and urban transportation service provider that provides countywide bus service. The Corcoran Area Transit (CAT) is another public transportation service but has limited service within the Corcoran area. KART provides the City of Hanford with 6 interconnected ½ hour routes, regular service to most other communities in the County and daily weekday service to Visalia. KART also provides service transportation to Fresno on Monday, Wednesday and Friday. Figure C-10 identifies existing transit routes in Kings County, and Figure C-11 shows a close up of transit routes in each of the four Cities.

Dial-A-Ride (demand response) service is available for those residents of Hanford, Lemoore, Armona and Avenal traveling more than ½ of a mile from an existing fixed bus route or for those riders certified by KART as disabled. It is the policy of the Kings County Area Public Transit Agency (KCAPTA) Board that a rider who begins and ends a trip within a ½ mile of a bus route is to use the regular route service and not Dial-A-Ride. Where available, public transit bus and dial-a-ride services are utilized primarily by a transit-dependent population that has limited access to automobiles. Transit ridership groups often include the elderly, students, low-income residents, and the physically handicapped. Route service is also provided to Fresno on Monday, Wednesday and Friday. Passengers using this service for medical appointments must schedule them between the hours of 10:00 AM and 2:00 PM. The fare for all medical trips is $1.50. All other fares are listed below:

Table C-6: KART Fairs

Fares	***General***	***Monthly***
Downtown Hanford Routes	$1.00	$30.00
All out of town routes to and from Hanford serving: Armona/Avenal/Corcoran/Fresno/ Grangeville/Hardwick/Kettleman City/Laton Lemoore/Lemoore NAS/Stratford and Visalia	$1.50	$50.00
Dial-A-Ride	$2.00	$40.00
Half price fare on regular fixed routes is available from 9 AM thru 3 PM for eligible seniors 60 and over, ADA and Disabled ID Card holders, and Medicare Card holders.		

KART offers bus service between cities and communities in the County via seven routes:

- The Hanford-Avenal route includes stops in Armona, Lemoore, Stratford and Kettleman City. (Monday thru Friday);
- The Hanford- Naval Air Station Lemoore (NAS Lemoore) route includes service to Armona, Lemoore, West Hills College (Lemoore) and the NAS Lemoore (Monday thru Saturday);
- The Hanford-Lemoore Direct route includes stops in Armona and Lemoore with half hour headways (Monday thru Friday);
- The Hanford-Corcoran route provides daily transit service to Corcoran Depot and the Corcoran State Prison (Monday thru Friday);
- The Hanford-Laton route services the communities of Grangeville, Hardwick and Laton (Monday thru Friday);
- The Hanford-Visalia route, which serves the College of Sequoias (Visalia), Chapman College, Galen College and the College of Sequoias Agricultural Center (Monday thru Friday); and
- The Hanford-Fresno route provides transit service for Kaiser (Selma), University Medical Center, Veteran's Hospital, Kaiser (Fresno) and Valley Children's Hospital operates on Monday, Wednesday and Friday.

Kings County Circulation Element

Legend

- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Hanford Avenal Route
- Hanford Corcoran Route
- Hanford Downtown 1
- Hanford Downtown 2
- Hanford Downtown 3
- Hanford Downtown 4
- Hanford Downtown 5
- Hanford Downtown 6
- Hanford Fresno Route
- Hanford Laton Route
- Hanford Lemoore Route
- Hanford LNAS Route
- Hanford Visalia Route
- Interstate
- State Highway
- Streets

0 1.5 3 6 Miles

N W E S

Prepared by:

omni·means ENGINEERS·PLANNERS

FRESNO COUNTY

Lemoore Naval A.S.

Lemoore

Hanford

Armona

Home Garden

Santa Rosa Rancheria

Stratford

Avenal

Avenal State Prison

Kettleman City

Corcoran

Corcoran State Prison

TULARE COUNTY

FRESNO COUNTY

MONTEREY COUNTY

KERN COUNTY

Figure C-11
Existing Transit Routes

Kings County Circulation Element

Legend

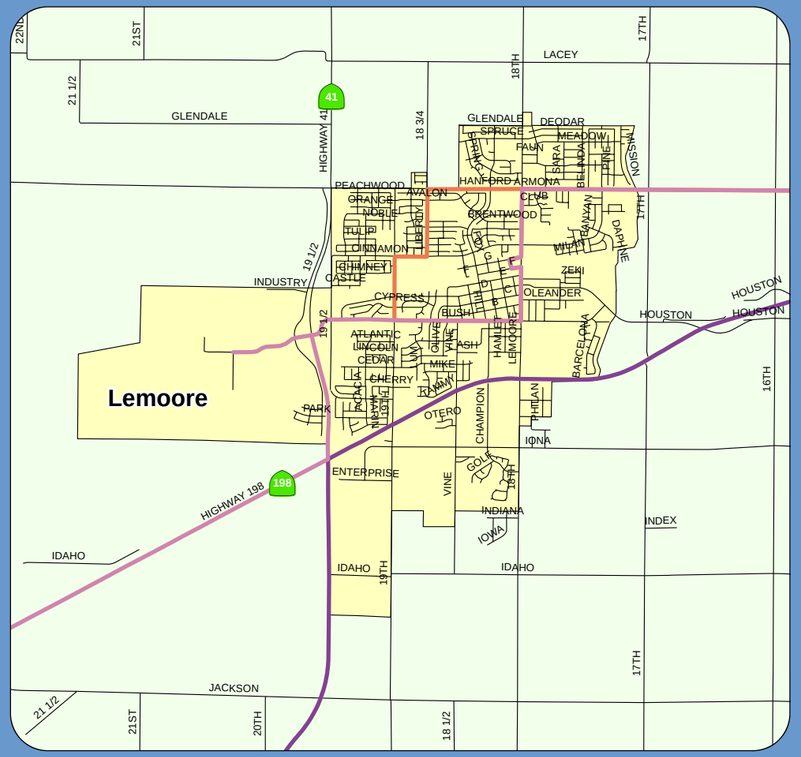
- City/Community
- Kings County Territory
- State Prison
- Hanford Avenal Route
- Hanford Corcoran Route
- Hanford Downtown 1
- Hanford Downtown 2
- Hanford Downtown 3
- Hanford Downtown 4
- Hanford Downtown 5
- Hanford Downtown 6
- Hanford Fresno Route
- Hanford Laton Route
- Hanford Lemoore Route
- Hanford LNAS Route
- Hanford Visalia Route
- Interstate
- State Highway
- Streets

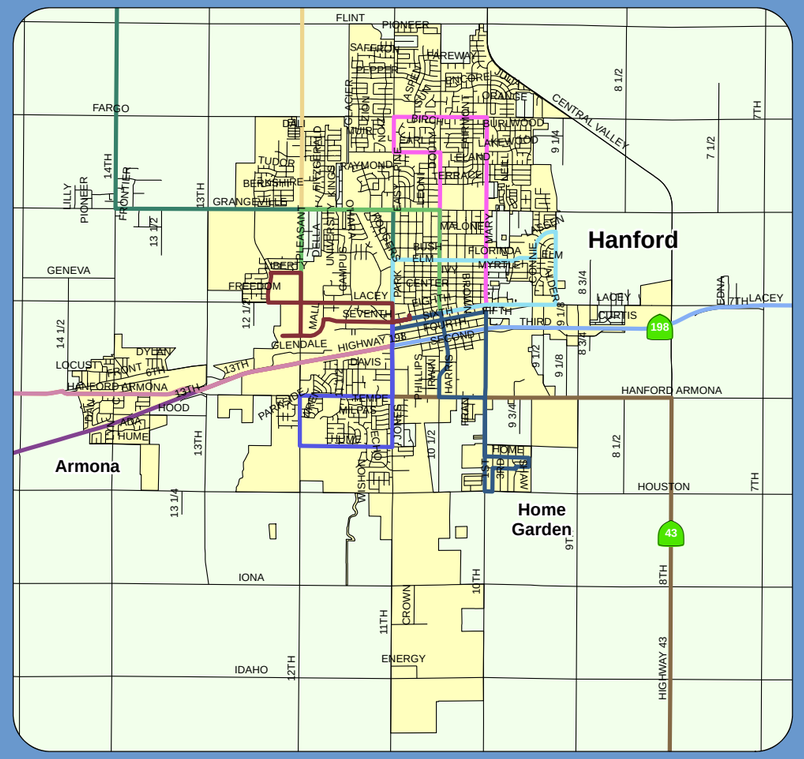
0 0.5 1 2 Miles

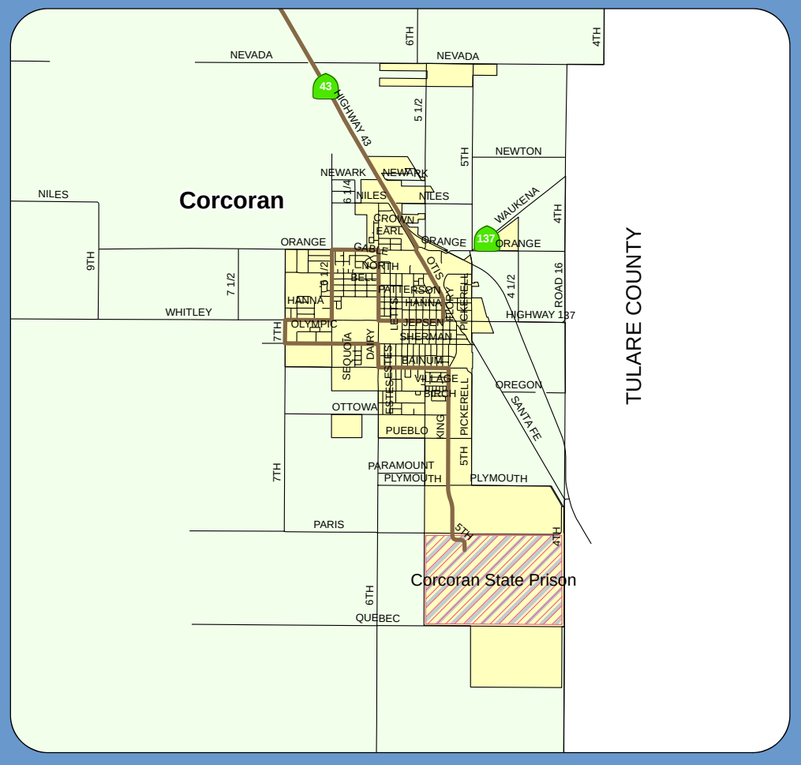
N W E S

Prepared by:

omni·means ENGINEERS·PLANNERS







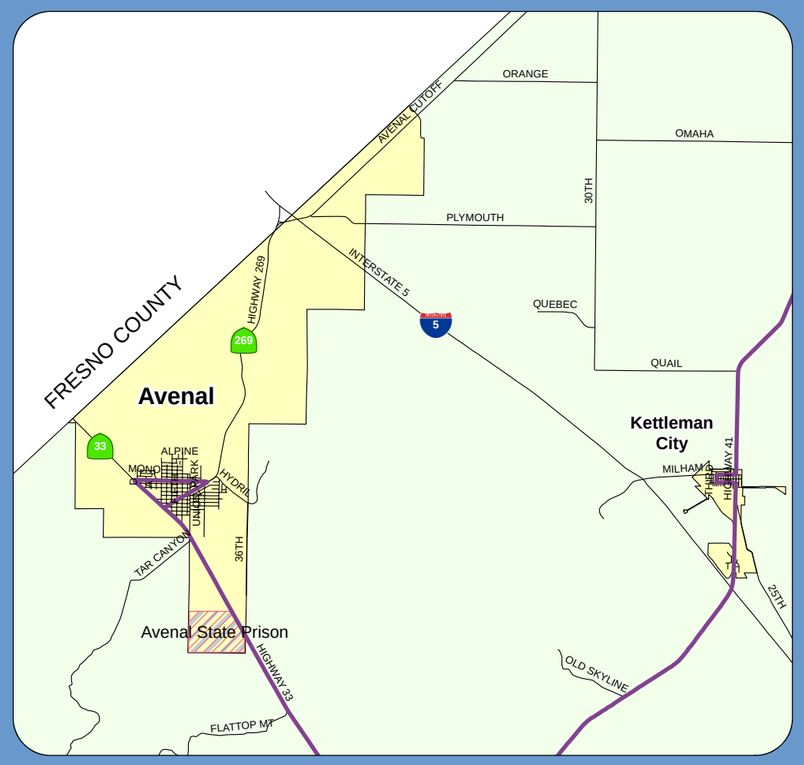


Figure C-12
Existing Transit Routes

g1255av003b.mxd/011508/55-1740-01

- The City of Corcoran, in 1989, began operating a local transit service to facilitate the transportation needs of City residents and surrounding Kings County fringe areas. The Corcoran Area Transit (CAT) service operates from the remodeled Corcoran Depot and operates a fixed route bus system with five transit buses. CAT also provides on-demand (Dial-a-Ride) transit service. The Corcoran Depot serves as a transportation hub where CAT services connect with KART and Amtrak. Although the depot is not an official Amtrak Depot, the facility provides a self-serve Amtrak ticket dispenser for travelers and provides a centralized passenger link for Amtrak, KART and CAT. Corcoran sells Amtrak tickets at a 50% discount with subsidies from the Transportation Development Act. CAT fares for transit services are listed below:

Table C-7: Corcoran Area Transit Fares

Fares	*Full Fare*	*Day Pass*
Fixed Route Service	$0.25	$0.50
On Demand Service (Dial-a-Ride)	$1.00	$2.00
30 Ride Ticket	$30.00	n/a
Senior Citizens, Children and Disabled ride free on Fixed Routes service, and charged $0.50 for Dial-a-Ride service.		

B. Paratransit Services

Paratransit Services in Kings County are provided through two regionally successful programs administered through Kings Area Rural Transit (KART). KART operates the Agricultural Industries Transportation Services (AITS) and the KART Vanpool to provide an alternative mode of flexible passenger transportation for agricultural farmworkers or general workforce commuters. In general, these vanpool options allow small collective groups of individuals to define a customized route that meets their specific transportation needs. These services, although originating in Kings County, benefit adjoining Counties.

These programs developed in Kings County currently provide specialized public transport of individuals to work destinations throughout a 5 County area that includes Kings, Fresno, Tulare, Kern, and Madera Counties. Together KART and AITS Programs are identified as reducing 355,000 vehicle trips annually which is estimated at reducing 53 million vehicle miles traveled per year. Indirect savings to travelers is estimated to be $52 million (personal vehicle depreciation, fuel, insurance, and avoided accidents). Reduced annual emissions are estimated to be 53 tons ROG, 54 tons NOx, 13 tons PM10, and 49 tons CO2 which are all credited towards Kings County.

KART projections indicate substantial growing demand for commuter vanpool services, due largely to increasing transportation costs and greater need for dependable and direct transport to specific work sites. Other Counties have inquired with KART to receive services and include Ventura, Monterey, Santa Cruz, Napa and Imperial. An effort to establish a Valley Transit Agency, founded upon the KART Vanpool Program, is currently in the works to formally establish a valley wide approach to car and vanpooling. Once established, it will serve as a regional model for use throughout the State.

AITS

Figure C -13. AITS Van

The Agricultural Industries Transportation Services (AITS) program is designed to provide qualified agricultural workers in Kings, Kern, Tulare, Fresno and Madera Counties with safe, reliable, and affordable vans they can use and drive themselves and others to work. The AITS program exists where the demand for farm labor transportation is high and is not limited to Kings County. Each 15 passenger van is operated by volunteer farm workers that must obtain a Class C drivers license, pass a physical and provide a DMV printout of their driving record. Additional benefits derived from the program include increased worker attendance and performance, insured transportation, licensed drivers, and eliminates the potential for abuse of farmworker who depend upon transport.

Figure C -14. AITS Distribution

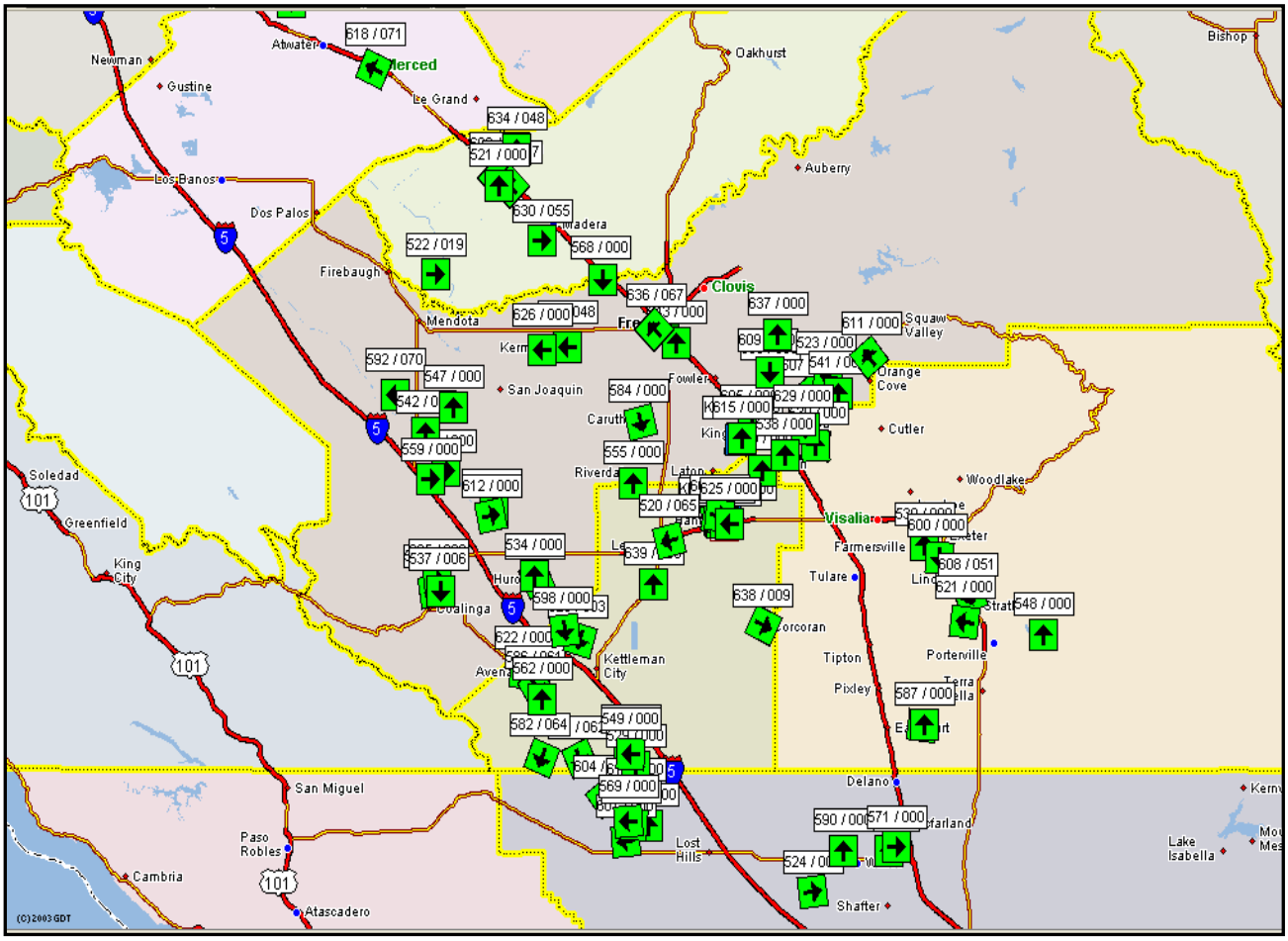


Figure C-14 identifies a snapshot of actual real time travel with AITS vanpools identified by arrowed green boxes. The arrow shows direction of travel, while the numbered box above shows vanpool ID/current miles per hour. KART staff monitors AITS and KART Vanpool buses on a continual basis to ensure proper operation.

KART Vanpool

Figure C -15. KART Vanpool

The KART Vanpool program provides eight and 15 passenger vans for groups that wish to carpool to and from work. The cost is based upon the number of passengers and the distance traveled each month. The driver qualifications are similar to the AITS drivers. Ridership and participation has progressively increased as travel expenses rise and commuters seek more affordable means of dependable and direct modes of transport to and from work. Currently, KART Vanpool program provides vans for employees of 10 correctional facilities and as an incentive to State employees they receive a rebate of up to $65/month. Additional information for interested commuters and businesses to network with drivers and riders can be found at www.southvalleyrideshare.com.

Figure C -16. KART Vanpool Distribution

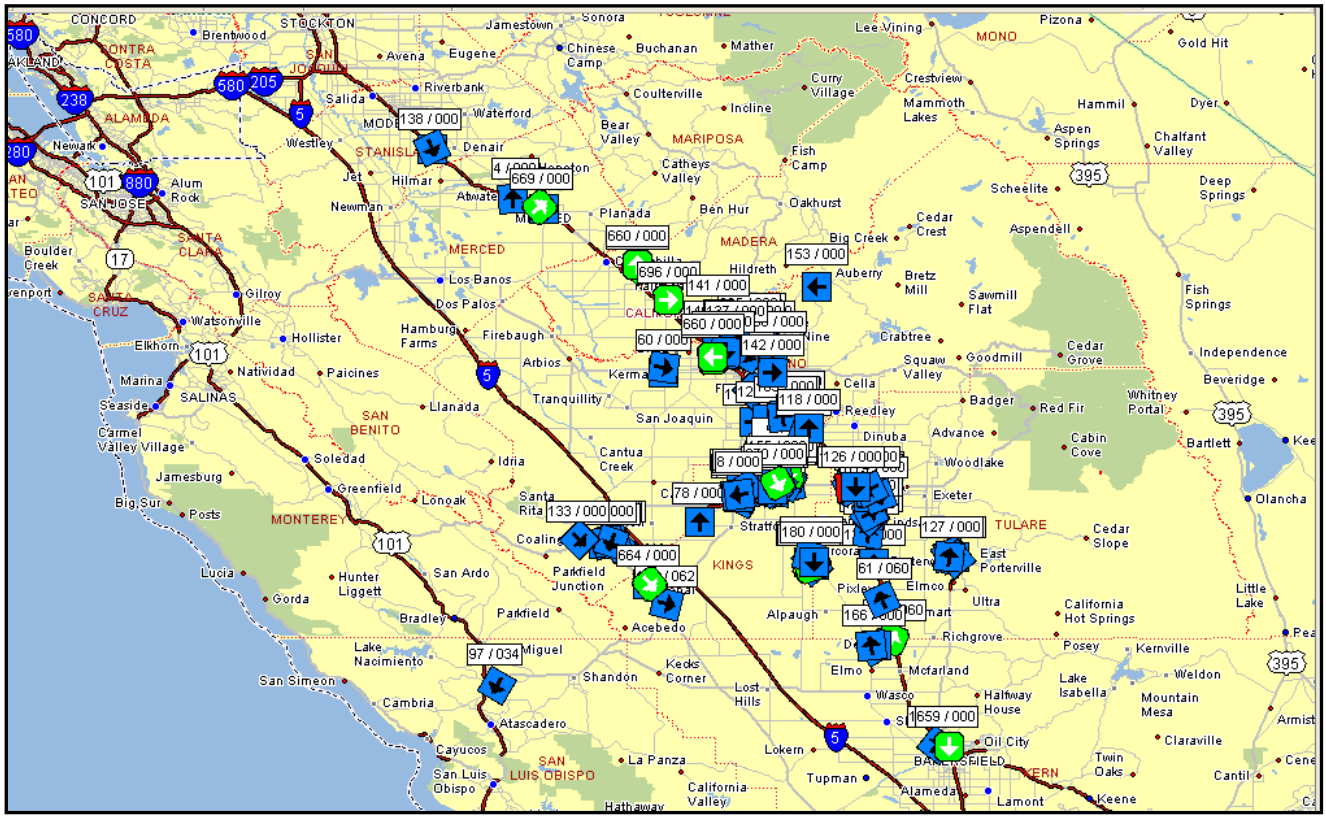


Figure C-15 identifies a snapshot of actual real time travel with KART vanpools identified by arrowed blue boxes. The arrow shows direction of travel, while the numbered box above shows vanpool ID/current miles per hour.

C. Unmet Transit Needs Process

Figure C -17. Handicap Placard

Each year KCAG holds an "unmet transit needs" hearing that is consistent with Section 99401.5 of the Transportation Development Act (TDA) of the Public Utilities Code. The TDA governs the administration of the Local Transportation Funds (LTF). The referenced section of the Act clarifies that the Regional Transportation Planning Agency (RTPA) must make a finding, after a public hearing, that there are no unmet public transit needs within a jurisdiction that can be reasonably met before it may approve LTF claims for streets and roads. The RTP address the ADA requirements in Title 23, CFR Section 450.316 9(b)(3) by meeting the needs of Kings County's disability community. Transit in Kings County is accessible equally by disabled, able bodied, senior citizens and minorities. Buses and facilities are equipped to handle wheelchairs and all schedules are prepared in Spanish to be consistent with the Title VI of the Civil Rights Act of 1964 and the Title VI assurance executed by each State, which ensure that no person shall, on grounds of race, color, sex, national origin, or physical handicap, be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination under any program receiving Federal assistance from the United States Department of Transportation.

For the annual "unmet transit needs", a public notice is prepared and published in all city newspapers and posted thirty days prior to the hearing. All transit users are invited and are afforded equal time to comment in regards to transit needs in Kings County. Following the hearing, the Social Service Transportation Advisory Council (SSTAC) reviews the unmet transit needs expressed in the hearing. The SSTAC makes recommendations that are transmitted to KCAG's Board. If any "unmet transit needs" are found to be reasonable to meet by the RTPA they must be addressed before approving street and road funding. If an "unmet transit need" is found to be unreasonable to meet, it is noted and documented. KCAG has defined the unmet transit needs terms as follows:

A. "Unmet transit need", at a minimum, exist where local residents do not have access to private vehicles or other forms of transportation, due to age, income, or handicap, for the purpose of traveling to medical care, shopping, social/recreational activities, education/training and employment.

B. It is "reasonable to meet" the above needs if the proposed or planned service can be operated while maintaining, on a system wide basis, the adopted service goals for that type of service and meet the following criteria:

- New, expanded, or revised transit service, if implemented or funded, would not cause the operator to incur expenditures in excess of the maximum amount of Transportation Development Act funds available to Kings County.

- The proposed transit service does not duplicate transit services currently provided by either public or private operators.

The proposed transit service has community support from the general public, community groups and community leaders.

- New, expanded, or revised transit service, if implemented or funded, would allow the responsible operator to meet the TDA required rural area fare box and revenue ratio of 10% for the overall system.

- There is supporting data to indicate sufficient ridership potential for the new, expanded, or revised service.

- Implementation of the new, expanded, or revised transit service should achieve or be moving toward the goals outlined in the Kings County Transit Development Plan for a comparable type of service. Services not meeting the goals should be evaluated on a yearly basis to determine if modifications or cancellation of service should be implemented.

- The proposed transit service shall have a reasonable expectation of future demand and available funding on a long term basis to maintain the service.

- Is needed by and would benefit either the general public or the elderly and disabled population as a whole.

In Kings County, typical unmet needs are generally related to the number of routes per day, operating times, weekend and holiday service, etc. The results of the unmet needs process assists local transit agencies as they plan for future transit services.

D. Park and Ride Facilities

Figure C -18. Park and Ride Facility

Park and ride facilities are used primarily by carpoolers, vanpoolers and transit riders for the daily commute; usually for free. Park and ride facilities in the county are open 24 hours a day, seven days a week. Currently, the only official park and ride facility in Kings County is located north of Hanford on State Route 43 (30 parking spaces). Bicycle lockers and stalls are available at the Hanford Amtrak station for long term storage and convenience. No additional park and ride lots are proposed for the Kings County area. Park and ride lots and their usage should bring positive contributions to air quality and congestion improvements in Kings County.

E. Common Carriers

Two common carriers (Greyhound and Orange Belt Stages) provide private bus transit services within the county, which links County travelers with other regions in the San Joaquin Valley and California (see Figure C-19). Although there are no major bus terminals in Kings County, limited service bus stops are established in centralized transportation hub locations. Another bus service operating within the County is the Amtrak Bus Service. This Amtrak Bus, however, is a limited service for Amtrak train passengers and provides connecting bus service from Paso Robles and Visalia to the Hanford Amtrak Station. This service is limited to Amtrak ticket holders only and is not intended to serve as a common carrier service.

Greyhound Bus Stops

Greyhound has limited schedule service in both Hanford and Lemoore, with the nearest full service Greyhound Bus terminal located in Goshen in Tulare County near State Route 99 and 198. The Greyhound bus stops in Hanford and Lemoore do not provide ticket, baggage or package express services or facilities at these stop locations.

Orange Belt Bus Stops

Orange Belt Stages offers daily trips to Las Vegas and to areas along the Central Coast. There are four Orange Belt stops within Kings County. One in Hanford at the Amtrak Station, one in Kettleman City at the Carl's Jr., one in Lemoore at the Lemoore Chamber of Commerce, and one at the Naval Air Station Lemoore.

Kings County Circulation Element

Legend

- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Amtrak Train Stop
- Amtrak Bus Stop
- Greyhound Stop
- Orange Belt Stages
- Interstate
- State Highway
- Streets

0 1.5 3 6 Miles

N W E S

Prepared by:

omni·means ENGINEERS·PLANNERS

FRESNO COUNTY

Hanford

Lemoore

Lemoore Naval A.S.

Armona

Home Garden

Santa Rosa Rancheria

Stratford

Corcoran

Corcoran State Prison

Avenal

Kettleman City

Avenal State Prison

TULARE COUNTY

FRESNO COUNTY

MONTEREY COUNTY

KERN COUNTY

Figure C-19
Existing Common Carriers

g1255av007.mxd/022008/55-1740-01

Kings County Circulation Element

Legend

- City/Community
- Kings County Unincorporated Territory
- State Prison
- Amtrak Train Stop
- Amtrak Bus Stop
- Greyhound Stop
- Orange Belt Stages
- Interstate
- State Highway
- Streets

0 0.5 1 2 Miles

N

W E

S

Prepared by:

omni · means
ENGINEERS · PLANNERS

Figure C-20
Existing Common Carriers

g1255av007b.mxd/022008/55-1740-01

IV. RAIL TRANSPORTATION

The railroad system that links Kings County with other areas of the State is primarily made up of the Amtrak "San Joaquin" passenger rail line, and freight rail system utilized by many industrial, manufacturing and agricultural businesses throughout the Valley. This section provides a description of the three existing railroad operators and shows a map of existing railroads in the county, passenger/freight information, and schedule of routes. There is also a discussion regarding Amtrak services that are provided to county residents within the Cities of Hanford and Corcoran.

A. Passenger Rail

Amtrak ridership has grown in recent years due largely to the increased accessibility, public awareness, and more convenient scheduling. Additional marketing by Caltrans and scheduling that now allows for one-day turn around trips to the Bay Area and Sacramento have all contributed to increased ridership. Eight trains currently operate with four northbound and four southbound, and the addition of a direct bus connection between Bakersfield and the Los Angeles Amtrak depot has also contributed to accessibility and increased ridership. There are two Amtrak train depots in Kings County, one in Hanford and one in Corcoran. Passenger rail service (six round trips daily) in the county are provided by Amtrak on its San Joaquin service, with rail stations located in Hanford and Corcoran.

Figure C-21. Hanford Station

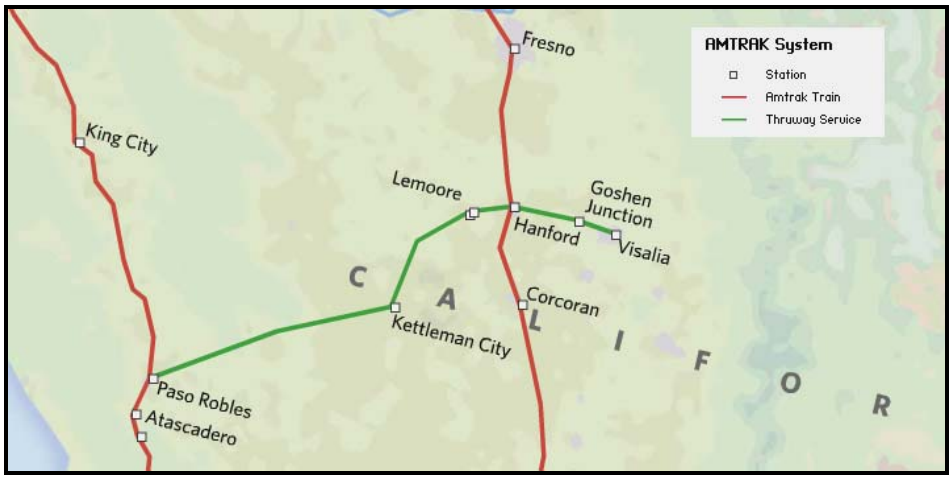
The Hanford Depot (200 Santa Fe Ave., #a, Hanford, CA) is developed as an intermodal facility serving as a regional transportation hub that also connects with the Orange Belt bus line, the KART bus system, taxis, bicycles, and pedestrians. The depot integrates a traveler information center, and nearby retail food businesses. Amtrak buses also connect the Hanford depot with destinations in Tulare County. The Corcoran depot was established in 1990 and consists of a passenger loading ramp, sheltered bus stop, telephone, parking area, and security lighting. Northbound trains make stops in Hanford at 6:12 a.m., 8:32 a.m., 11:36 a.m., 2:41 p.m., 5:06 p.m. and 7:30 p.m. Southbound trains service Hanford at 10:23 a.m., 12:11 p.m., 2:44 p.m., 5:46 p.m., 8:14 p.m. and 10:28 p.m.

Figure C-22. Corcoran Station

City of Corcoran transit services operates from the remodeled Corcoran Depot (Whitley and Otis Avenue, Corcoran CA 93212). While the Corcoran Depot is not an official Amtrak Depot, it is still available to Amtrak passengers, KART passengers and CAT passengers. A self-serve Amtrak ticket dispenser is located in the Corcoran Depot for local travelers. Amtrak tickets are also sold by the City of Corcoran at a 50% discount from Transportation Development Act subsidies.

Amtrak also operates connecting bus service from Paso Robles and Visalia that connects with the Hanford Depot. Three route stops exist in Kings County: Lemoore Chamber of Commerce 300 E Street; 25th St. & W Highway 198 in Lemoore; and 333000 Hubert Way (Carl's Jr. Restaurant) in Kettleman City. Amtrak train tickets are required for use of this bus service.

Figure C-23. Amtrak Bus Connection



B. Freight Rail

Figure C -24. Freight Rail BN&SF

Freight rail service is currently provided by two rail lines as identified in Figure C-14. The north/south rail line service is the Burlington Northern & Santa Fe (BN&SF) Railway line that runs from Bakersfield in the south to Roseville in the north. The BN&SF Railway connects freight rail in the County with major markets in California such as Oakland, San Francisco, San Jose, Sacramento, and Los Angeles. In Kings County the BN&SF Railway runs through the Cities of Corcoran and Hanford, and provides short rail spurs to adjacent City Industrial Parks. Freight rail service to these industrial prosperities significantly increases the viability of existing and potential manufacturing and industrial uses on these sites. An additional stop is also established between the two Cities for the Penny Newman Grain plant located just north of Kansas Avenue and west of 10th Avenue.

Figure C -25. Freight Rail SJVRR

The east/west rail line service is the San Joaquin Valley Railroad (SJVRR) and travels from Visalia in the east to Huron in the west. The SJVRR rail line crosses over the BN&SF rail line in Hanford, but has not cross connection. Freight rail along the SJVRR must travel east to Goshen to connect other BN&SF and Union Pacific rail lines that travel north and south. In Kings County, the SJVRR runs through the Naval Air Station Lemoore, City of Lemoore, Armona Community, and City of Hanford. In Lemoore, the SJVRR serves as the freight rail service for both Leprino processing plants. The SJVRR right-of-way has also been identified as a strategic transportation corridor that should be preserved for possible future passenger rail, light rail, or non-motorized transportation development.

Kings County Circulation Element

Legend

- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Railroad
- Interstate
- State Highway
- Streets

0 1.5 3 6 Miles

N W E S

Prepared by:

omni · means ENGINEERS · PLANNERS

FRESNO COUNTY

Lemoore

Lemoore Naval A.S.

Hanford

Armona

Home Garden

Santa Rosa Rancheria

Stratford

Avenal

Avenal State Prison

Kettleman City

Corcoran

Corcoran State Prison

TULARE COUNTY

MONTEREY COUNTY

KERN COUNTY

Figure C-26
Existing Rail Transportation System

g1255av004.mxd/011508/55-1740-01

Kings County Circulation Element

Legend

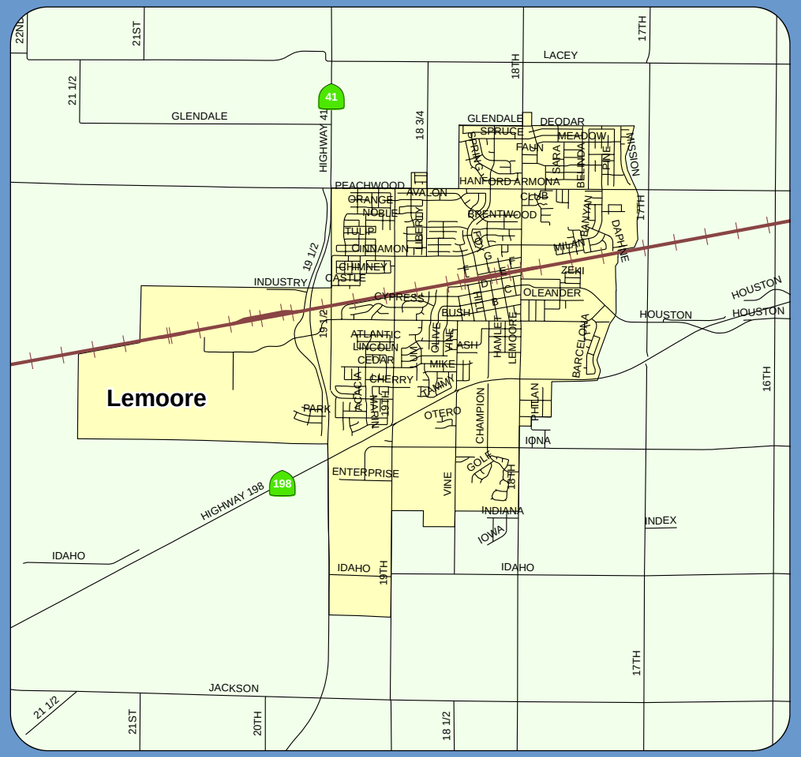
- City/Community
- Kings County Unincorporated Territory
- State Prison
- Railroad
- Interstate
- State Highway
- Streets

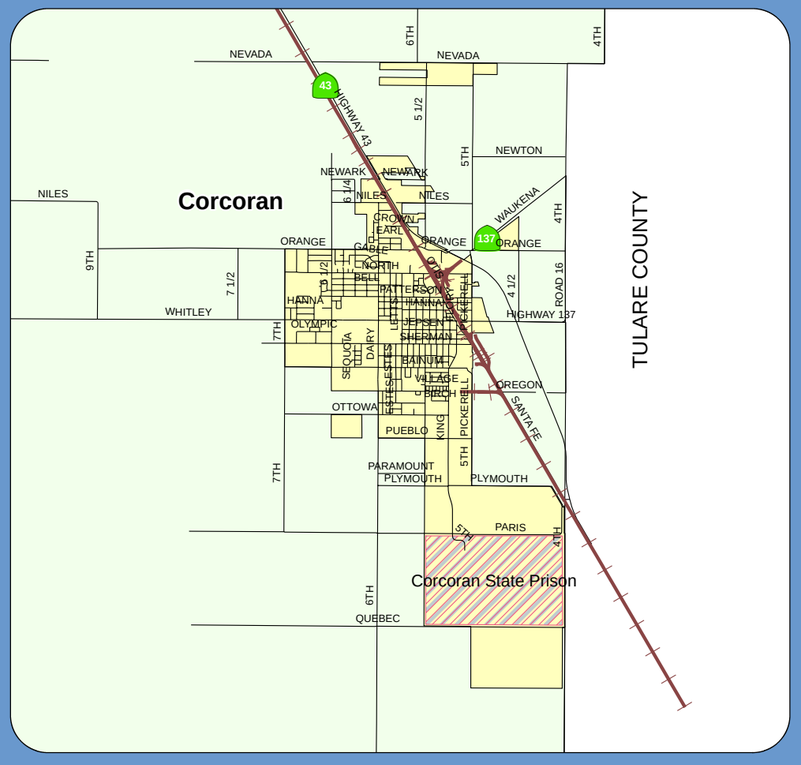
0 0.5 1 2 Miles

N
W E
S

Prepared by:

omni·means
ENGINEERS·PLANNERS





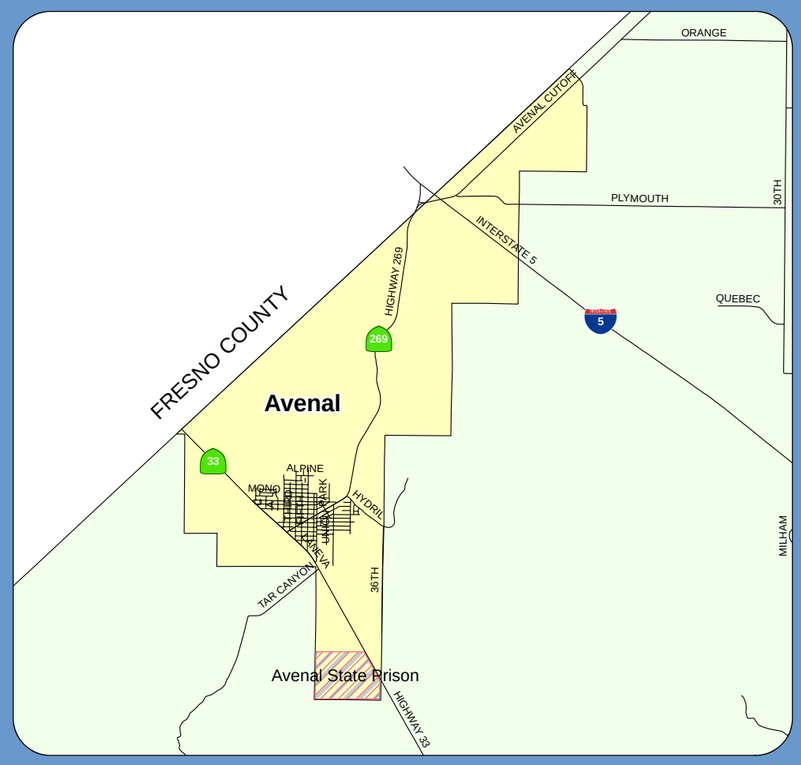


Figure C-27
Existing Rail Transportation System

g1255av004b.mxd/011508/55-1740-01

C. Cross Valley Rail

In 1994, the vision of upgrading and renovating the 44 mile east-west San Joaquin Valley Rail line from Huron (Fresno County) to Visalia (Tulare County) was born. The concept was straightforward but had potentially profound benefits:

- Increased opportunities for industrial development, which would improve the economic viability of communities along the corridor.
- Improved air quality as a pair of locomotives can pull the equivalent of 225 trucks.
- Reduction in road maintenance costs due to decreased truck traffic; and
- Improved safety on rural roads based on less truck traffic.

The Cross Valley Rail improvement project was completed in 2003. It cost $14 million for the approximately 44-mile track improvement project between Huron and Visalia, and is designed to allow food processing and industrial businesses to ship by rail as opposed to heavy-duty trucks. Funding was made possible through funds from public and private entities, including Congestion Mitigation and Air Quality (CMAQ) funds from Tulare, Kings, and Fresno Counties and contributions from the Los Gatos Tomato Company and San Joaquin Valley Air Pollution Control District (SJVAPCD). Continued preservation of this east/west railway corridor will remain a priority to ensure future alternative transportation use options remain available.

D. High Speed Rail

Figure C -28. California High Speed-Rail Authority Logo

The California High Speed Rail Authority (Authority) is currently in the process of implementing a high speed rail system that would provide passenger transportation as well as goods movement services throughout much of California. Still in the planning stages, numerous environmental studies have, or are currently being assessed. A major component of these studies is to determine the best route available. Recently, the Authority authorized a more detailed study for a possible station in the Visalia-Tulare-Hanford area. The precise rail corridor is still preliminary and has not been finalized.

The purpose of the High Speed Rail system is to provide a reliable mode of travel that links the major metropolitan areas of the state and delivers predictable and consistent travel times. According to the Authority, high speed rail is projected to carry as many as 68 million passengers annually by 2020. Further objectives of the High Speed Rail system are to provide an interface with commercial airports, mass transit hubs, the highway network, and to relieve vehicular capacity constraints of the existing transportation system as intercity travel demand in California increases. Given that the highest growth rate in California's future is in the Central Valley, the need for improved intercity transportation is demonstrated by the insufficient capacity of the existing vehicular transportation system to meet current and expected future travel demand. The need is also reflected in the poor air quality, impaired travel reliability, and increased travel congestion and longer travels times. According to the Authority,

in most instances the High Speed Rail is an alternative that would improve the travel options available in the Central Valley and other areas of the state when compared to limited bus, rail, and air service for intercity trips that exist today.

According to the Authority, the cost of this project is estimated to be approximately $40 billion (2008 dollars), depending upon the alignment and the station options selected. The cost estimate includes right of way, track, guide way, tunneling, stations and mitigation. The right-of-way requirements for expansion of the freeways in the central valley would potentially impact 609 acres of farmlands. The high speed rail, based on the system wide application of a 100 foot right of way, could potentially impact a maximum of 2,096 to 3,002 acres. By reducing the right-of-way to 50 feet could potentially reduce the amount of farmland being taken in the valley. Voters passed a ballot measure to approve a bond for high speed rail on November 4, 2008.

V. NON-MOTORIZED SYSTEMS

Non-motorized transportation systems that provide bicycle and pedestrian facilities within Kings County are limited due primarily to the rural nature of the County and the urban built environment centered largely within Cities. The Kings County Association of Governments identifies regional bicycle routes that travel through unincorporated territory. However, the vast majority of bicycle paths and pedestrian trails are located within the four incorporated Cities of Avenal, Corcoran, Hanford and Lemoore. The County's four unincorporated communities of Armona, Home Garden, Kettleman City and Stratford also provide some opportunities to increase non-motorized accessibility within the community core areas. Armona also has a unique opportunity to coordinate path and trail development with the City of Hanford to increase non-motorized travel between residential areas, job centers, and educational facilities. This section identifies non-motorized transportation options including bicycle and pedestrian routes that are available to Kings County residents.

Key Terms

- Bicycle Facilities. Class I (separate path), Class II (striped lane that shares roadway), or Class III (non-striped path on roadway) bicycle routes that provide bicyclist a place to ride.
- Pedestrian Facilities. Sidewalks, paths, and over-crossings built for pedestrians.

A. Recreational Walkways

Figure C -29. Pedestrian Pathway

Kings County has identified railroad right-of-way, within the San Joaquin Valley Railroad, as a viable option for pedestrian and bicycle use. The shared use and development of the Union Pacific railroad, between the Fresno and Tulare County lines, is an innovative way to achieve multiple objectives. The Union Pacific railroad is an example of recreational walkways located in Kings County**.** Construction is underway in Lemoore to complete the shared-use facility. The Union Pacific trail is expected to be a signed route that is intended for pedestrians, bicyclists and equestrian uses. These facilities give people the incentive to walk to places of interest while enjoying a preserved route.

Ultimately the shared-use railroad right-of-way will provide access along one of the county's busiest east-west corridors, Hanford-Armona Road. Along the route, the trail will connect Downtown Hanford, Hanford Mall, Adventure Park, Armona, Lemoore multi-modal center, Lemoore skate-park and West Hills College.

B. Safe Routes to School

Safe Routes to Schools (SR2S) projects are aimed at increasing the safe passage of school children walking or bicycling to school. Typically infrastructure improvements, signage, lighting and pathways separated from the roadway are sought to encourage and enable children to walk and cycle to school. The County has developed Community Plans for each of the four Community District served areas, including Armona, Home Garden, Kettleman City and Stratford. Development of these plans involved

considerable community resident and stakeholder input and identify areas of possible implementation of Safe Routes to School. In 2008, a $140,000 Caltrans grant was awarded for use in Kettleman City to develop improvement alternatives to the State Route 41 and General Petroleum Avenue Road segments to enhance pedestrian and school children safety along the roadways. The next step is to pursue a Safe Routes to School grant to fund construction.

Safe Routes to School projects can improve road safety, reduce child casualties, improve children's health and development, and reduce traffic congestion and pollution. Projects often involve the school community, local residents, local agencies, health and education workers, and law enforcement. Successful SR2S projects are child-centered, build on small steps to raise awareness and change travel behavior and benefit the whole local community by helping to create safer, healthier environments. Active & Safe Routes to School is a national program encouraging the use of active modes of transportation to and from school.

Figure C-30. SR2S Logo

Additional benefits to Safe Routes to School implementation include:

- Increased physical activity for children and youth;
- A healthier lifestyle for the whole family;
- Less traffic congestion around schools;
- Safer, calmer streets and neighborhoods; and
- Improved air quality and a cleaner environment.

In Kings County cities, communities, school districts, and other agencies are eligible to apply for SR2S funding. One recent SR2S project included pedestrian improvements made on the NAS Lemoore for the on-site school.

C. Bicycle Paths

KCAG adopted the 2005 Kings County Regional Bike Plan to demonstrate a sound planning environment. The current bicycle plan outlines safety concerns, planned improvements, bicycle maps and funding opportunities. The Regional Bicycle Plan identifies various phases of planning and the implementation of bikeway facilities within the urban area boundary. Most transit carriers provide bike racks on buses to enhance the use of transit and bicycling within Kings County. Amtrak also provides bicycle storage on the train for inter-city travel.

With the onset of air quality attainment strategies and congestion management concerns, bicycling is considered an effective alternative mode of transportation. Bicycling can help improve air quality and reduce the number of vehicles traveling along congested facilities within cities and communities. Kings County offers a relatively level topography that allows for the opportunity to utilize bicycle facilities.

The Rails to Trails program has been effective in turning abandoned railroad tracks into pedestrian/bicycling thruways. Most recently the cities of Lemoore and Hanford are in the planning stages of developing a Rails-with-Trails facility along the SVRR corridor. The intent of the project is to use a portion of the 200' railroad right-of-way to construct a Class I bike path. Cost and railroad concerns will continue to slow this project.

Kings County Circulation Element

Legend

- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Existing Bikeway
- Planned Bikeway
- Touring
- Interstate
- State Highway
- Streets

0 1.5 3 6 Miles

N W E S

Prepared by:

omni·means ENGINEERS · PLANNERS

FRESNO COUNTY

TULARE COUNTY

KERN COUNTY

MONTEREY COUNTY

Lemoore

Lemoore Naval A.S.

Hanford

Armona

Home Garden

Santa Rosa Rancheria

Stratford

Corcoran

Corcoran State Prison

Avenal

Avenal State Prison

Kettleman City

Figure C-31
Regional Bicycle Routes

g1255av002.mxd/011508/55-1740-01

Kings County Circulation Element

Legend

- City/Community
- Kings County Unincorporated Territory
- State Prison
- Existing Bikeway
- Planned Bikeway
- Touring
- Interstate
- State Highway
- Streets

0 0.5 1 2 Miles

N W E S

Prepared by:

omni·means ENGINEERS · PLANNERS

Lemoore

Armona

Hanford

Home Garden

Corcoran

Corcoran State Prison

Avenal

Avenal State Prison

TULARE COUNTY

FRESNO COUNTY

Figure C-32
Existing Bicycle Routes

g1255av002b.mxd/011508/55-1740-01

Bicycle Accidents

Although the injuries throughout the county are relatively low compared to the statewide average, agencies within Kings County should attempt to make sure that bike routes are safe for the rider and by designating certain bike paths or routes; however, a certain amount of liability is under taken by the city and/or county. Bike routes are made based on the amount of safety a bicyclist can achieve his/her destination. Table 6-1 identifies accident data for the four cities and unincorporated communities in Kings County.

Table C-8: Statewide Integrated Traffic Records System Bicycle Accident Data 2000-04

Jurisdiction	No. of Accidents	Bicyclists Age		Gender	
		15 and under	16 and older	Male	Female
Avenal	5	4	1	5	0
Corcoran	8	2	6	7	1
Hanford	111	35	76	89	22
Lemoore	25	14	11	20	5
Kings County	23	12	17	22	1
TOTAL	172	67	111	143	29

Source: 2005 Kings County Regional Bicycle Plan (June 22, 2005).

This page intentionally left blank.

VI. AVIATION SYSTEM

Existing airport facilities within the County include the Hanford Municipal Airport, Corcoran Airport, Naval Air Station Lemoore, several private airstrips and agricultural cropduster airstrips. This section provides a discussion of the types of aviation facilities and their locations within the County.

Key Terms

- Military. Airports owned by Federal agencies, such as the Naval Air Station Lemoore.
- Public Airport. Airports owned by public agencies, such as a city or county.
- Public Airport with Special Use. Publicly owned airports that allow special uses such as crop dusting activities.
- Private Airport. Privately owned and operated airport.

A. Existing Facilities

Kings County participated in a demonstration project to coordinate regional, state and federal aviation system planning with the development of the Central California Aviation System Plan (CCASP). This was a departure from previous airport planning that was done primarily between the federal and state aviation authorities and local airports.

Figure C-33. Airfield

The CCASP was developed over a four year period and included several elements. Issues impacting the aviation community and how they impacted each airport were identified; aviation goals objectives and policies were summarized; aviation funding resources and needs were described; airport profiles were developed to identify existing facilities and the role each airport had in the community; forecasts of based planes, flight operations, commercial service passengers and cargo were developed; needs were identified to accommodate the forecasts; and an action plan was developed to meet those needs. Airport projects included in future Capital Improvement Programs will reflect a more focused and accurate view of the airport's role to the community it serves.

The primary airports are described in detail below:

- Hanford Municipal Airport: Serving the majority of aviation demand is the Hanford Municipal Airport. The Hanford airport is the only city-owned air facility in the County and will remain the most active public use, public airport for the foreseeable future. There is one charter service available and approximately 70 aircraft are based at the airport. Hanford Municipal Airport is located on 295 acres at 9 ½ Avenue and Hanford-Armona Road. The City of Hanford acquired the site in 1950 by using federal and state monies. Today, the facility consists of one runway that is 5,180 feet in length; a 75-foot wide paved taxiway; several conventional hangers and tee shelters; and medium intensity runway lights. All types of General Aviation aircraft use the facility including recreation and business aircraft. The average daily aircraft operation in 2005 was approximately 38 with 30% of those being single engine propeller aircraft. Annual

operations are forecasted to be 13,800 and the number of based aircraft is expected to be 128 in 2025. The City of Hanford released an updated master plan in May 2007.

- Corcoran Airport: Serving as a basic utility airport with 16 based planes, Corcoran Airport is the second busiest airport in Kings County. The airfield is located on the west side of Corcoran on Whitley Avenue and occupies 220 acres. The airport offers an asphalt runway with a parallel taxiway. Under private ownership of Lakeland Dusters Inc., the airfield is used primarily by a fleet of crop dusters. Approximately 5,000 operations originate from the field at present. Single engine propeller aircraft traffic will increase to 8,100 and the number of based aircraft are expected to be 33 by the year 2020 (Caltrans). The distribution of aircraft operations by aircraft will be 50 percent crop dusters, 45 percent single-engine propeller aircraft and five percent twin-engine aircraft by 2020. Low-intensity runway lighting is available upon request and all aircraft operate in daylight hours from 7:00 a.m. to 7:00 p.m. There are accommodations for a total of 20 aircraft to be parked at the airport.

- Avenal Airport: Located west of the city off of State Route 33, the Avenal Airport is operated by the Central Valley Soaring Club. Prior permission is required for public use of this facility. Avenal Airport encompasses 83 acres including one runway consisting of compacted earth with some stabilization. Two planes are based at the airport as well as several gliders owned by members of the soaring club. Noise impacts are not considered a problem at Avenal Airport as daily aircraft operations are too infrequent to contribute significantly to any airport noise problem.

Figure C -34. NAS Lemoore Monument

- Naval Air Station Lemoore: The NAS Lemoore is one of only four Navy master jet bases in the United States and is the home port for light-attack squadrons assigned to the Pacific Fleet. The station is located in the western portion of Kings County. NAS Lemoore occupies 18,784 acres and controls and additional 10,020 acres in air space. The airfield consists of two offset parallel runways, each 13,500 feet by 200 feet, with a separation o Lemoore 4,600 feet. In 2005, aircraft operations at NAS Lemoore totaled 161,000. As an indicator of the stations importance to Kings County, NAS Lemoore is the largest employer in Kings County, providing work for over 1,200 civilians and about 5,000 military personnel. The station also spent over $10 million in maintenance and operations in 2005 alone. It is estimated that the total annual economic input of the base to Kings County's economy is over $82 million based on payroll alone. The 2006 estimated daytime population at NAS Lemoore is 11,286 and 8,100 at night.

Of the airports in the County, only Hanford airport generates significant air traffic for the county's circulation system. Figures 7-2 and 7-3 show the types and locations of the Kings County airports. The only passenger air service within the vicinity is located in Visalia, in neighboring Tulare County. This service offers flights from Visalia airport to Las Vegas Airport (LAS) and Merced Airport with connections to other destinations. The Fresno International Airport, located in Fresno County, serves as the primary regional passenger air transportation facility for the Southern San Joaquin Valley.

Kings County Circulation Element

Legend

- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Private Air Strip
- Public Airport
- Military Airport
- Interstate
- State Highway
- Streets

0 1.5 3 6 Miles

N W E S

Prepared by:

omni·means ENGINEERS · PLANNERS

FRESNO COUNTY

Lemoore Naval A.S.

Lemoore

Hanford

Armona

Home Garden

Santa Rosa Rancheria

Stratford

Corcoran

Corcoran State Prison

Avenal

Kettleman City

Avenal State Prison

TULARE COUNTY

MONTEREY COUNTY

KERN COUNTY

Figure C-35
Existing Airports

Kings County Circulation Element

Legend

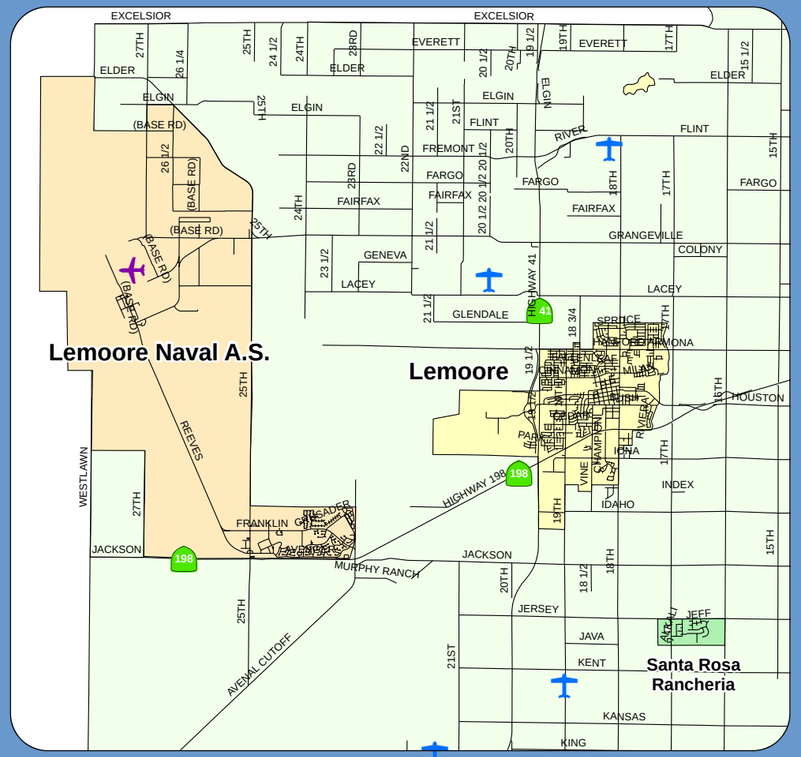
- City/Community
- Indian Reservation
- Naval Air Station
- Kings County Unincorporated Territory
- State Prison
- Private Air Strip
- Public Airport
- Military Airport
- Interstate
- State Highway
- Streets

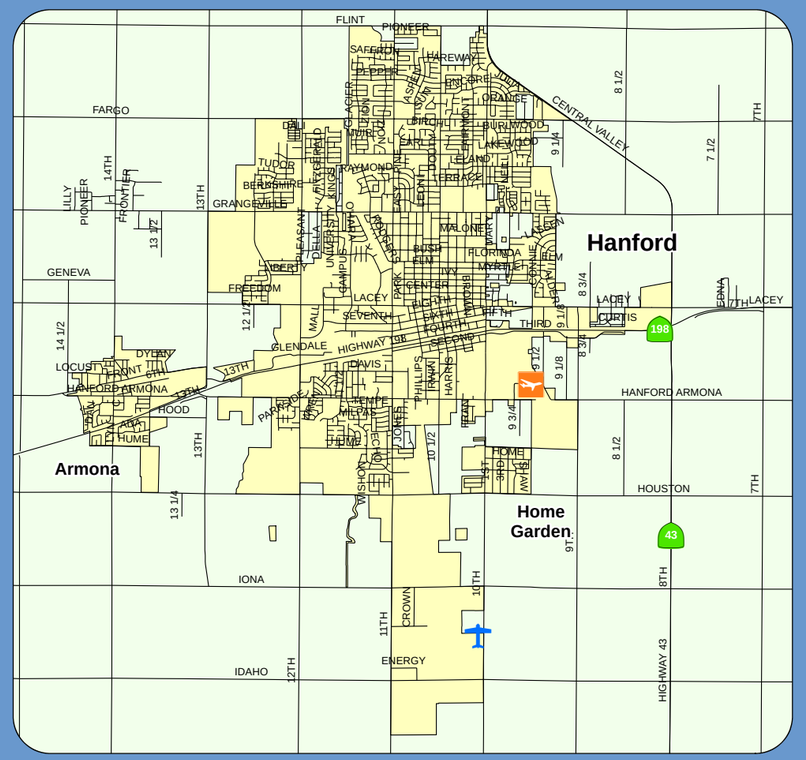
0 0.5 1 2 Miles

N W E S

Prepared by:

omni·means ENGINEERS · PLANNERS





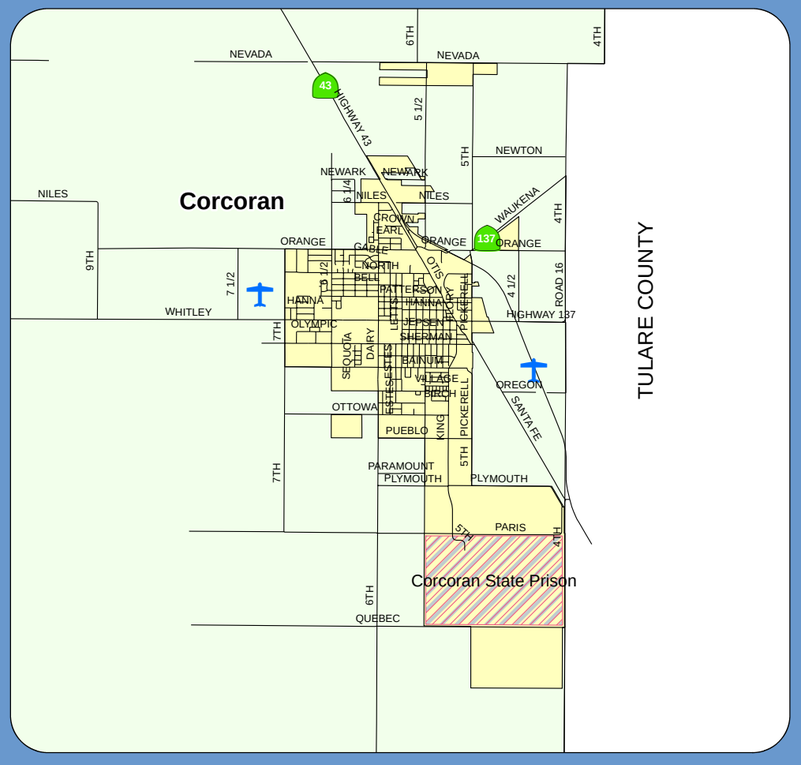


Figure C-36
Existing Airports

g1255av001b.mxd/011508/55-1740-01

VII. TRANSPORTATION MANAGEMENT

This section discusses strategies to increase roadway capacity without relying on major construction improvements.

A. Transportation System Management

Transportation System Management (TSM) provides for short-range transportation strategies designed to improve the movement of people, goods and the operational efficiency of the existing transportation system at minimal cost. The TSM strategies that are currently implemented in the cities within Kings County on an on-going basis include traffic signal synchronization, provision of left-turn, parking and access management, and similar traffic engineering treatments that maximize the use of existing streets and roads without major construction. Traffic Signal Synchronization coordinating traffic signals (more than one) that are within a close proximity in order to enhance vehicular progression on roadways, minimize delay and continual starts/stops. These improvements have increased the overall capacity of the highway system in Kings County without the provision of major capital expenditures.

B. Transportation Demand Management

Transportation Demand Management (TDM) consists of managing behavior regarding how, when and where people travel. TDM strategies are designed to reduce vehicular trips during peak hours by shifting trips to other modes of transportation and reduce trips by providing jobs and housing balance. TDMs are specifically targeted at the work force that generates the majority of peak hour traffic. Kings County participates in the *Central Valley Ridesharing* outreach program, which is designed to educate employers and employees toward the benefits of TDMs. Some of the TDM strategies include the following techniques:

- Rideshare programs;
- Transit usage;
- Flex hours;
- Vanpools;
- Bicycling & walking;
- Telecommuting; and
- Mixed land uses.

Through education, TDM strategies can be implemented and utilized in the circulation system. However, in order to change peoples traveling habits, employers must suggest transportation alternatives such as encouraging employees to reduce single occupant vehicle trips.

C. Applicable Regions

In Kings County, the areas with the most severe traffic congestion and which are potential candidates for TDM strategies include the cities of Hanford and Lemoore. The City of Hanford, with an estimated 2008 population of 51,965, has the highest peak hour congestion in the County. The City of Lemoore has an estimated 2008 population of 24,502. Trips generated between industries and employment in Hanford and Lemoore contribute to the congestion on the State Route 198 and the Lacey Boulevard

and Grangeville Boulevard corridors during peak hours. The City of Corcoran, with an estimated 2008 population of approximately 26,047 individuals, comprised of 12,914 residents and 13,133 state prison inmates, is also beginning to show signs of congestion on portions of State Route 43 as well as other principle streets. The City of Avenal has an estimated 2008 population of 16,609, consisting of 9,039 residents and 7,570 state prison inmates. These regions in the county have the highest potential to experience severe traffic congestion and are prime candidates to utilize TDM strategies. KCAG currently encourages these cities to study TDM strategies and take advantage of available programs to implement such strategies in their communities.

D. Strategies

A valuable TDM resource is available to the county and cities. KCAG actively educates and encourages employers to inform their employees about alternatives for transportation. KCAG provides its member agency with TDM programs such as the Central Valley Rideshare outreach program, which matches compatible commuters. As a tool to reduce congestion and environmental improvements the SJVAPCD, KCAG, and local agencies endorse TDM strategies. Employers are encouraged to endorse the following TDM strategies:

- Economic incentives;
- Regulatory parking spaces; locker rooms and showers (for pedestrians and bikers);
- Satellite work stations;
- Institute flexible work hours;
- Subsidize transit cost;
- Award extra times off; and
- Join a Transportation Management Agency (TMA)

VIII. CIRCULATION POLICIES

The *Circulation Element* establishes central goals, objectives and policies to guide the circulation system, network and improvements throughout Kings County through 2035. These goals, objectives and policies are drawn from and consistent with other General Plan Elements, the four unincorporated Community Plans, and the KCAG Regional Transportation Plan.

A. Countywide Circulation

C GOAL A1 **Provide a coordinated countywide circulation system with a variety of safe and efficient transportation alternatives and modes that interconnect cities, community districts, adult education facilities, and adjoining cities in neighboring counties, and meets the growing needs of residents, visitors and businesses.**

C OBJECTIVE A1.1
Continue to facilitate County participation in regional transportation planning activities to enhance coordinated transportation investments that foster sustainable community growth.

C Policy A1.1.1: **Participate and coordinate with the Kings County Association of Governments in working diligently towards compatible land use growth plans and transportation improvement plans.**

C Policy A1.1.2: **Use Kings County Association of Governments' meetings and forums to explore and develop coordinated alternative transportation solutions and approaches to address the growing needs of the region.**

C Policy A1.1.3: **Integrate Kings County Association of Governments participation in all County projects involving consultation with the California Department of Transportation.**

C Policy A1.1.4: **Consider public safety, retention, and maintenance of the existing County transportation system, and system efficiency as guiding criteria in evaluating County transportation improvement project priorities.**

C Policy A1.1.5: **Plan and develop public and private transportation facilities consistent with the overall growth and development policies of the Kings County General Plan.**

C Policy A1.1.6: **Work closely with Caltrans, Kings County Association of Governments, and the City of Hanford to develop an alternative design for the 13th Avenue and State Route 198 interchange to enhance traffic safety and accommodate future growth demands.**

C Policy A1.1.7: **Support the enhancement of transportation connectivity to community colleges, universities, vocational schools, and other adult education services.**

C Policy A1.1.8: **Kings County shall coordinate with the cities of Hanford, Lemoore, and Corcoran, as well as Kings County Association of Governments (KCAG) and Caltrans, to secure funding for the widening projects called for in the Regional Transportation Plan. Specifically, Kings County should request KCAG set aside State Transportation Improvement Program funding for construction of the necessary roadway widening projects.**

C Policy A1.1.9: **Kings County shall implement a regional traffic mitigation fee program to mitigate impacts to the County's regional road network. Additionally, the County shall coordinate with incorporated cities to implement local traffic improvement fee programs to offset the capital improvement costs required to accommodate new development.**

C OBJECTIVE A1.2

Improve the quality of life of residents through Transportation projects that enhance environmental benefits related to air quality, energy use, noise, and land use.

C Policy A1.2.1: **Coordinate land use planning with planned transportation facilities to make efficient use of the transportation system and reduce total vehicle miles traveled, vehicle emissions, and energy use through improved accessibility to schools, job centers, and commercial services.**

C Policy A1.2.2: **Establish a roadway plan to preserve and accept right-of-way dedications along the 13th Avenue and State Route 198 interchange.**

C Policy A1.2.3: **The County will endeavor to establish a transportation related development impact fee shall be established in coordination with the City of Hanford to create a funding mechanism for construction of the alternative 13th Avenue/State Route 198 interchange design.**

C Policy A1.2.4: **Evaluate the Grangeville Boulevard and State Route 41 interchange to determine future roadway plan needs and allow for earliest preservation of right-of-way.**

C Policy A1.2.5: **Purchase, where feasible, hybrid gasoline/electric or electric cars and trucks for the County fleet.**

C OBJECTIVE A1.3
Maintain an adequate Level of Service operation for County roadways and ensure proper maintenance occurs along critical routes for emergency response vehicles.

C Policy A1.3.1: **Maintain and manage County roadway systems to maintain a minimum Level of Service Standard "D" or better on all major roadways and arterial intersections.**

C Policy A1.3.2: **Require proposed developments that have the potential to generate 100 peak hour trips or more to conduct a traffic impact study that follows the most recent methodology outlined in Caltrans Guide to the Preparation of Traffic Impact Studies.**

C Policy A1.3.3: **Implement traffic operational improvements such as road widening, signals, and lanes to maximize service and efficiency.**

C Policy A1.3.4: **Prioritize roadway improvement projects for funding where deficiencies are identified along critical emergency service routes.**

C Policy A1.3.5: **Require new development to pay its fair share of costs for street and traffic improvements based on traffic generated and its impact to traffic levels of service.**

C Policy A1.3.6: **Require dedication of right of way to county standards for all new development projects.**

C Policy A1.3.7: **Require new development to respect existing precise plan lines or ultimate right of way lines dedication of right of way as a condition of development approval.**

B. Community Districts

C GOAL B1 **Develop Community street design, centralized transportation options, and pedestrian walkability in each community plan and foster increased efficient mobility of residents to and from job centers, educational facilities, and services that meet their daily needs.**

C OBJECTIVE B1.1

Establish community oriented street design and grid layout system that enhances the circulation of existing Community District residential and commercial areas, and areas of future growth.

C Policy B1.1.1: **Adopt Community Downtown Street and Parking Design Standards into the Zoning Ordinance that incorporates Street Type features as described in the Community Plans.**

C OBJECTIVE B1.2

Enhance pedestrian/bicycle access and safety through traffic calming street design measures and bicycle rack integration into new commercial structures.

C Policy B1.2.1: **Adopt traffic calming street design standards into the County's "Improvement Standards" to make available "Pedestrian Friendly" street design alternatives along Community District streets.**

C Policy B1.2.2: **Seek "Safe Routes to School" funding to implement traffic calming features at key intersections that Elementary School children use during the school year to reduce traffic speeds and increase safety.**

C Policy B1.2.3: **Integrate pedestrian infrastructure that includes sidewalks, tree lined streets, and traffic calming crossings to balance both car and people use of neighborhood streets in new mixed use development.**

C OBJECTIVE B1.3

Ensure sufficient traffic levels of service are maintained as growth and development occurs within the County's Community Districts which serve to accommodate future urban growth within the unincorporated areas of the County.

C Policy B1.3.1: **New development shall make circulation system improvements or pay its fair share to ensure maintenance of acceptable levels of service.**

C Policy B1.3.2: **New development within Community Districts is required to provide right-of-way improvements consistent with the relative Community Plan.**

C. Regional Transportation System

C GOAL C1 **Integrate through the County's regional transportation system, an efficient and coordinated goods and people moving network of Highways, Railroads, Public Transit, and Non-Motorized options that reduce overall fuel consumption and associated air emissions.**

C OBJECTIVE C1.1
Maintain, upgrade and complete a regional system of Highways and Streets throughout the County that is convenient, safe, cost effective and efficient, and continues to meet the needs of highway users.

C Policy C1.1.1: **Participate in Kings County Association of Governments Technical Advisory Committee meetings to assist in identifying highway segments needing repair, improvements or reconstruction upgrades.**

C Policy C1.1.2: **Work with Caltrans to obtain right-of-way dedications at designated interchanges needing improvements on the State Route system.**

C Policy C1.1.3: **Work closely with Caltrans, KCAG, and the City of Hanford to develop coordinated plan lines for the State Route 198 and State Route 43 interchange, and surrounding impacted roadways, which will serve to preserve future right of way.**

C Policy C1.1.4: **Improve County maintained streets of regional significance to promote safe operation of vehicular traffic, especially during times of heavy winter fog, frost, and wet weather.**

C Policy C1.1.5: **Maintain regional County roadway surfaces and drainage along critical interconnecting routes between Cities, Communities, and outlying Cities in neighboring Counties.**

C OBJECTIVE C1.2
Ensure the continued operational effectiveness of rail lines throughout the County, and ensure the preservation of rail right-of-way for future transportation alternative use.

C Policy C1.2.1: **Support continued operations of Amtrak, the San Joaquin Valley Railroad and Burlington Northern Santa Fe Railroad.**

C Policy C1.2.2: **Preserve the east/west railroad corridor of the San Joaquin Valley Railroad for possible future use in alternative transportation options.**

C Policy C1.2.3: **Support Cross Valley Rail Corridor planning efforts to consider long term provision of freight and passenger rail service.**

C Policy C1.2.4: **Coordinate with the California High Speed Rail Authority and Caltrans if a high speed rail corridor is to be established within the County, and plan for the establishment of transportation linkages to the nearest High Speed Rail Station.**

C OBJECTIVE C1.3

Promote Public Transit and vanpooling within the County urbanized areas to increase ridership and decrease traffic demand on County roadways.

C Policy C1.3.1: **Coordinate with Caltrans, Kings Area Rural Transit, and Corcoran Area Transit to plan for convenient publicly accessible public transit stops and park and ride sites.**

C Policy C1.3.2: **Centralize new development near public transit stops within Community Districts as identified in each respective Community Plan.**

C Policy C1.3.3: **Encourage and support the enhancement and marketing of transit and vanpool services as a viable transportation alternative and transportation control measure to improve air quality.**

C Policy C1.3.4: **Coordinate transit route and stops with other transportation modes as defined in each Community Plan.**

C OBJECTIVE C1.4

Integrate Non-Motorized transportation system alternatives into the layout of Community District plans to promote bicycling and walking as alternatives to the automobile, and interconnect those routes where practical into larger regional efforts with Cities.

C Policy C1.4.1: **Identify and plan for pedestrian and bicycle pathways in strategic locations within Community Districts to connect residents to commercial businesses, community gathering places, and educational facilities.**

C Policy C1.4.2: **Coordinate Community District bicycle and trail system planning with adjacent City non-motorized trail systems that will enhance the interconnectedness of residents to retail services and educational facilities.**

C Policy C1.4.3: **Integrate the Community Plan established bikeway routes into the Kings County Association of Government's Regional Bicycle Plan.**

D. Aviation

C GOAL D1 **Continue to meet the needs of the County and of our Nation's defense, with coordinated land use, environmental and safety hazard considerations taken into account to ensure long term operational effectiveness of Airports and military aircraft installations.**

C OBJECTIVE D1.1
Ensure compatible land uses surround existing airports and the naval airbase military installation.

C Policy D1.1.1: **Require new development and land improvements to remain consistent with Airport Land Use Compatibility Plans.**

C Policy D1.1.2: **Participate in the development of a Joint Land Use Study with the Naval Air Station Lemoore.**

C Policy D1.1.3: **Protect the continued uninterrupted operation of the Naval Air Station Lemoore through land use regulations and aviation easements.**

C Policy D1.1.4: **Develop noise abatement procedures around local airports, the naval air base, and military flight paths to reduce chances of land use conflict.**

C Policy D1.1.5: **Allow the continuance of agricultural airstrips to service commercial agricultural operations throughout the County.**