

DESTINATION 2030 REGIONAL TRANSPORTATION PLAN

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DESTINATION 2030
REGIONAL TRANSPORTATION PLAN

TABLE OF CONTENTS

Executive Summary

Chapter 1 – Introduction

Chapter 2 – Transportation Planning Policies

Chapter 3 – Planning Assumptions

Chapter 4 – Strategic Transportation Investments

Chapter 5 – Financing Transportation

Chapter 6 – Environmental Justice

Chapter 7 – Future Links

Chapter 8 – Monitoring Progress

Chapter 9 – References

Appendices

1. Valleywide Regional Transportation Plan
2. Public Participation Process
3. Compliance Checklist

LIST OF FIGURES

Figure 1-1	Kern County
Figure 3-1	Kern County Population and Housing
Figure 4-1	Metropolitan Bakersfield Near Term Projects 2004-2008
Figure 4-2	Near Term Projects in Outlying Areas 2004-2008
Figure 4-3	Metropolitan Bakersfield Long Term Projects
Figure 4-4	Long Term Projects in Outlying Areas 2009-2030
Figure 4-5	Financially Unconstrained Projects
Figure 4-6	Metropolitan Bakersfield Fixed Route Transit (2000)
Figure 4-7	Fixed Route Rural Transit (2000)
Figure 4-8	High Speed Rail Alternatives (2002)
Figure 4-9	Airports
Figure 4-10	Freight Rail Corridors
Figure 4-11	Hazardous Material Routes
Figure 4-12	Approved Explosive Materials Routes
Figure 4-13	Metropolitan Bakersfield Bicycle Routes (2000)
Figure 4-14	Incorporated Communities Bicycle Routes (2000)
Figure 4-15	Bicycle Accessible Highways
Figure 5-1	Transportation Revenues 2004-2030
Figure 5-2	Transportation Investments by Mode 2004-2030
Figure 5-3	Financial Resources for Non-Transit TCMs
Figure 5-4	Financial Resources for Public Airport Projects
Figure 5-5	Financial Resources for Bus Projects
Figure 5-6	Financial Resources for Road Rehabilitation & Safety Projects
Figure 5-7	Financial Resources for Non-Motorized Projects
Figure 5-8	Financial Resources for Highway, Interchange and Rail Crossings
Figure 5-9	Investment Shortfalls
Figure 6-1	Environmental Justice Analysis
Figure A2-1	Kern County Air Quality Planning Areas

LIST OF TABLES

Table 4-1	Constrained Program of Projects
Table 4-2	Unconstrained Program of Projects
Table 4-3	Public Transit Operators within Kern County
Table 4-4	Passengers Transported by Kern County Transit Operators
Table 4-5	Examples of ITS Benefits

EXECUTIVE SUMMARY

Destination 2030, Kern County's Regional Transportation Plan (RTP), is a planning guide over the next 26 years. It provides transportation and air quality goals, policies and actions for now and into the future, and includes programs and projects for congestion management, transit, airports, bicycles and pedestrians, roadways, and freight. And it provides a discussion of all mechanisms used to finance transportation and air quality program implementation.

The Destination 2030 RTP is a multi-modal plan representing Kern COG's vision for a better transportation system to the planning horizon of 2030. The Destination 2030 RTP provides the basic policy and program framework for long-term investment in Kern's vast regional transportation system in a coordinated, cooperative and continuous manner. Transportation investments in the Kern region that receive state and federal transportation funds must be consistent with the RTP and must be included in the Regional Transportation Improvement Program (RTIP) when ready for funding.

Destination 2030 RTP is a regional long-range and comprehensive plan that coordinates local transportation plans for all communities within the Kern region. Each community has a different transportation emphasis in their local planning documents, which Destination 2030 RTP brings together under one plan.

With adoption of the Destination 2030 RTP, proposed multimodal facilities can be constructed and transportation services can be implemented at a level consistent with projected funding. Projects funded in this RTP are based on the assumption that the successor of TEA-21 (federal Transportation Equity Act for the 21st Century) will continue through the 26-year planning period.

Chapter 2 – Transportation Planning Policies provides a Table in which the seven goals of the Destination 2030 RTP are linked to the policies for each transportation mode. The seven goals are:

1. **Accessibility:** the ease of reaching destinations as measured by the percent of commuters who can get to work within a given period of time;
2. **Mobility:** the ability to move throughout the region and the time it takes to reach desired destinations within a reasonable amount of time;
3. **Environment:** enhancing the existing transportation system while improving the environment;
4. **Cost-effectiveness:** maximizing the return on transportation investments;
5. **Reliability:** percentage of on-time arrivals by both transit and automobiles;
6. **Safety:** minimizing risk of accidents/injuries as measured by accident rates;

7. **Equity:** equitable distribution of transportation investment benefits;
8. **Consumer satisfaction:** conditions under which users agree that their transportation needs are being met in a safe, reliable, efficient and cost-effective manner.

Chapter 3 – Planning Assumptions describes Kern County’s geographic setting and its demographic profile.

The Destination 2030 RTP is required to include an Action Element, to which Chapter 4 responds. **Chapter 4 – Strategic Transportation Investments** describes by transportation mode: (1) the existing system; (2) accomplishments since 2000, when the previous Regional Transportation Plan was adopted; (3) needs and issues; (4) current activities; and (5) proposed actions. These actions are designed to implement the goals and policies described in Chapter 2.

A complete listing of planned improvements by mode is provided in Tables 4-1 and 4.2 at the back of Chapter 4 – Strategic Investments. The list of constrained projects in Table 4-1 and graphic displays of projects are consistent with those projects that have been found to not inhibit regional air quality efforts and progress in attaining federal air quality standards.

Chapter 4 also addresses land use issues and intelligent transportation investments.

The Destination 2030 RTP is required to include a Financial Element that identifies resources to implement the plan. **Chapter 5 – Financing Transportation** is responsive to this requirement by providing a cost analysis for implementing the projects included in Chapter 4 - Strategic Transportation Investments.

Chapter 6 – Environmental Justice is an important inclusion in the Destination 2030 RTP. The goal of Kern COG’s environmental justice process is to ensure that all people, regardless of race, color, national origin or income, are protected from disproportionate negative or adverse impacts caused by the Destination 2030 Program of Projects outlined in Tables 4-1 and 4-2. This chapter examines the methodology Kern COG uses to determine whether all neighborhoods have reasonable shares of the benefits from the Destination 2030 RTP.

It is important to identify and preserve transportation corridors needed to expand or enhance transportation for Kern County’s future. **Chapter 7 – Future Links** discusses the difficulties that Kern region’s local governments could face in ensuring optimal locations for such activities as the proposed high speed rail as well as high-priority interregional routes such as the proposed south, west, and east beltways, the Union Pacific/Burlington Northern rail corridor between Bakersfield and Tehachapi, as well as other key projects. Air quality contingencies are also discussed.

As the designated Metropolitan Planning Organization (MPO) for the Kern region, Kern COG monitors transportation plans, projects and programs for consistency with regional plans. Kern COG also monitors the performances of the transportation system. **Chapter 8 – Monitoring Progress** describes the importance of performance monitoring in informing future RTPs. Regional transportation problems cannot be solved until they are identified and measured. Chapter 8 outlines several significant tools used by Kern COG to monitor regional progress in advancing the Destination 2030 RTP.

Chapter 9 – References provides definitions of transportation terms used within this document as well as a list of acronyms found herein.

Appendices within this document include: (1) the Valleywide Regional Transportation Plan adopted by Councils of Government for the eight San Joaquin Valley counties; (2) the RTP Public Participation Process; and (3) Checklist of required elements.

The Destination 2030 RTP can be downloaded from www.kerncog.org.

Conclusion

Destination 2030 RTP provides a comprehensive and multimodal regional transportation plan that is responsive to public input, as well as local and regional government input. The Plan meets the state and federal requirements and reflects a vision for the Kern region that balances land use with transportation investments in a way that is complementary to existing investments. In addition, the RTP addresses the goals and policies established by Kern COG that are assessed based on a number of key performance measures.

In light of significant funding issues within the region over the duration of the Destination Plan, some innovative funding concepts are discussed that would enable the region to invest in additional programs and projects that would meet transportation needs over the next 26 years.

CHAPTER 1 INTRODUCTION

Destination 2030 is a 26-year regional transportation plan that establishes a set of regional transportation goals, objectives, policies and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive and cooperative planning process, and provides for effective coordination between local, regional, state and federal agencies. The Congestion Management Program (CMP) is designed to ensure that a balanced transportation system is developed, relating population and traffic growth, land use decisions, performance standards and air quality improvements.

Kern Council of Governments (Kern COG) is a federally-designated Metropolitan Planning Organization (MPO) and a State-designated Regional Transportation Planning Agency (RTPA). These designations formally establish Kern COG's role in transportation planning. Kern COG's Board of Directors comprises elected representatives from the eleven incorporated cities and two members of the County Board of Supervisors. A Memorandum of Understanding between Kern COG and Caltrans District 6 also provides for a Transportation Planning Policy Committee, which is the existing Board plus ex officio members from Caltrans, Kern's military bases, and Golden Empire Transit. The Transportation Technical Advisory Committee (TTAC), composed of technical staff from member agencies, other interested agencies, public members, Caltrans, and the San Joaquin Valley and Kern County Air Districts, provides support to the Board of Directors.

Regional Planning Process

Regional transportation planning is a dynamic process requiring periodic refinement, monitoring and amendment. The planning program for the next three-year period will continue with extensive evaluation of the RTP and the elements required by the successor of TEA-21 (Transportation Equity Act for the 21st Century). Each component will be studied and modified consistent with RTP priorities as Kern County moves toward an integrated multimodal transportation system.

Public participation is encouraged at every stage of the planning process, and all meetings are open to the public. A thorough discussion of Kern COG's public participation activities is provided in Chapter 6 – Environmental Justice. Public participation activities for the Destination 2030 Regional Transportation Plan are documented in Appendix

The adopted RTP establishes a basis on which funding applications are evaluated. Use of any state or federal transportation funds by local governments

must conform with the RTP, the State Implementation Plan (SIP) for air quality improvements, and the Federal Transportation Improvement Program (FTIP).

Kern COG has prepared an RTP that incorporates the Congestion Management Program (CMP) by reference. The Program Environmental Impact Report (PEIR), prepared as part of the 1994 Regional Transportation Plan, was updated and recertified in 2000 pursuant to the requirements set forth in state and federal RTP guidelines, State CMP legislation, and the California Environmental Quality Act (CEQA). It is incorporated herein by reference. Also incorporated by reference are the Metropolitan Bakersfield General Plan Update Environmental Impact Report adopted December 2002 and the Kern County General Plan Environmental Impact Report adopted June 2004.

As a regional transportation planning agency, Kern COG is mandated by California Government Code Section 65080 to prepare and periodically update the RTP. This Code section also specifies that actions by transportation agencies, such as Caltrans, the County of Kern, incorporated cities and Golden Empire Transit District, must be consistent with the RTP. Land use decisions should consider and accommodate transportation facilities and programs specified in the RTP whenever possible. The facilities listed in the RTP should be incorporated into city and county General Plans. Local transportation projects must be consistent with the RTP in order to obtain state or federal funding.

Based on the Destination 2030 RTP, multimodal facilities will be constructed, and transportation services implemented, on a level consistent with projected funding. Funding projections are based on the assumption that current levels and sources of funding will continue throughout the planning timeframe.

Using projected funding levels, each jurisdiction within Kern County, as well as Caltrans, the Air Districts, and other agencies will implement transportation projects or transportation demand management (TDM) strategies consistent with the goals and policies set forth in the Destination 2030 RTP. The RTP supports maintaining the existing multimodal transportation system, improving the safety of the system, and increasing the system's capacity.

The Constrained Program of Projects a complete list of planned improvements by mode, is provided in Table 4-1. Table 4-2 provides the Unconstrained Program of Projects; these projects are important to the development of Kern County's transportation system but funding is not identified or available, and they are not included in the Air Quality Conformity model. The Constrained Program of Projects is consistent with those projects that have been evaluated according to Air Quality Conformity guidelines and have been found to improve air quality in Kern County.

Overview of Federal Requirements

Under TEA-21 and its successor, the U.S. Department of Transportation (USDOT) requires that Metropolitan Planning Organizations (MPOs) prepare long-range transportation plans. In federally designated non-attainment and maintenance areas for air quality, these plans must be updated every three years. Because Kern County is within a nonattainment region for ozone and particulate matter, Kern Council of Governments is now updating the previous RTP adopted in September 2000.

Federal requirements for long-range metropolitan transportation plans include the following provisions:

1. Plans must be developed through an open and inclusive process that ensures public input and seeks out and considers the needs of those traditionally under-served by existing transportation systems.
2. Plans must be for a period not less than 20 years.
3. Plans must reflect the most recent assumptions for population, travel, land use, congestion, vehicle fleet mix, speeds, employment and economic activity.
4. Plans must be financially constrained and revenue assumptions must be reasonable in that they can be expected to be available during the plan's time frame.
5. Plans must conform to the applicable State Implementation Plans (SIPs) for air quality.
6. Plans must consider seven planning factors and strategies, in the local context, as follows:
 - ✓ Support the economic vitality of the United States, the individual states and metropolitan areas, especially by enabling global competitiveness, productivity and efficiency;
 - ✓ Increase the safety and security of the transportation system for motorized and non-motorized users;
 - ✓ Increase the accessibility and mobility options available to people and for freight;
 - ✓ Protect and enhance the environment, promote energy conservation and improve quality of life;
 - ✓ Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight;
 - ✓ Promote efficient system management and operation; and
 - ✓ Emphasize the preservation of the existing transportation system.

Overview of State Requirements

California, whose requirements largely mirror federal requirements, has adopted extensive RTP guidelines. Transportation plans must comply with the California Environmental Quality Act (CEQA) and the Final Destination 2030 RTP meets those requirements. In addition, the first four years of plans must be consistent

with the four-year State Transportation Improvement Program (STIP), which includes the Kern COG Regional Transportation Improvement Program (RTIP)¹. State guidelines call for program-level performance measures that include objective criteria to reflect the RTP's goals and policies. State guidelines also require regional plans to contain three specific chapters: a policy element (Chapter 3 – Transportation Planning Policies), an action element (Chapter 4 – Strategic Investments), and a financial element (Chapter 5 – Financing Transportation).

Public Outreach

As the MPO, Kern COG is required to implement a public involvement process to provide complete information, timely public notice and full public access to key decisions and to support early and continuing public involvement in developing its regional plans.

Kern COG formally adopted a new Public Participation Program in May 2001. Title VI of the Civil Rights Act of 1964 and associated regulations and policies, including President Clinton's 1994 Executive Order 12898 on Environmental Justice, seek to assure that minority, senior and low-income populations are involved in the planning process.

To fulfill these expectations, Kern COG has used a combination of methods to stimulate public involvement. For the Destination 2030 RTP development, the following public outreach methods have been used:

- ✓ RTP presentations to community-based organizations;
- ✓ RTP-specific public workshops throughout the Kern region;
- ✓ Posting of all public outreach events on the Kern COG website;
- ✓ Direct outreach to minority, senior and low-income populations;
- ✓ Written and visual materials to communicate the status and content of the RTP, including fact sheets and presentations. A public comment form was used throughout the outreach program at public meetings as well as online;
- ✓ Kern COG's website, featuring a section dedicated to the Destination 2030 RTP, including public meeting notices and the latest written information on the RTP;
- ✓ Outreach to media, including frequent press releases and interviews;
- ✓ A dedicated phone line **(661/326-RIDE)** and a dedicated Internet e-mail address **(rtp@kerncog.org)**.

In addition to these targeted outreach efforts, all regular and special meetings of the Transportation Technical Advisory Committee, Social Services Technical

¹ The RTIP is the formal presentation of projects to the State that local agencies wish to implement within the next four years. Once projects are approved and presented in the STIP, the projects are then incorporated into the Federal Transportation Improvement Program (FTIP).

Advisory Committee, as well as the Kern Transportation Planning and Policy Committee and Board of Directors are publicly noticed and opportunities for public comment are provided. Specific public comments on the RTP are being recorded and considered by Kern COG in the RTP's development.

Transportation Planning in the Kern Region

Kern COG is responsible for developing, coordinating, monitoring and updating the RTP for Kern County. Kern COG develops the RTP in coordination with the eleven cities of Kern County and the County of Kern, transit operators, and other transportation stakeholders. This section summarizes the planning environment and discusses how Kern COG integrates the planning activities of each of the cities and County of Kern to ensure a balanced, multi-modal plan that meets regional as well as county-specific goals.

The Kern region comprises two air basins and two air quality non-attainment or maintenance areas. Federal law requires that transportation and air quality planning are coordinated in these non-attainment and maintenance areas. In addition, the Kern region includes portions of Caltrans District 6 and District 9.

CHAPTER 2 – TRANSPORTATION PLANNING POLICIES

Introduction

Destination 2030 is Kern County's Regional Transportation Plan – the blueprint to address the mobility challenges created by our region's growth. This long-range plan contains an integrated set of public policies, strategies and investments to maintain, manage, and improve the transportation system in the Kern Region through 2030.

The purpose of the Policy Element is to address legislative, planning, financial, and institutional issues and requirements, as well as any areas of regional consensus (e.g., land use policies). The Policy Element provides guidance to decision-makers regarding the implications, impacts, opportunities and foreclosed options that will result from implementation of the Regional Transportation Plan. In addition, the Policy Element is a resource that provides input and promotes consistency of actions taken by state, regional and local agencies, such as transit agencies, congestion management agencies, and the California Highway Patrol.

This chapter lists the policies of the RTP by goal and transportation mode in Table 2.1. This table is followed by a Performance Monitoring section containing a system-wide set of measures to monitor the progress toward the goals. A description of the issues, needs, and actions is included in Chapter 4 – Strategic Investments for each transportation mode.

Goals, policies and actions are defined as follows:

A “**goal**” is the end toward which effort is directed; it is general in application and timeless.

A “**policy**” is a direction statement that guides present and future decisions on specific actions. Policies support the attainment of goals. In this document policies have been merged with objectives to streamline the policy element.

An “**action**” is a specific activity in support of the policy. Actions are detailed in Chapter 4 – Strategic Investments (Action Element).

In accordance with Government Code 65080(b)(1), all policy/objectives are relevant for both the near- (6-year) and long-term (20-year). Short- and long-range actions implementing these policies are identified in Chapter 4.

Goals/Policies

At the core of Destination 2030 are seven Goals:

1. **Mobility** – Improve the mobility of people and freight
2. **Accessibility** – Improve accessibility to major employment and other regional activity centers
3. **Reliability** – Improve the reliability and safety of the transportation system
4. **Efficiency** – Maximize the efficiency of the existing and future transportation system
5. **Livability** – Promote livable communities
6. **Sustainability** – Minimize effects on the environment
7. **Equity** – Ensure an equitable distribution of the benefits among various demographic and user groups.

While all goals are considered interrelated and important, Mobility is considered the Plan's highest goal. Identified in Table 2.1 are policy objectives categorized by the goals they help to advance.

Table 2.1 Destination 2030 Goals and Policies

Goal(s)	Policy	Mode(s)
Mobility, Accessibility	Encourage additional air carrier service at Meadows Field and Inyokern Airport	Aviation
Mobility, Accessibility	Assist Kern County Airports in expanding facilities to meet growing general aviation demands	Aviation
Mobility, Accessibility	Continue to work with privately owned airports and local jurisdictions to support their operations and to maintain compatible uses with in the airport area of influence	Aviation
Mobility, Accessibility	Identify opportunities for truck-to-rail and truck-to-intermodal mode shifts, and evaluate the contributions of different types of truck traffic on regional air quality	Freight, Highways
Mobility, Accessibility, Sustainability	Continue to seek funding to help maintain existing bikeways.	Bike, TCM
Mobility, Accessibility, Sustainability	Continue to seek funding for bicycle projects from local, state and federal sources.	Bike, TCM
Mobility, Sustainability	Upgrade the present highway maintenance system whenever feasible.	Highways
Mobility, Sustainability	Investigate federal, state and local funding opportunities to maintain the current transportation system and promote future transportation development.	Highways

Goal(s)	Policy	Mode(s)
Mobility, Accessibility	Encourage COG member jurisdictions to implement their adopted local bicycle plans and to incorporate bicycle facilities into local transportation projects.	Bike, TCM
Mobility, Accessibility	Periodically update the bicycle plan.	Bike, TCM
Mobility, Accessibility	Provide technical and planning assistance to local jurisdictions for industrial and wholesale land use and transportation planning	Freight, Highways
Mobility, Accessibility	Encourage the use of rail and air for the transportation of goods to reduce impacts to state and inter-county routes, and reduce air quality impacts	Freight, Highways
Mobility, Accessibility	Encourage coordination and consultation between the public and private sectors to explore innovative strategies for the efficient movement of goods	Freight, Highways
Mobility, Accessibility	Identify alternatives that would improve the overall quality of transit service in Kern County	Transit, TCM
Mobility, Accessibility	Identify alternatives to traditional transit addressing Kern County's regional rural mobility needs	Transit, TCM
Mobility, Accessibility	Develop coordination alternatives that realize an improvement over the way transit is currently operated	Transit, TCM
Mobility, Accessibility	Review, identify, and discuss alternative administrative and oversight models for transit services in Kern County	Transit, TCM
Mobility, Accessibility	Create a strategy for increasing the visibility and importance of transit in Kern County	Transit, TCM
Mobility, Accessibility	Create partnerships between transit and non-transit organizations in addressing Kern County's transit needs	Transit, TCM
Mobility, Accessibility	Enhance the current lifeline intercity services available throughout the Eastern Sierra	Transit, TCM
Mobility, Accessibility	Improve intercity connections and providing new services to expand the transportation alternatives in the Eastern Sierra	Transit, TCM
Mobility, Accessibility	Determine the feasibility of passenger rail service in the Eastern Sierra	Transit, TCM
Mobility, Accessibility, Efficiency	Support the intermodal linkage of all freight transportation	Freight, Highways

Goal(s)	Policy	Mode(s)
Mobility, Accessibility, Efficiency, Livability	Coordinate planning efforts to ensure efficient, economical and environmentally sound movement of goods	Freight, Highways
Mobility, Accessibility, Equity	Support the creation of an effective Valleywide truck model to track regional commodity flows and to identify critical economic trends that will drive truck flows on regionally significant truck routes	Freight
Mobility, Accessibility, Livability	Study parking for long distance trips including a review of available rest areas, layover lots, and truck stops to determine needs for more parking	Freight, Highways, TCM
Mobility, Accessibility, Reliability	Support a higher safety level requirement for hazardous material transportation programs	Freight, Highways
Mobility, Accessibility, Sustainability	Maintaining Existing Roadway Infrastructure and use it efficiently.	Highways
Mobility, Accessibility, Sustainability	Work with Caltrans, COG member agencies and other interested parties to prepare environmental studies and design engineering work	Highways
Mobility, Accessibility, Sustainability	Provide input to neighboring regions conducting Studies for corridors that have significance to the Kern region.	Highways
Mobility, Accessibility, Sustainability, Livability	Oppose higher axle load limits for the trucking industry on general purpose roadways	Freight, Highways,
Mobility, Efficiency	Build upon the momentum and stakeholder coalition generated through the San Joaquin Valley Goods Movement Study to pursue ITS commercial vehicle projects.	ITS
Mobility, Efficiency	Investigate how ITS can support other efforts to improve east-west travel between the inland areas an the coastal communities.	ITS
Mobility, Efficiency	Utilize momentum form the Valleywide ITS planning effort in conjunction with proposed federal rules (ITS architecture and standards conformity and statewide and metropolitan planning).	ITS

Goal(s)	Policy	Mode(s)
Mobility, Efficiency	Build upon the existing extensive Caltrans District 6 Traffic Management Systems to fill gaps and complete coverage on major facilities, including expansion of their highway closures and restrictions database to include other agencies.	ITS, TCM
Mobility, Efficiency	Capitalize upon the extensive ITS technology testing and standards development conducted by Caltrans by, where appropriate, utilizing Caltrans approaches for local traffic management systems.	ITS, TCM
Mobility, Efficiency	Build upon lessons learned from past and current transit ITS deployment experience in the San Joaquin Valley (Fresno Area Express, GET, San Joaquin Regional Transit).	ITS, TCM
Mobility, Efficiency	Build upon Caltrans District 6 experience with co-location and coordination between traffic management and Highway Patrol staff.	ITS, TCM
Mobility, Efficiency	Traveler information commercial vehicle operators at truck rest stop locations. As new laws require longer off-duty periods, demand for rest areas and for access to services will increase.	ITS, TCM
Mobility, Efficiency	Improve the visibility of the access to existing Caltrans Valleywide alternate route plans.	ITS, TCM
Mobility, Efficiency	Coordinate Bakersfield area TMC with Caltrans' District 6 TMC via satellite	ITS, TCM
Mobility, Efficiency	Look for ways to integrate the ITS capabilities being implemented at Golden Empire Transit (GET) with the developing Bakersfield traffic management system, including sharing of information between the two centers during emergencies.	ITS, TCM
Mobility, Efficiency	Facilitate the transfer of lessons learned from GET ITS deployment now beginning, to other area transit operators, and look for opportunities for those agencies to better coordinate with GET using GET's new ITS capabilities.	ITS, TCM
Mobility, Efficiency	Expand upon the accident reduction success of Route 46 Safety Coalition Program and the South Kern Corridor Safety Program.	ITS, TCM
Mobility, Reliability, Livability	Provide heavy truck access planning guidance including a review of the current Surface Transportation Assistance Act route system, review of geometric issues and signaling for all routes identified as major local access routes, and the development of standards	Freight, TCM

Goal(s)	Policy	Mode(s)
Accessibility, Efficiency, Livability, Sustainability	Encourage land uses decisions by local government member agencies that promote pedestrian, bike and transit oriented mixed use and infill development.	Land use, TCM
Accessibility, Efficiency, Livability, Sustainability	Promote land uses patterns that support current and future investments in bus transit and may one-day support commuter rail alternatives.	Land use, TCM
Accessibility, Efficiency, Livability, Sustainability	Promote increased communication with neighboring jurisdictions on interregional land use issues.	Land use, TCM
Livability	Encourage the coordination of land use decisions and transportation systems.	TCM
Livability	Support goals contained in city and county general plans that strive to enhance urban and community centers, promote the environmentally sensitive use of lands in Kern County, revitalize distressed areas, and ensure that new growth areas are planned in a well-balanced manner.	TCM
Livability	Achieve the national and state air quality standards for healthy air by the mandated deadlines.	TCM
Livability	TCM Coordination - Coordinate with the all responsible agencies necessary to implement all feasible measures to control harmful air emissions.	TCM
Livability	TCM Implementation - Promote implementation all feasible and cost effective transportation control measures to achieve air quality emissions by the mandated deadlines.	TCM
Livability	TCM Education - Provide necessary support and education to member agencies and other responsible entities on all feasible control measure.	TCM
Livability	Delay the need for future increases in highway capacity and congestion relief through the implementation of Transportation Control Measures.	TCM, Highways
Livability	Promote sustainable community design that supports transit use and increases nonmotorized transportation while still meeting the mobility needs of residents and employees.	Transit, Bike, TCM

Goal(s)	Policy	Mode(s)
Equity	Avoid, minimize or mitigate disproportionately high and adverse human health or environmental effects, including social and economic impacts, on traditionally disadvantaged communities, especially racial minority and low-income communities	Environ. Justice
Equity	Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process	Environ. Justice
Equity	Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations	Environ. Justice

Performance Monitoring

The purpose of performance monitoring is to: (1) provide current and ongoing information on how well the transportation system is performing; (2) identify opportunities for near-term improvements; and (3) assess the impacts of future improvements.

In the past, Kern COG and other transportation operators have conducted performance monitoring, though not always on a consistent or ongoing basis. Consistency and frequency of data collection are key to tracking how well the transportation system is performing. The following section outlines the status of current or near-term regional transportation system performance monitoring efforts.

The primary tool for Kern COG's Transportation Monitoring System is the Kern Regional Transportation Model. The model uses monitoring data and growth assumptions to track the performance measures for the Regional Transportation Plan and Environmental Justice. Chapter 6 – Environmental Justice contains a detail description of the performance measures.

Since the adoption of the 2001 RTP, Kern COG has examined the California RTP Guidelines for performance monitoring and considered the following issues: What types of data are best suited to assess the performance of the multimodal transportation system? How can Kern COG build upon its existing data collection efforts? What is the best way to collect these data, and how often? Who should be responsible for the data collection and monitoring and how should it be financed? How will this information be used?

Based on this analysis, the following needed improvements in performance monitoring were identified:

1. Performance monitoring needs to reflect the multimodal nature of Kern County's transportation system by focusing on all modes of transportation.
2. Freeway data collection and reporting activity needs to be expanded to include freeway onramps, conventional highways, principal arterials, and transit.
3. Data collection in support of performance monitoring needs to be:
 - a. Automated – this will reduce costs and provide more frequent data collection;
 - b. Uniform – If system performance is to be monitored over time, then data collection efforts must be consistent year to year;
 - c. Reported – Performance monitoring information needs to be regularly reported to decision-makers to assist in project selection and programming decisions, and to the general public to assist them in making travel route and mode choices.
4. The most useful indicators of how well Kern County's transportation system is performing should include:
 - a. Travel Time – The average time it takes to complete a trip;
 - b. Travel Speed – The average speed of a trip;
 - c. Usage – Changes in traffic, transit ridership, or bicycle facility use.

These basic data can be combined to generate other indicators; for example, speed and traffic volume are used to determine roadway level of service (LOS), an indicator of congestion.

5. Augmenting these automated data collection efforts should be periodic surveys to assess customer satisfaction and to identify other needed improvements from a user perspective.

These identified improvements provide the basis for the following recommended action:

- Develop/Implement a Regional Transportation Monitoring Improvement Plan to recommend and prioritize the following:
 - Improve/consolidate collection of traffic count information;
 - Improve truck counts along key corridors;
 - Develop a more regular traffic speed survey program;
 - Improve transit ridership information.

CHAPTER 3 PLANNING ASSUMPTIONS

Kern Council of Governments oversees transportation plans, programs, and transportation-related projects for its eleven cities: Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. In addition, Kern COG has oversight of similar plans, programs, and projects within the unincorporated areas of Kern County.

Growth Trends

The population in the 8,200 square mile County of Kern has surpassed 700,000 and was in the top ten fastest growing counties in California in 2002-03. About one in every 50 people in California live in Kern County. The Kern region grew by 117,000 persons or 21 percent during the 1990s and is California's 14th largest of 58 counties. See Figure 3-1, Kern County Population and Housing.

In the past decade, growth was concentrated in metropolitan Bakersfield and the communities of Rosamond, Greater Tehachapi, and Frazier Park. In addition, the communities of California City, Delano, McFarland, Taft, and Wasco experienced significant population growth because of prison construction. Growth in Delano surpassed Ridgecrest as the second largest community in Kern County.

In metropolitan Bakersfield, approximately 80 percent of the new housing has been built on the west side, with approximately 40 percent north of the river and another 40 percent in the southwest. The northeast has begun to see activity with completion of a new water delivery system. Over the past decade, Kern workers commuting to Los Angeles County (3 percent) have kept pace with the County's growth rate. Most of the Los Angeles commuters are in communities along the southern edge of the County. However, more commuters work in Kern and live in Los Angeles County than the reverse. Most of the imported workers commute to Edwards AFB, Kern's largest employer with over 20,000 workers.

California Department of Finance (DOF) estimated that population in the Kern region increased at a compounded annual rate of 2.2 percent between April 2000 and January 2003, slightly higher than the rate for California as a whole (1.8 percent). During this period, the region gained 15,000 people annually, up from 12,000 annually during the 1990s. Kern County has gained 7,200 jobs since 2000 and has experienced an increase in per capita income. However, the unemployment rate in the Kern region (11.8 percent) is nearly double the state average (6.7 percent).

Over the next 25-30 years, the future growth in the region could vary widely based on a host of factors, including spillover from the Southland, water availability, employment opportunities, housing costs, interest rates, high-speed rail, air quality regulations and land availability. The combined General Plans within the region designate sufficient land to absorb growth at current rates to beyond 2070, assuming water and urban services are available. Past growth in the region and in southern California would indicate that the question is not “if” but “when” Kern’s population will double. Kern COG has a policy to revise the regional growth forecast every 3 to 5 years to adjust for major changes in regional growth trends. The most recent adopted growth forecast from April 2002 expects population to increase conservatively by approximately ½ million by 2030, doubling by 2040. The DOF’s most recent interim forecast released in 2001 indicates that the population would double around 2033. This was revised from a previous forecast by DOF that anticipated doubling as early as 2028.

In the near term, children of existing residents will fuel this population growth; soon, Kern’s population will consist of more than 50 percent Hispanic ethnicity. At the same time, a huge Baby Boomer population group is retiring and has set the stage for conversion of existing second and vacation homes in the mountain areas to become primary residences for retirees. The increase of workers telecommuting via the Internet will also allow more remote locations to become primary residences. At some point, it is anticipated that significant spillover in development from the Southland will be felt first in the Rosamond and Frazier Park areas. Centennial -- a new proposed community on Tejon Ranch of 30,000 housing units in northern Los Angeles County -- may siphon some of the anticipated growth from southern Kern in the near term; however, this project will likely have growth inducing affects, as well. The most recent forecast assumes that the positive and negative factors for growth will ultimately cancel each other out, causing long-term growth to reflect current cyclical trends.

Much of Kern’s employment is dispersed. Consequently, the metropolitan Bakersfield area experiences a “reverse commute” where a segment of workers commute to the outlying areas such as farm fields and food processing facilities, warehousing, oil fields, prisons, powerplants and government installations. This reverse commute creates a centrifugal force on metropolitan Bakersfield’s housing development where purchasing housing on the urban fringe often reduces a commuter’s trip. For those working in the metropolitan area, growth in the suburban areas may also be fueled by the attractiveness of newer and perceived better schools. This centrifugal growth fuels the conversion of farmland to urban uses and affects both the region’s air quality and economic base. It also creates hot spots of traffic congestion in outlying areas.

Demographics

The Kern region will soon have no racial or ethnic majority. In 2000, Whites made up 50 percent, down from 63 percent in 1990. During the same decade,

Hispanics grew from 28 to 38 percent. The rise and shift in population makeup in the Kern region is primarily because of births along with an influx of new immigrants. The next largest non-Hispanic population groups – Black (6 percent), Asian (4 percent), and American Indian (2 percent) – each increased by 1 percent over the past decade as reported by the DOF. This population growth mirrors the rest of the state, which is one of the most diverse in the nation. Population growth resulted from large net increases in three population groups: aging Baby Boomers, their young children – the echo-boomers – and immigrants, mostly from Mexico and Central America. Natural increase (births minus deaths) accounted for most of the population gain between 1990 and 2002. Natural increase accounted for 61 percent of the population gain and net migration --those moving in minus those moving out of the region – accounted for 39 percent. Nearly two-thirds of the net migration was the result of immigration from outside the United States

Housing, Households and Group Quarters

At the same time, nearly 44 thousand housing units were added between 1990 and 2003. This brought the housing stock in the Region up to 242 thousand units. During this time the vacancy rate increased from 8.6 to 9.9 percent. Population growth exceeded household growth and the average persons per unit rose from 2.92 in 1990 to 3.07 persons in 2003. This was in sharp contrast to a decade-to-decade drop in household size experienced by the nation overall. In addition, housing construction gains outpaced the net job increase in the Region. The Kern Region added 34,200 jobs from 1990 to 2002. The job to household ratio dropped from 1.3 jobs per household in 1990 to 1.2 jobs per household by 2002.

Contrary to the decreasing trend at the national level, the percentage of housing considered crowded increased in the Region over the past decade. Almost 8-percent of the households in the Region lived in crowded housing in 2000, compared to only 4.6 percent in 1990. Nationally, overcrowding was at 6 percent in 2000. Kern still maintains the most affordable housing stock for any Metropolitan Statistical Area in California, however high unemployment and relatively low paying jobs appear to be fueling an increase in over crowded conditions.

Eleven percent of Kern's population growth was in group quarters between 1990 and 2003. The growth was fueled by the opening and/or expansion of 8 federal, state and privately operated prisons in the outlying communities of Delano, California City, McFarland, Shafter, Taft, Tehachapi and Wasco. Group-quarters grew from 3 percent to nearly 5 percent of Kern's total population. Even with this population increase in the outlying communities, Metropolitan Bakersfield planning area grew from 60 to 62 percent of the total County population during the same period. Also included in group-quarters growth is an increase nursing home and dormitory population.

Mobility and Air Quality

Since 1990, the region's congestion as measured by vehicle miles traveled (VMT) has increased at a faster rate (25 percent) than the population (21 percent) and maintained road miles (3 percent). Some positive signs were noted, however. During the 1990s, the average annual growth in vehicle miles traveled (VMT) slowed from the 1980s 750,000 VMT per year to 500,000 VMT per year. Transit commuters increased by 40 percent according to the 2000 Census, nearly double the population growth rate. Transit commuters now account for a modest 1.4 percent of all workers. The overall pattern of mode choice to work revealed a decrease in people driving alone by 1 percent and a similar increase in people carpooling.

During the 1990s, the region achieved consistent improvements in the number of days exceeding federal or state standards for ozone gas and particulate matter 10 microns or smaller (PM-10) generally defined as "fine dust". The San Joaquin Valley Air Basin exceeded the federal one hour standard for ozone for 46 days in 1990, dropping to 31 days in 2002. The Air Basin exceeded the federal PM-10 standard for 60 days in 1990, dropping to 8 days in 2002. A region cannot have more than 3 exceedances per year for 3 consecutive years to comply with the standard. New 8 hour ozone and a PM-2.5 standards will be released by the federal government that will be more difficult for the Valley to achieve in light of the current growth forecast. These new standards will be a problem for the mountain and desert areas of the region as well. On-road mobile sources create approximately 30 percent of the ozone-precursor emissions and 40 percent of the PM-10 emissions in Kern County. Ultimately, cleaner burning fuels and zero emission vehicles will likely solve the ozone emission problems from mobile sources, but not for several decades. PM-10 and PM-2.5 are more problematic, however. As VMT increase so does on-road dust, especially after a rainstorm has washed dirt onto the roadway that subsequently dries. Kern's long-range air quality challenge will be to sustain the forecasted population and employment growth while controlling fine dust particles in order to meet the evolving federal standards.

Land Use Nexus

The Metropolitan Bakersfield General Plan Land Use Element contains a program that encourages infill development and designates key transportation corridors that allow for land use intensification thereby allowing development that is transit compatible. The livable community component identifies specific incentives for encouraging infill development and a better, more flexible mix of land uses that would reduce the overall number of vehicle trips as well as the average length of trips. The component will also distinguish geographic limits (i.e., service area boundaries) that GET will serve in the metropolitan area.

Sprawling low-density development, with widely separated land uses, creates extra vehicular trip-making and longer trip lengths for all trip categories. For the most part, residents in these low-density areas are unable to walk to shopping, recreation, or entertainment; they must use their automobiles for these trips. This places extra burdens on the transportation system because the total miles that vehicles travel grows out of the proportion to the metropolitan area's general growth. This extra travel also has a detrimental effect on the community's air quality and livability. Residents will have to spend more time in traffic and will have less personal time for more enjoyable activities.

For additional discussion, see Chapter 4 – Land Use Action Element.

CHAPTER 4

STRATEGIC TRANSPORTATION INVESTMENTS

Introduction

The Strategic Transportation Investments Plan sets forth plans of action for the region to pursue and meet identified transportation needs and issues. Planned investments must be consistent with the goals and policies of the Plan, and must be financially constrained. These projects are listed in the Constrained Program of Projects (Table 4-1) and are modeled in the Air Quality Conformity Analysis.

Forecasting methods in this RTP primarily use the “market based approach” or “tops down” based on demographic data and economic trends. For best results, this RTP also uses the “build out” method, providing the best estimates for growth in all areas. Within each element assumptions are made that guide the goals, policies and actions. The following assumptions are addressed: demographic projections, land use forecasts, air quality models, performance indicators, capital/operations costs, cost of alternatives, timeframe (short and long term), environmental resources and methodology.

The alternatives are not addressed in this document; they are, however addressed and analyzed for their feasibility in the Environmental Impact Report prepared for the 1994 Regional Transportation Plan and its successors, as required by California Environmental Quality Act (15126(d), 15125.6(a)). From this point, the alternatives have been pre-determined and projects delivering the most benefit were chosen.

The Destination 2030 RTP promotes a “balanced” transportation system. It calls for increased investments in alternative transportation modes, while accommodating a necessary amount of new highway capacity. Heavier emphasis on alternative modes, above and beyond those already incorporated in this RTP, may be desired or preferred but because of financial constraints, alternative mode additions not financially feasible in the timeframe of this Plan.

The Constrained Program of Projects includes projects that will move the region toward a financially constrained balanced system. Constrained projects have undergone air quality conformity analyses to ensure that they contribute to the Kern region’s compliance with state and federal air quality rules. The Unconstrained Program of Projects incorporate the region’s unbudgeted “vision” into strategic investments. These projects represent alternative projects that could move to the constrained list if support for an individual project remains strong and if project funding is identified. The programs for both Constrained and Unconstrained are found in Tables 4-1 and 4-2 at the end of this chapter.

Status as an unconstrained project does not imply that the project is not needed; rather, it simply cannot be accomplished given the fiscal constraints facing Kern County. Kern COG will be vigilant in search for funding to support these projects.

None of the unconstrained projects are included in the air quality conformity analysis. In the future, as the funding picture changes and community values and priorities for transportation projects become better defined, unconstrained projects may be moved to the constrained program. Should this occur, the Destination 2030 RTP would be amended and a new assessment of the RTP's conformity with state and federal air quality rules and standards would be made.

For this Destination 2030 RTP, the unconstrained program of projects reflects the vision for the region's ideal system. On-going dialogues continues with numerous individuals representing business, government, social services and agriculture to improve the understanding of how the transportation system impacts the Kern County's quality of life. The participation process sheds light on important values such as mobility choice and accessibility, travel time reliability, cost effectiveness, and environmental sensitivity.

The planning process is iterative. System-wide performance measures have been developed and will be used to help policy makers and the community at large evaluate trade offs between alternative packages of transportation improvements. Performance measures will also be used as a tool to help evaluate how the Destination 2030 RTP contributes to the Kern region's quality of life.

Each element in this chapter addresses proposed actions to implement the goals and policies of Chapter 2. These actions outline specifically how the goals of the RTP will be accomplished.

REGIONAL STREETS AND HIGHWAYS ACTION ELEMENT

A safe and efficient highways, streets and roads system is essential to the movement of people, vehicles and goods in and through Kern County. Public vehicles, private automobiles, and commercial shippers all share the same transportation system. Providing a system of state and federal highways and regionally significant arterials that can meet this variety of needs is critical to the Plan's goal of enhancing the quality of life for the residents of Kern County.

Existing Streets and Highways System

Streets and highways relevant to this element are the state and interstate highways in the County. These projects are federally funded and/or considered "regionally significant". This element also recognizes principal arterials as important to the movement of goods and people in the region. Interstate highways in Kern County relevant to the Destination 2030 Plan include I-5 and US 395. State Routes relevant to this Plan include: 14, 33, 43, 46, 58, 65, 99, 119, 155, 166, 178, 184, 202, 204, and 223. Figure 1-1 illustrates the streets and highways system. It includes interstate and state highway routes as well as some of the major arterials and regionally significant roadways. "Regionally significant" is defined as a facility with an arterial or higher functional classification, and any other facility that serves regional travel needs including local roads (such as access to and from areas outside of the Kern region; to major activity centers in the region; or to transportation terminals) and normally would be included in the travel demand model.

Accomplishments Since 2000

Achievements related to the region's network of highways, streets and roads are listed below.

The following major state highway projects have been completed:

- Route 58 - Mojave Freeway
- Route 99 - widening in Bakersfield
- Route 99 - widening near Delano
- Route 202 - new bridge near Route 58 at Tehachapi

The following regionally significant roadway projects are programmed for construction and/or are under construction:

- Route 14 - widening from Mojave to California City
- Westside Parkway - Bakersfield
- Calloway Drive grade separation - Bakersfield
- Coffee Road grade separation - Bakersfield
- White Lane Bridge widening - Bakersfield
- Frontage road along Route 58 Mojave Freeway
- Morning Drive improvements - Bakersfield

- Seventh Standard Road Widening – three segments in Shafter, Bakersfield, and County
- Route 178 at Fairfax Road – new interchange.

The following regionally significant roadway projects are undergoing necessary environmental review, right-of-way acquisition and/or design work:

- Route 14 – west of Ridgecrest
- Route 46 – west Kern County and Wasco
- Route 119 – east of Taft
- Route 184 – east of Bakersfield
- Route 58 – interchange at Dennison in Tehachapi
- Hageman Road extension – Bakersfield
- Oak Street interchange – Bakersfield
- Downtown Parkway – Bakersfield
- Route 178 - widening near Oak Street – Bakersfield
- Route 223 – widening west of Arvin
- US Highway 395 – widening south of Ridgecrest
- West Ridgecrest Blvd - widening

Needs and Issues

Deferred Local Maintenance Needs

Maintaining the local transportation infrastructure is of critical importance for the entire region. Deferred maintenance costs are estimated to exceed \$359 million over the RTP period, according to *Roads to Ruin*. Failure to attend to these deferred needs will result in costly repairs when the facility fails. It is more cost effective to apply preventive maintenance treatments and extend a facility's life than to reconstruct once it has completely failed. Funds to handle the backlog of needs simply have not been available. Funding from the State gas tax has traditionally been used to support the maintenance of these facilities; however, over time, gas tax revenues have failed to keep up with inflation.

Given ongoing concern for deferred maintenance, the Policy Element recognizes the need to maintain and upgrade the present system whenever feasible. Also included is a policy to investigate federal, state and local funding opportunities that would maintain the current transportation system and promote future transportation development.

Maintenance of state highways also requires considerable investment. State highway maintenance and safety project expenditures are generally funded as part of the State Highway Operation and Protection Program (SHOPP). These projects do not require local matching dollars. Caltrans prepares a 10-year SHOPP plan for the rehabilitation and reconstruction of all state highways and bridges, which recognizes the growing inventory of deferred maintenance needs.

Table 5-1 (Chapter 5 – Financing Transportation) provides a revenue forecast for local, state and federal funding. It includes a specific revenue forecast for the maintenance of state highways in the Kern region. All other funding for local maintenance and transit operations are combined by funding type in the Table. Figure 5-6 provides a general overview of financial resources expected for local road rehabilitation, state highway rehabilitation, and transit operations and maintenance.

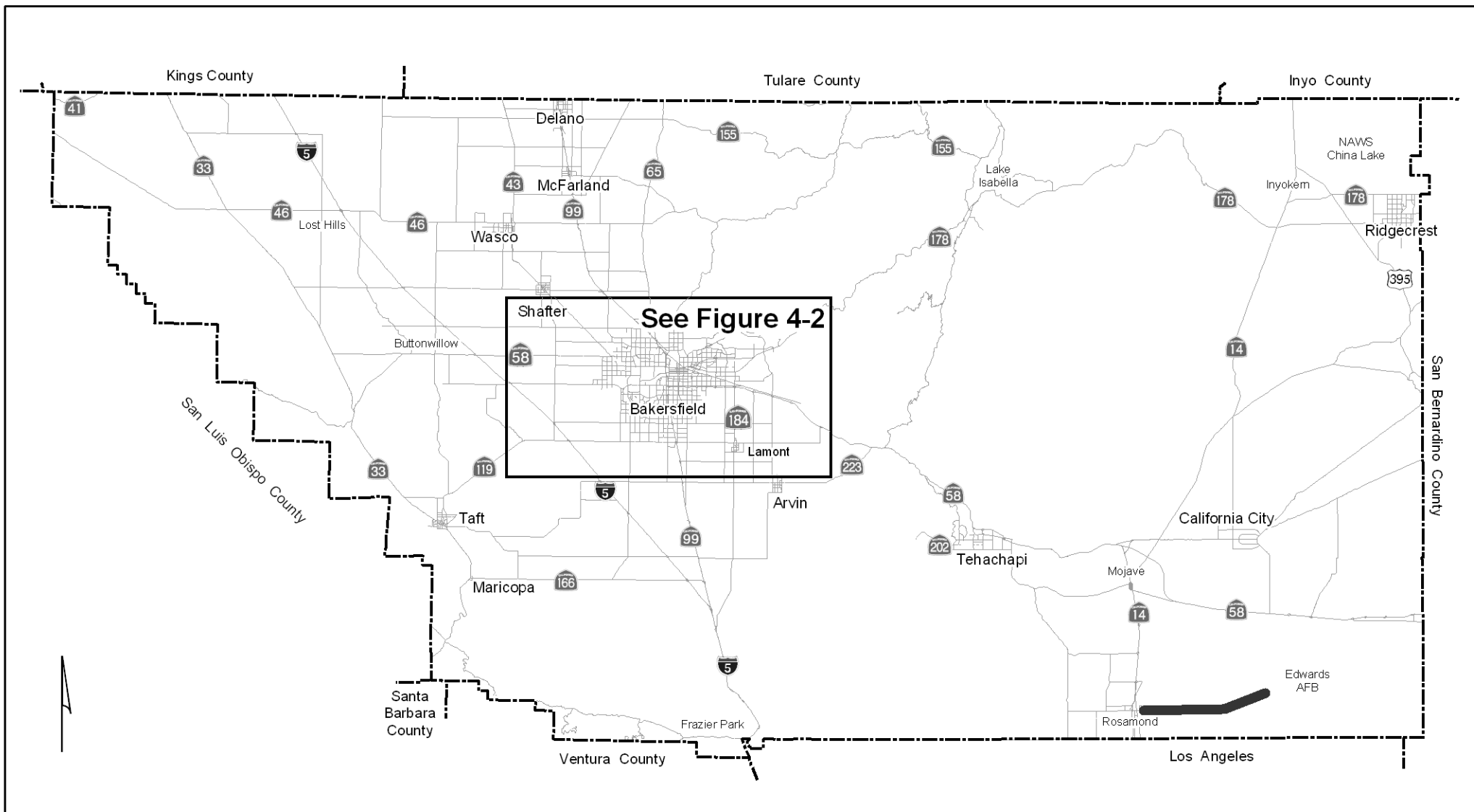
Level of Service

Implementation of the Destination 2030 RTP will result in improvements to existing transportation systems and will meet required regional transportation needs. Proposed street and highway programs are aimed at reducing existing traffic, improving safety and resolving other circulation conflicts. Implementation of planned improvements to the street and highway network, improvement of County Airports, provision of mass transportation services and facilities, identification of additional bikeways and pedestrian improvements, and improved transportation systems that accommodate goods movement, will have beneficial effects on a region wide basis.

Level of Service (LOS), according to the Transportation and Traffic Engineering Handbook, is a “qualitative measure that represents the collective factors of speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operation costs provided by a highway facility under a particular volume condition.” LOS measurement is used to assess the regionally significant system of streets and highway facilities in Kern County. Proposed projects for the highway system use LOS values to determine and rank the type and number of transportation projects necessary to accommodate Kern County’s current and expected future growth.

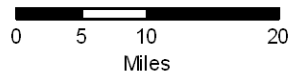
LOS values range from A to F representing various ranges of traffic flow from “free flow” for A to “stop-and-go gridlock” traffic for F. Additional variations for LOS values are based on the road type; interrupted traffic flow facilities that include stop signs, signals, etc. have a modified version for LOS steps. Uninterrupted traffic flow facilities would include freeways and other highway facilities that do not have fixed traffic elements such as stop signs or signals. LOS A through F are described in more detail in Chapter 6 – Environmental Justice, page 6-8.

LOS values are integrated in Kern COG’s transportation model by assessing final traffic volumes against specific capacity values. These volume-over-capacity values are then related to LOS values based on accepted industry standards for transportation models. The transportation model network reflects capital improvements from Table 4.1 and resulting traffic volumes. Figures 4-1 , 4-2, 4-3 and 4-4 reflect “build” scenario LOS values because the network includes the constrained program of projects. Figures 4-5 and 4-6 reflect the “no build”



**Kern Council
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- LOS C or Better
- LOS D
- LOS E
- LOS F



Levels of Service 1998

Figure 4-1



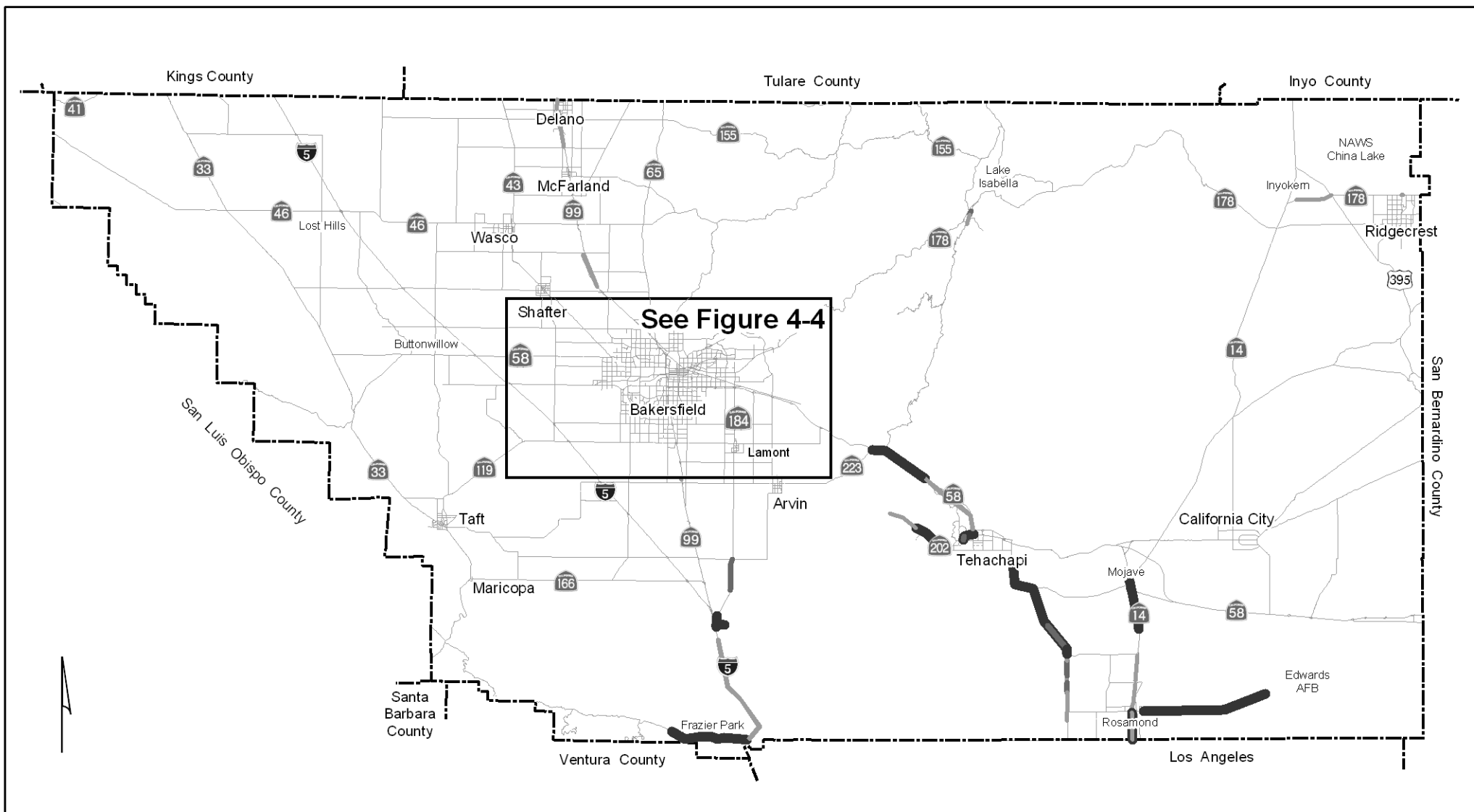
**Kern Council
of Governments**

- LOS C or Better
- LOS D
- LOS E
- LOS F

0 1.25 2.5 5
Miles

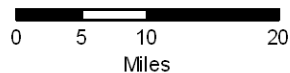
Metropolitan Bakersfield Levels of Service 1998

Figure 4-2



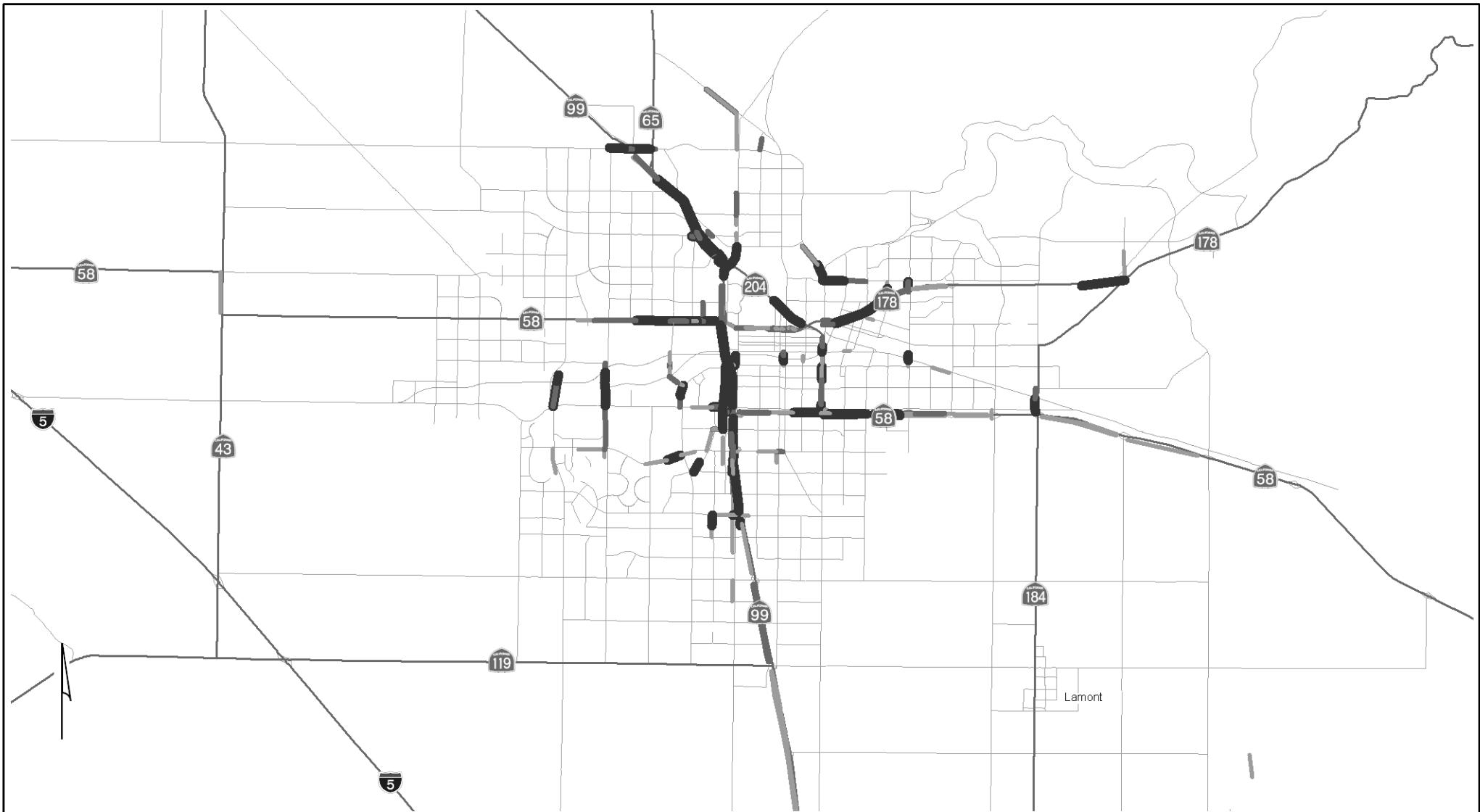
**Kern Council
of Governments**

- LOS C or Better
- LOS D
- LOS E
- LOS F



Levels of Service 2030

Figure 4-3



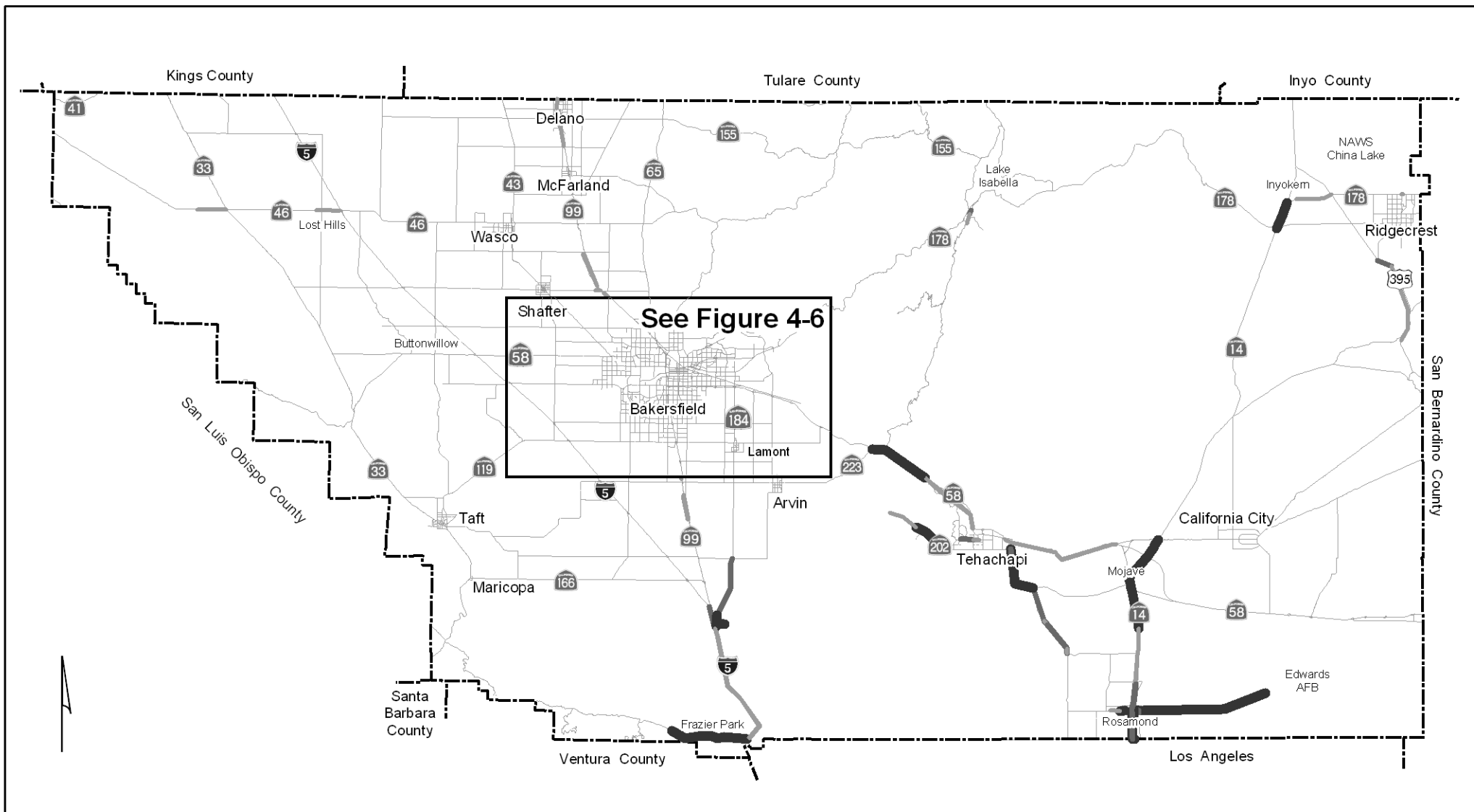
**Kern Council
of Governments**

- LOS C or Better
- LOS D
- LOS E
- LOS F

0 1.25 2.5 5
Miles

Metropolitan Bakersfield Levels of Service 2030

Figure 4-4



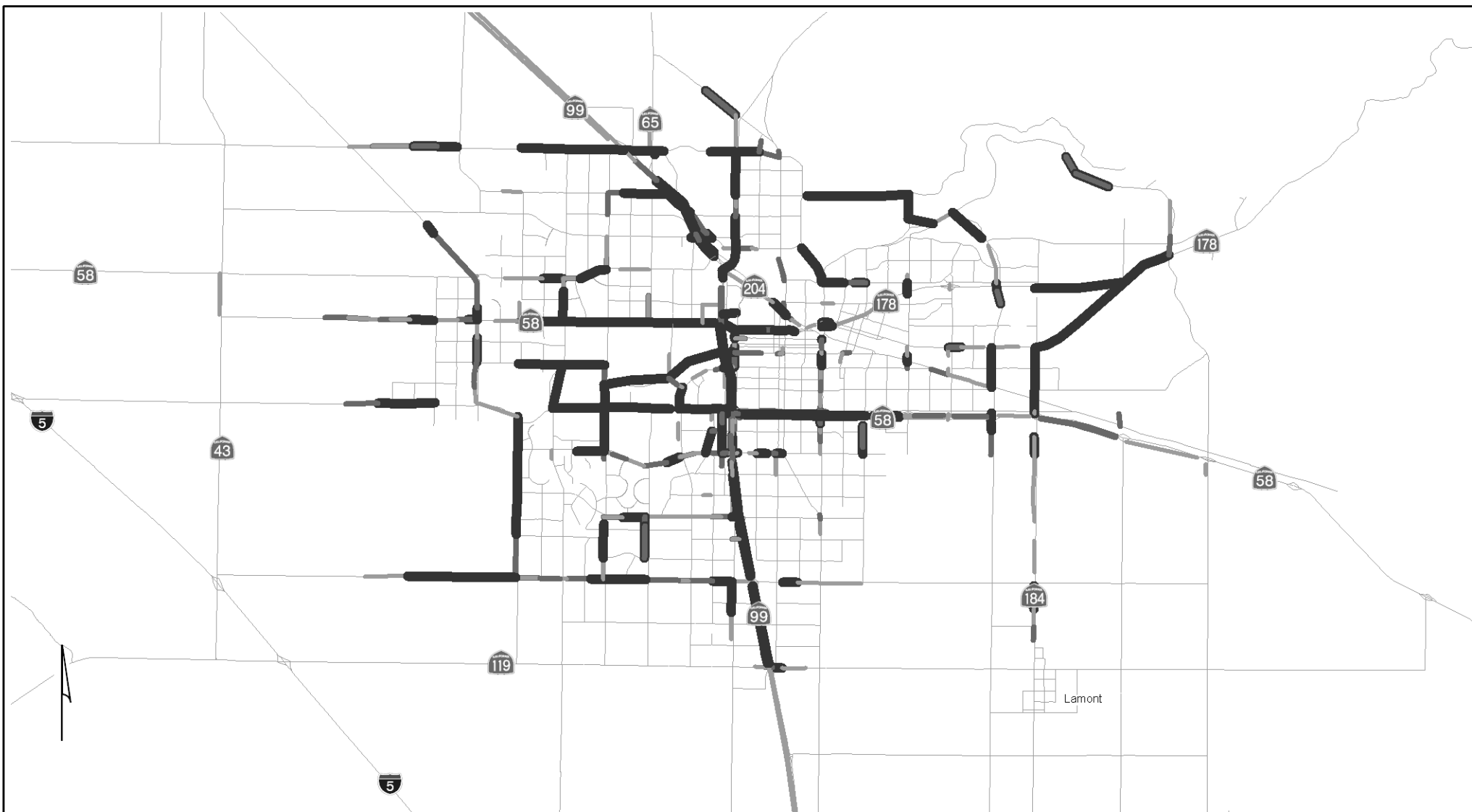
**Kern Council
of Governments**

- LOS C or Better
- LOS D
- LOS E
- LOS F

0 5 10 20
Miles

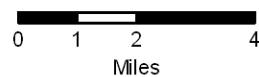
Levels of Service 2030 No Build

Figure 4-5



**Kern Council
of Governments**

- LOS C or Better
- LOS D
- LOS E
- LOS F



Metropolitan Bakersfield Levels of Service 2030 No Build

Figure 4-6

scenarios in that the network only reflects current system improvements while future growth values are used to generate future vehicle miles traveled without the proposed improvements.

Regional Transportation Impact Fees

Kern COG is studying the possibility of raising the amount of fees levied on new development to maintain the transportation infrastructure. Continued funding shortfalls are highlighting the need to investigate all possible revenue sources.

Two transportation impact fee (TIF) programs are already in place within Kern County. The metropolitan Bakersfield TIF assesses \$5,200 on every new housing unit built within the city or unincorporated areas. The Rosamond TIF is \$1,300 per new housing unit. These fee programs were adopted in the early 1990s, with the metropolitan Bakersfield TIF being raised twice since its inception. The most recent increase created a core area with a fee that is half the normal rate, the intent of which is to encourage infill development.

As the Destination 2030 RTP is being released, Kern COG is preparing the Southeast Kern Transportation Impact Fee Nexus Study to assess impacts and benefits of a TIF for that portion of Kern County. Similar studies will be performed for other sub-regions of the county to establish the relationship between increased travel demand associated with new development and the transportation infrastructure improvements necessary to meet this demand at an acceptable level of service.

Interregional Partnership Planning

Kern COG has embarked on an interregional partnership effort with the counties of San Bernardino, Los Angeles, Inyo and Mono. Elected officials and staff from all the counties meet frequently to discuss transportation and economic development projects of mutual benefit.

Roads and Streets Monitoring

Kern COG will continue data collection and monitoring of roadway conditions throughout the County for road and street maintenance purposes. This effort includes providing input to the Federal Highway Administration Highway Performance Monitoring System as well as conducting traffic counts and vehicle occupancy counts at various locations in the County. In addition to the Highway Performance Monitoring, Kern COG will undertake an analysis of Pavement Management Systems for each jurisdiction within Kern County as well as a cumulative analysis of pavement conditions and recommendations for addressing funding issues.

Proposed Capital Improvements

The Destination 2030 RTP includes all of the Metropolitan Bakersfield TIF projects, as well as regionally significant street and roadway improvements identified by other Kern

COG member jurisdictions. In addition, state highway projects, coordinated and prioritized locally, are a significant component of the Capital Improvement Program. These highway projects are also coordinated with Caltrans District 6.

Proposed Actions

Near Term, 2004-2009

Work with Caltrans, COG member agencies and other interested parties to prepare environmental studies, right-of-way acquisitions and design engineering work to:

- Widen Route 46 from San Luis Obispo county line to I-5.
- Widen Route 119 near Taft.

Provide input to neighboring regions' transportation studies and projects for corridors that have significance to the Kern region. In particular:

- Participate in San Bernardino County's study for the U.S. Hwy 395 corridor review.
- Update and revise Congestion Management Program.
- Maintain Regional Traffic Models to aid in traffic and air quality analyses.
- Prepare a systems-level planning analysis of various transportation system alternatives using multimodal performance measures.
- Pursue ground access improvements for Meadows Field.
- Pursue a permanent regional funding source via a regional traffic mitigation fee.
- Implement the capital improvements for highways, regional roads, and interchanges for this time period.
- Implement countywide transportation impact fees.

Long Term, 2010-2030

- Maintain existing roadway infrastructure.
- Implement as appropriate and feasible the recommendations of the completed studies.
- Pursue and implement the recommendations from earlier studies.
- Prepare studies and/or Project Study Reports (PSRs) for: (1) Routes 99/65/Seventh Standard Road interchange; (2) Route 58 West future alignment; (3) Route 58 West route adoption.
- Implement capital improvements for highways, regional roads, and interchanges for this time period.
- Implement sales tax ballot measure (to sunset or extend at 2030).
- Review and revise countywide transportation impact fees.

In the following Constrained Program of Projects, major highways improvements are divided into five chronological groupings to facilitate estimations of project completion.

Highway improvements that cannot be constructed within the financial constraint of any one group may be repeated in later groups. If a project is not fully funded within the five-year timeframe, it would require phasing over a longer timeframe. The entire corridor, however, would be environmentally assessed during the preliminary engineering phase.

TABLE 4.1 – Constrained Program of Projects

MAJOR HIGHWAY IMPROVEMENTS			
Project	Locale	Scope	2004 - 2008
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen to four lanes	EIR/EIS in progress
Route 14	Mojave	Rt 58 to Cal City Blvd - widen to four lanes / interchange	\$18,000,000
Route 46	Wasco	SLO County Line to I-5 - widen to four lanes	\$98,000,000
Route 46	Wasco	Jumper Ave to Rt 43 - widen to four lanes	EIR/EIS in progress
Route 58	Tehachapi	Dennison Rd - construct interchange and bridge	\$10,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen to four lanes	EIR/EIS in progress
Route 178	Bakersfield	Fairfax Road – construct interchange and widen to four lanes	\$15,000,000
Route 184	Lamont	Rt 223 to Panama Ln - widen to four lanes	EIR/EIS in progress
Route 395	Ridgecrest	China Lake Blvd To Rt 178 - widen to four lanes	EIR/EIS in progress
Downtown Parkway	Metro Bkfd	Rt 99 to 178 - environmental analysis for local freeway	\$13,000,000
Westside Parkway	Bakersfield	Oak St to Heath Rd - construct local freeway	\$176,000,000
Oak St Interchange	Bakersfield	Rt 178 (24th St) and Oak St - construct interchange; widen 24th	\$21,000,000
Hageman Extension	Bakersfield	Knudsen Dr to Rt 204 - construct four lane extension	\$21,000,000
7th Standard Rd	Shafter	Santa Fe Way to Coffee Rd - widen to four lanes	\$15,000,000
7th Standard Rd	Metro Bkfd	Coffee Rd to Rt 99 - construct interchange; four lanes	\$10,000,000
7th Standard Rd	Metro Bkfd	Rt 99 to Wings Way - widen to four lanes	\$2,500,000
W Ridgecrest Blvd	Ridgecrest	Mahan St to China Lake Blvd - widen to four-lanes; reconstruct	EIR/EIS in progress
Laval Rd Interchange	Kern	Laval Rd at I-5 interchange upgrade	\$7,000,000
Sub-total			\$406,500,000

MAJOR HIGHWAY IMPROVEMENTS			
Project	Locale	Scope	2009 - 2013
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen to four lanes	\$14,000,000
Route 46	Wasco	SLO County Line to I-5 - widen to four lanes	\$133,000,000
Route 46	Wasco	Jumper Ave (North) to Rt 43 - widen to four lanes	\$7,000,000
Route 99	Metro Bkfd	Olive Drive - reconstruct interchange	\$15,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen to four lanes	\$14,000,000
Route 184	Lamont	Rt 223 to Panama Ln - widen to four lanes	\$10,000,000
Downtown Parkway	Bakersfield	Oak St to F St - construct local freeway	\$50,000,000
Downtown Parkway	Bakersfield	F St to Chester Ave - construct local freeway	\$60,000,000
Downtown Parkway	Bakersfield	Q St to Rt 178 / 58 - construct local freeway	\$10,000,000
Cecil Ave	Delano	Albany St to Browning Rd - widen to four lanes; reconstruct	\$12,000,000
Sub-total			\$325,000,000

TABLE 4.1 - Constrained Program of Projects (Cont'd)

MAJOR HIGHWAY IMPROVEMENTS			
Project	Locale	Scope	2014-2018
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen to four lanes	\$53,000,000
Route 46	Wasco	Jumper Ave to Rt 43 - four lanes; reconstruction	\$13,000,000
Rosedale Hwy	Metro Bkfd	Rt 43 to Renfro Rd - widen to four lanes	\$10,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen to four lanes	\$17,000,000
Route 184	Lamont	Rt 223 to Panama Ln - widen to four lanes	\$25,000,000
Downtown Parkway	Bakersfield	Q St to Rt 178 / 58 - construct local freeway	\$125,000,000
Cecil Ave	Delano	Albany St to Browning Rd - widen to four lanes; reconstruct	\$10,000,000
W Ridgecrest Blvd	Ridgecrest	Mahan St to China Lake Blvd – widen to four-lanes; reconstruct	\$4,000,000
Various state hwys	Various	Caltrans IIP projects: I-5 and partnership contributions	\$68,000,000
Sub-total			\$325,000,000

MAJOR HIGHWAY IMPROVEMENTS			
Project	Locale	Scope	2019-2023
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen to four lanes	\$20,000,000
Route 46	Wasco	Rt 43 - widen to four lanes	\$20,000,000
Route 99	Metro Bkfd	Ming Ave to Bear Mountain Blvd - phased widen to eight lanes	\$25,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen to four lanes	\$20,000,000
Route 178	Bakersfield	Fairfax Rd to China Garden - environmental for freeway	\$10,000,000
Route 184	Lamont	Rt 223 to Panama Lane - widen to four lanes	\$20,000,000
Downtown Parkway	Metro Bkfd	Chester Ave to Q St – construct freeway on new alignment	\$100,000,000
W Ridgecrest Blvd	Ridgecrest	Mahan St to China Lake Blvd - widen to four lanes; reconstruct	\$10,000,000
Various state hwys	Various	Caltrans IIP projects: I-5 and partnership contributions	\$100,000,000
Sub-total			\$325,000,000

MAJOR HIGHWAY IMPROVEMENTS			
Project	Locale	Scope	2024-2030
Route 46	Wasco	Rt 43 to Rt 99 - widen to four lanes; reconstruct interchange	\$35,000,000
Route 58	Metro Bkfd	Rt 58 & Mt Vernon Ave to I-5 - environ., phased freeway const.	\$125,000,000
Route 178	Bakersfield	Fairfax Rd to China Garden - phased freeway construction	\$65,000,000
Route 223	Arvin	Rt 184 to Rt 99 - widen to four lanes	\$43,000,000
Route 395	Ridgecrest	China Lake Blvd to Rt 178 - widen to four lanes	\$57,000,000
Cal City Blvd	Cal City	Rt 14 east six miles - widen to four lanes	\$10,000,000
Various state hwys	Various	Caltrans IIP projects: I-5 and partnership contributions	\$123,000,000
Sub-total			\$458,000,000

TABLE 4.1 - Constrained Program of Projects (Cont'd)

LOCAL STREETS AND ROADS			
Project	Locale	Scope	2004-2030
Various Locations	Metro Bkfd	Bridge and street widening; reconstruction	\$338,000,000
Various Locations	Metro Bkfd	Signalization	\$2,000,000
Various Locations	Rosamond	Street widening; signalization	\$14,000,000
Various Locations	Countywide	Traffic Control Measures	\$86,000,000
Various Locations	Countywide	Bridge and street widening; reconstruction; signalization	\$460,000,000
Sub-total			\$900,000,000

TRANSIT			
Project	Locale	Scope	2004-2030
	Metro Bkd	Full size natural gas buses - 120 replacement buses	\$45,000,000
	Metro Bkd	Full size natural gas buses - 120 new buses	\$45,000,000
	Various	Midsized natural gas buses - 120 replacement buses	\$6,000,000
	Various	Midsized natural gas buses - 120 new buses	\$6,000,000
	Various	Mini van / buses - 45 replacement buses	\$1,800,000
	Metro Bkfd	2 transfer stations	\$3,000,000
	Metro Bkfd	ITS Related Improvements / Upgrades	\$3,000,000
	Various	Park and Ride Lots (750 spaces)	\$3,000,000
Sub-total			\$112,800,000

NON-MOTORIZED			
Project	Locale	Scope	2004-2030
Various locations	Metro Bkfd	Construct Class I or Class III Bike Path; striping; signage	\$5,000,000
Various locations	County	Construct Class I or Class III Bike Path; striping; signage	\$1,800,000
Various locations	Cal City	Construct Class I or Class III Bike Path; striping; signage	\$1,700,000
Various locations	Delano	Construct Class I or Class III Bike Path; striping; signage	\$500,000
Various locations	Ridgecrest	Construct Class I or Class III Bike Path; striping; signage	\$1,600,000
Various locations	Taft	Construct Class I or Class III Bike Path; striping; signage	\$400,000
Sub-total			\$11,000,000

PASSENGER RAIL			
Project	Locale	Scope	2004-2030

Unknown	\$0
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TABLE 4.1 - Constrained Program of Projects (Cont'd)

SUMMARY OF CONSTRAINED Projects	
Program Category	Totals
Major Highway Improvements 2004-2008	\$406,500,000
Major Highway Improvements 2008-2030	\$1,433,000,000
Local Streets and Roads	\$900,000,000
Transit	\$112,800,000
Non-motorized	\$11,000,000
Passenger Rail	\$0
Grand Total	\$2,863,300,000

TABLE 4.2 – Unconstrained Program of Projects

MAJOR HIGHWAY IMPROVEMENTS			
Project	Locale	Scope	
Route 5	Kern	Fort Tejon to Rt 99 - widen to ten lanes	\$40,000,000
Route 14	Mojave	Sierra Hwy - widen to six lanes and/or construct new alignmt	\$30,000,000
Route 33	Maricopa	Welch St to Wood St - widen to four lanes	\$40,000,000
Route 33	Taft	10th St to 12 miles northwest - widen to four lanes	\$4,000,000
Route 33	Taft	10th St to Midway Rd - widen to four lanes	\$12,000,000
Route 43	Shafter	7th Standard Rd to Euclid Ave - widen to four lanes	\$17,000,000
Route 46	Wasco	I-5 to Jumper Ave - widen to four lanes	\$55,000,000
Route 58	Metro Bkfd	Rt 58 & Mt Vernon Ave to I-5 - phased freeway construction	\$400,000,000
Route 58	Kern	Rosedale Hwy - I-5 to Rt 43 - widen to four lanes	\$37,000,000
Route 58	Bakersfield	Rt 99 to Cottonwood Rd - widen to six lanes	\$15,000,000
Route 58	Kern	General Beal Rd to Rt 202 - truck climbing auxiliary lanes	n.a.
Route 58	Bakersfield	Rt 99 to H St - auxiliary lanes	n.a.
Route 65	Kern	7th Standard Rd to County Line - widen to four lanes	\$100,000,000
Route 65	Metro Bkfd	Realignment to 99/West Beltway Interchange	\$40,000,000
Route 99	Bakersfield	Rt 58 to Ming Av - auxiliary lanes	n.a.
Route 119	Taft	Rt 33 to Cherry Ave - widen to four lanes	\$25,000,000
Route 119	Taft	Tupman Rd to I-5 - widen to four lanes	\$28,000,000
Route 155	Delano	Rt 99 to Browning Rd - four lanes; reconstruct	\$15,000,000
Route 166	Maricopa	Basic School Rd - reconstruct intersection grade	\$240,000
Route 178	Bakersfield	Fairfax Rd to China Garden - four lane freeway	\$120,000,000
Route 184	Arvin	Panama Ln to Rt 178 - widen to four lanes	\$25,000,000
Route 223	Arvin	Comanche Rd to Rt 184 - widen to four lanes	\$16,000,000
Route 223	Arvin	Arvin city limits East to Rt 58 - widen to four lanes	\$30,000,000
Route 395	Johannesburg	San Bdo County to Searles Station Rd - widen to four lanes	\$28,000,000
Route 395	Ridgecrest	Searles Station Rd to S China Lake Blvd - widen to four lanes	\$17,000,000
Route 395	Inyokern	Rt 178 to Rt 14 - widen to four lanes	\$26,000,000
Cal City Blvd	Cal City	Rt 14 east six miles - widen to four lanes	\$19,000,000
Woolomes Ave	Delano	Rt 99 - widen bridge to four lanes; reconstruct ramps	\$13,000,000
Garces Hwy	Delano	Hiatt Ave to Rt 99 - widen to four lanes	\$4,000,000
Garces Hwy	Delano	Rt 43 to Hiatt Ave - widen to four lanes	\$16,000,000
Garces Hwy	Delano	Wildwood to Rt 43 - widen to four lanes	\$18,000,000
Garces Hwy	Delano	Corcoran to Wildwood - widen to four lanes	\$33,000,000
Garces Hwy	Delano	Corcoran to I-5 - construct four lanes	\$63,000,000
Red Apple Rd	Kern	Tucker Rd to Westwood Blvd - widen to four lanes	\$2,000,000
Wheeler Ridge Rd	Kern	I-5 to Rt 223 - widen to four lanes	\$60,000,000
Teh. Willow Springs Rd	Tehachapi	Rt 58 to Rosamond Blvd - widen to four lanes	\$70,000,000
Kern Ave	McFarland	Reconstruct pedestrian bridge at Rt 99	\$250,000
Mahan St	Ridgecrest	Inyokern to S China Lake Blvd - widen to four lanes	\$15,000,000
Northgate Blvd	Cal City	Cal City Blvd to Rt 58 - new alignment	n.a.

TABLE 4.2 – Unconstrained Program of Projects (Cont'd)**MAJOR HIGHWAY IMPROVEMENTS (Cont'd)**

Project	Locale	Scope	
Richmond Rd	Ridgecrest	E Ridgecrest Blvd - widen to four lanes	\$3,000,000
Bowman Rd	Ridgecrest	China Lake Blvd to S Bdo County Line - reconstruct	\$2,000,000
S China Lake Blvd	Ridgecrest	Rt 395 to College Heights - reconstruct	\$17,000,000
7th Standard Rd	Shafter	Palm Ave to I-5 - widen to four lanes	\$22,000,000
7th Standard Rd	Shafter	Palm Ave to Rt 43 - widen to four lanes	\$20,000,000
7th Standard Rd	Shafter	Rt 43 to Santa Fe Way - widen to four lanes	\$14,000,000
Zachary Rd	Shafter	7th Standard Rd to Lerdo Hwy - widen to four lanes	\$16,000,000
New Alignment	Bakersfield	South Beltway - construct four to six lane freeway	\$120,000,000
New Alignment	Bakersfield	West Beltway - construct four to six lane freeway	\$130,000,000
New Alignment	Bakersfield	East Beltway - construct four to six lane freeway	\$42,000,000
Sub-total			\$1,819,490,000

LOCAL STREETS AND ROADS

Project		Scope	
Various Locations		Bridge and street widening; reconstruction; signalization	\$500,000,000
Sub-total			\$500,000,000

TRANSIT

Project		Scope	
All Transit Services		80 new buses	\$28,000,000
All Transit Services		15 replacement gas/diesel minibuses	\$1,000,000
All Transit Services		1 transfer station	\$1,000,000
All Transit Services		2 maintenance stations	\$10,000,000
All Transit Services		Park and ride lots (750 spaces)	\$3,000,000
Sub-total			\$43,000,000

PASSENGER RAIL

Project		Scope	
Bakersfield Amtrak Station		Phase II Construction	\$13,000,000
Sub-total			\$13,000,000

NON-MOTORIZED

Project		Scope	
Various locations	Region	Class II or Class III improvements; striping; signage	\$4,000,000

TABLE 4.2 – Unconstrained Program of Projects (Cont'd)

AVIATION			
Airport		Scope	
Delano Municipal		Capital Improvements	\$180,000
Elk Hills - Buttonwillow		Capital Improvements	\$930,000
Inyokern		Capital Improvements	\$2,651,000
Kern Valley		Capital Improvements	\$3,671,600
Lost Hills		Capital Improvements	\$1,300,000
Meadows Field		Capital Improvements	\$7,250,000
Mojave		Capital Improvements	\$3,388,000
Poso		Capital Improvements	\$2,045,000
Shafter - Minter Field		Capital Improvements	\$3,630,000
Taft		Capital Improvements	\$5,498,666
Tehachapi Municipal		Capital Improvements	\$6,212,445
Wasco		Capital Improvements	\$1,315,000
California City		Capital Improvements	\$6,606,800
Sub-total			\$44,678,511

TABLE 4.2 - Unconstrained Program of Projects (Cont'd)

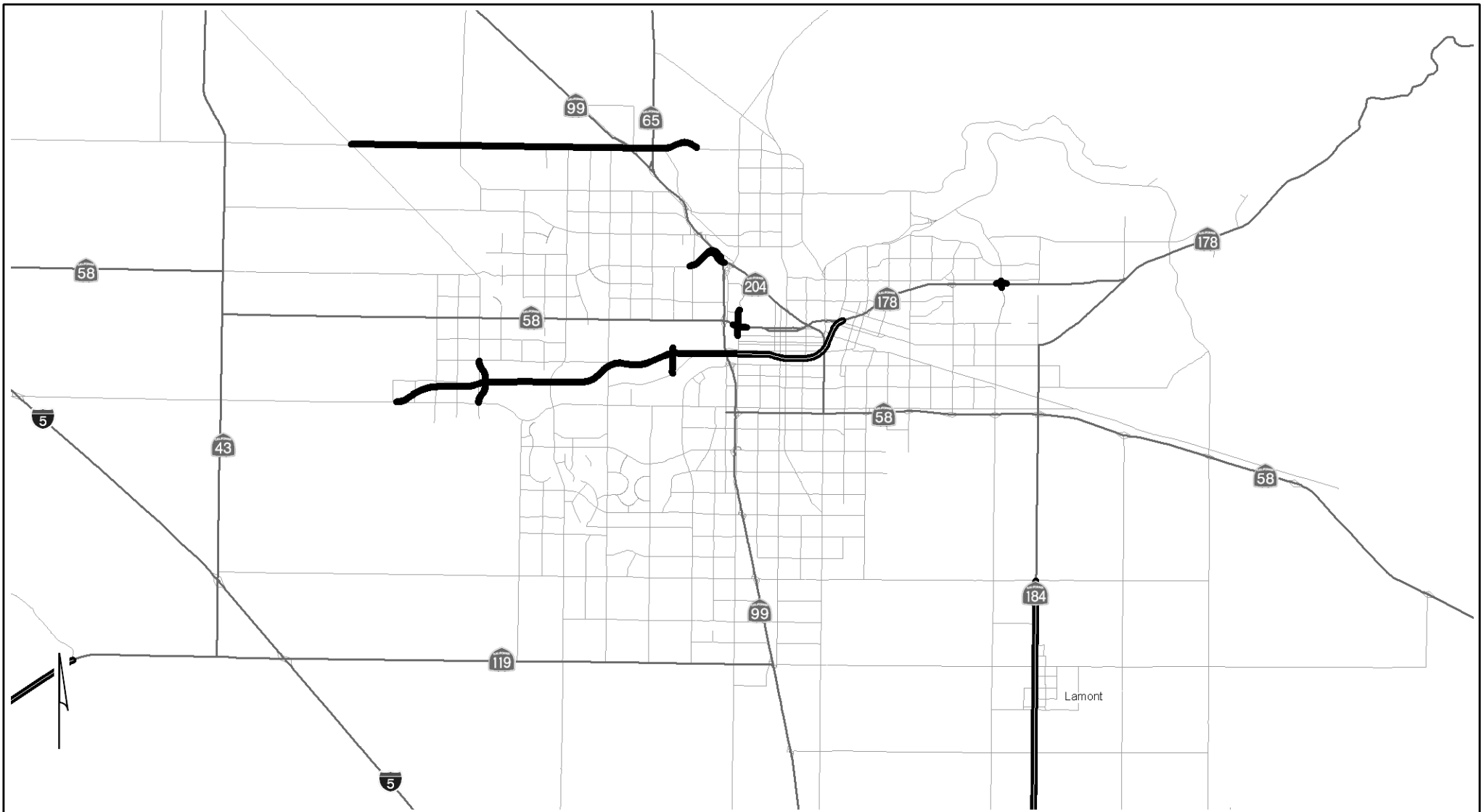
SUMMARY OF UNCONSTRAINED PROJECTS	
Program Category	Totals
Major Highway Improvements	\$1,819,490,000
Local Streets and Roads	\$500,000,000
Transit	\$43,000,000
Passenger Rail	\$13,000,000
Non-motorized	\$4,000,000
Aviation	\$44,678,511
Grand Total	\$2,424,168,511

**MAJOR HIGHWAY IMPROVEMENT MAPS
(CONSTRAINED 2004 – 2030
AND UNCONSTRAINED)**

**With corrections based on comments from the public review process
As of August 4, 2004**

**METRO BAKERSFIELD NEAR TERM
MAJOR HIGHWAY IMPROVEMENTS (2004-2008)**

Project	Locale	Scope	2004 - 2008
Route 178	Bakersfield	Fairfax Road – construct interchange and widen to four lanes	\$15,000,000
Westside Parkway	Bakersfield	Oak St to Heath Rd - construct local freeway	\$176,000,000
Oak St Interchange	Bakersfield	Rt 178 (24th St) and Oak St - construct interchange	\$21,000,000
Hageman Extension	Bakersfield	Knudsen Dr to Rt 204 - construct four lane extension	\$21,000,000
Downtown Parkway	Metro Bkfd	Rt 99 to 178 - environmental analysis for local freeway	\$13,000,000
7th Standard Rd	Metro Bkfd	Rt 99 to Wings Way - widen to four lanes	\$2,500,000
7th Standard Rd	Metro Bkfd	Coffee Rd to Rt 99 - construct interchange; four lanes	\$10,000,000
Total			\$258,500,000



**Kern Council
of Governments**

-  Construction
-  Pre-Construction
-  Highways
-  Major Roads

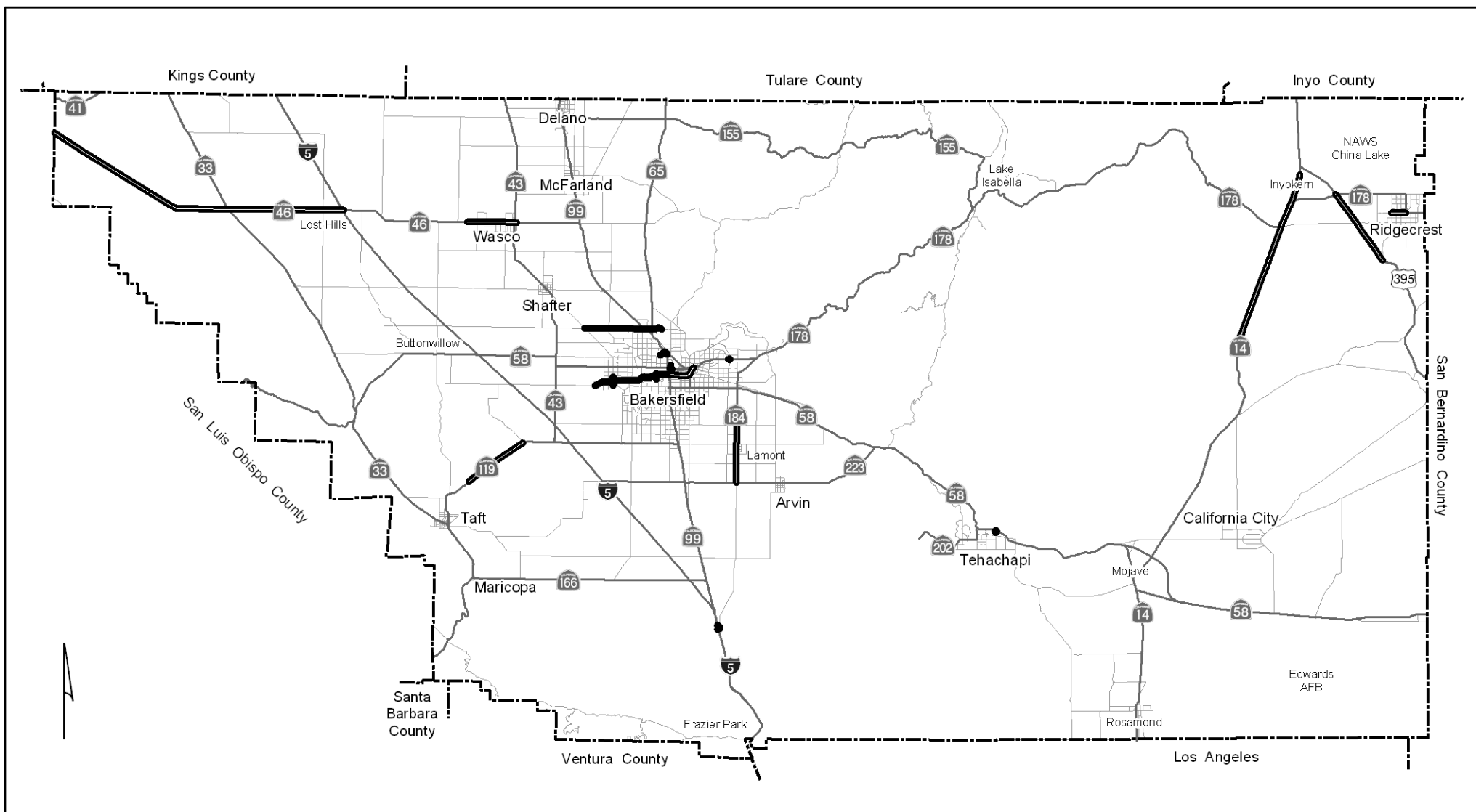
Metropolitan Bakersfield Near-Term Projects (2004-2008)



Figure 4-7

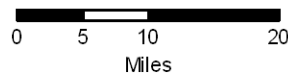
**OUTLYING AREAS NEAR TERM
MAJOR HIGHWAY IMPROVEMENTS (2004-2008)**

Project	Locale	Scope	2004 - 2008
Route 14	Mojave	Rt 58 to Cal City Blvd - widen to four lanes / interchange	\$18,000,000
Route 395	Ridgecrest	China Lake Blvd To Rt 178 - widen to four lanes	EIR/EIS in progress
W Ridgecrest Blvd	Ridgecrest	Mahan St to China Lake Blvd - widen to four-lanes; reconstruct	EIR/EIS in progress
7th Standard Rd	Shafter	Santa Fe Way to Coffee Rd - widen to four lanes	\$15,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen to four lanes	EIR/EIS in progress
Route 58	Tehachapi	Dennison Rd - construct interchange and bridge	\$10,000,000
Route 46	Wasco	SLO County Line to I-5 - widen to four lanes	\$98,000,000
Route 46	Wasco	Jumper Ave to Rt 43 - widen to four lanes	EIR/EIS in progress
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen to four lanes	EIR/EIS in progress
Route 184	Lamont	Rt 223 to Panama Ln - widen to four lanes	EIR/EIS in progress
Total			\$141,000,000



**Kern Council
of Governments**

- Construction
- Pre-Construction
- Highways
- Major Roads



Near-Term Projects In Outlying Areas (2004-2008)

Figure 4-8

METRO BAKERSFIELD MAJOR HIGHWAY NETWORK IMPROVEMENTS (2009-2030)

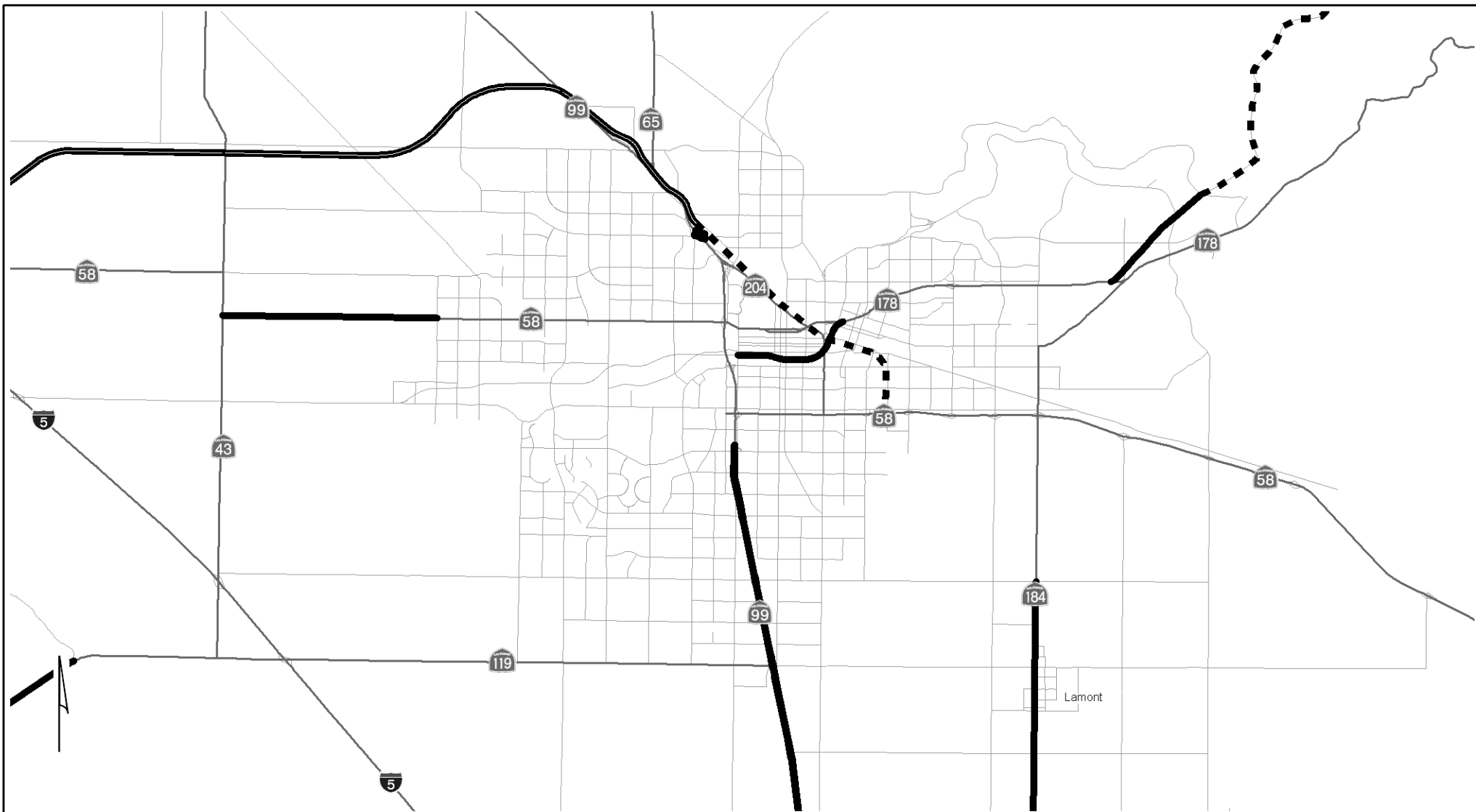
Project	Locale	Scope	2009 - 2013
Downtown Parkway	Bakersfield	Oak St to F St - construct local freeway	\$50,000,000
Downtown Parkway	Bakersfield	F St to Chester Ave - construct local freeway	\$60,000,000
Downtown Parkway	Bakersfield	Q St to Rt 178 / 58 - construct local freeway	\$10,000,000
Route 99	Metro Bkfd	Olive Drive - reconstruct interchange	\$15,000,000

Project	Locale	Scope	2014-2018
Downtown Parkway	Bakersfield	Q St to Rt 178 / 58 - construct local freeway	\$125,000,000
Rosedale Hwy	Metro Bkfd	Rt 43 to Renfro Rd - widen to four lanes	\$10,000,000




Project	Locale	Scope	2019-2023
Route 178	Bakersfield	Fairfax Blvd to China Garden - construct four lane freeway	\$10,000,000
Route 99	Metro Bkfd	Ming Ave to Bear Mountain Blvd - widen to six lanes	\$25,000,000
Downtown Parkway	Metro Bkfd	Chester Ave to Q St – construct freeway on new alignment	\$100,000,000

Project	Locale	Scope	2024-2030
Route 178	Bakersfield	Fairfax Blvd to China Garden - construct four lane freeway	\$65,000,000
Route 58	Metro Bkfd	Rt 58 & Mount Vernon Ave to Rt 99 - construct freeway	\$125,000,000

Total \$595,000,000



**Kern Council
of Governments**

-  Construction
-  Phased Construction
-  Pre Construction

Metropolitan Bakersfield Long-Term Projects (2009-2030)

0 1 2 4
Miles

Figure 4-9

OUTLYING AREAS MAJOR HIGHWAY NETWORK IMPROVEMENTS (2009-2030)

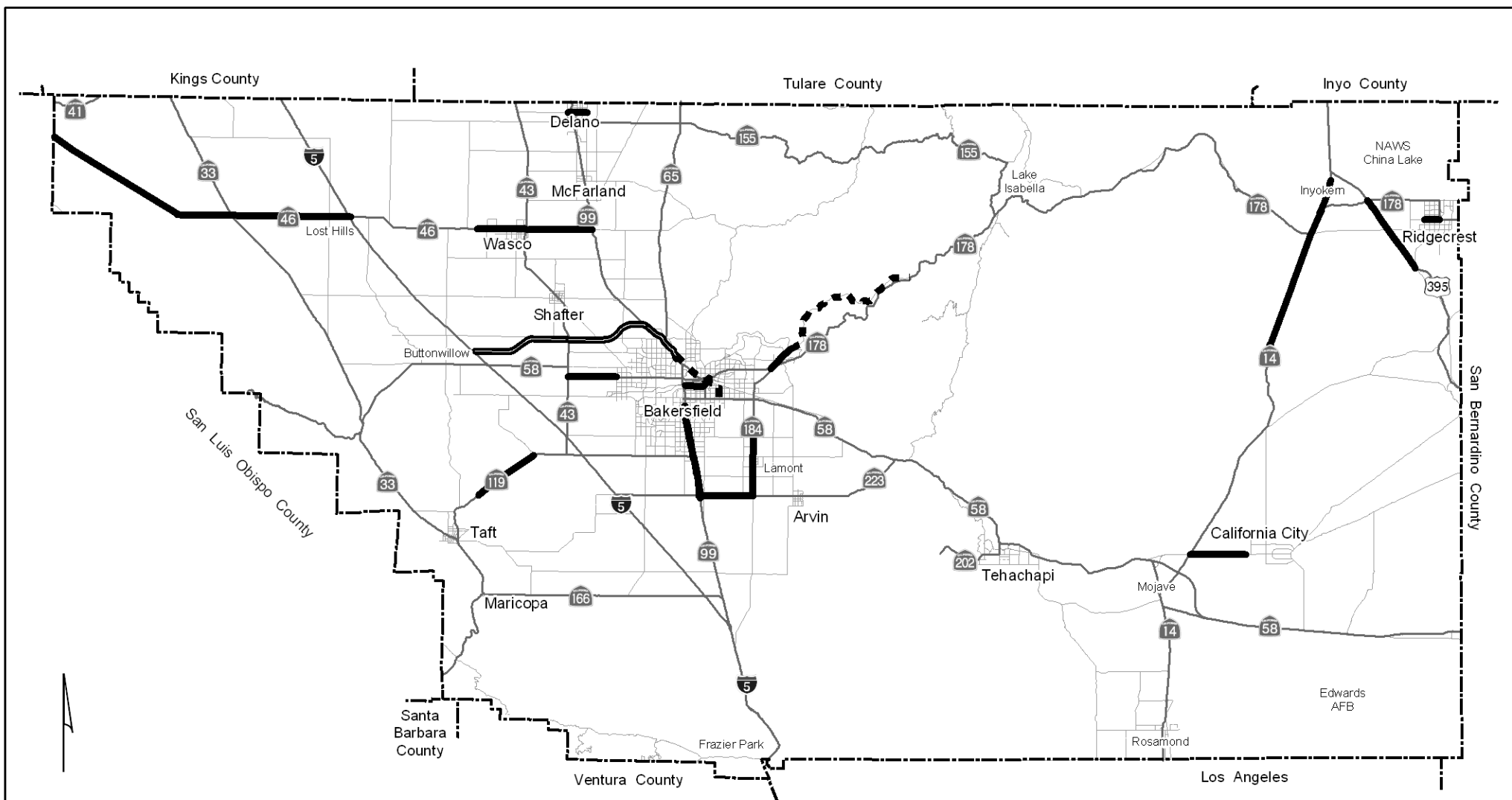
Project	Locale	Scope	2009 - 2013
Cecil Ave	Delano	Albany St to Browning Rd - widen 2 to 4 lanes; reconstruct	\$12,000,000
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen 2 to 4 lanes	\$14,000,000
Route 184	Lamont	Rt 223 to Panama Ln - widen 2 to 4 lanes	\$10,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen 2 to 4 lanes	\$14,000,000
Route 46	Wasco	SLO County Line to I-5 - widen 2 to 4 lanes	\$133,000,000
Route 46	Wasco	Jumper Ave (North) to Rt 43 - widen 2 to 4 lanes	\$7,000,000

Project	Locale	Scope	2019-2023
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen 2 to 4 lanes	\$20,000,000
Route 184	Lamont	Rt 223 to Panama Lane - widen 2 to 4 lanes	\$20,000,000
W Ridgecrest Blvd	Ridgecrest	Mahan St to China Lake Blvd - widen 2 to 4 lanes; reconstruct	\$10,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen 2 to 4 lanes	\$20,000,000
Various state hwys	Various	Caltrans IIP projects: I-5 and partnership contributions	\$100,000,000
Route 46	Wasco	Rt 43 - widen 2 to 4 lanes	\$20,000,000

Project	Locale	Scope	2014-2018
Cecil Ave	Delano	Albany St to Browning Rd - widen 2 to 4 lanes; reconstruct	\$10,000,000
Route 14	Inyokern	Redrock / Inyokern Rd to Rt 178 - widen 2 to 4 lanes	\$53,000,000
Route 184	Lamont	Rt 223 to Panama Ln - widen 2 to 4 lanes	\$25,000,000
W Ridgecrest Blvd	Ridgecrest	Mahan St to China Lake Blvd – widen 2 to 4 lanes; reconstruct	\$4,000,000
Route 119	Taft	Cherry Ave to Tupman Rd - widen 2 to 4 lanes	\$17,000,000
Various state hwys	Various	Caltrans IIP projects: I-5 and partnership contributions	\$68,000,000
Route 46	Wasco	Jumper Ave to Rt 43 - widen 2 to 4 lanes; reconstruction	\$13,000,000

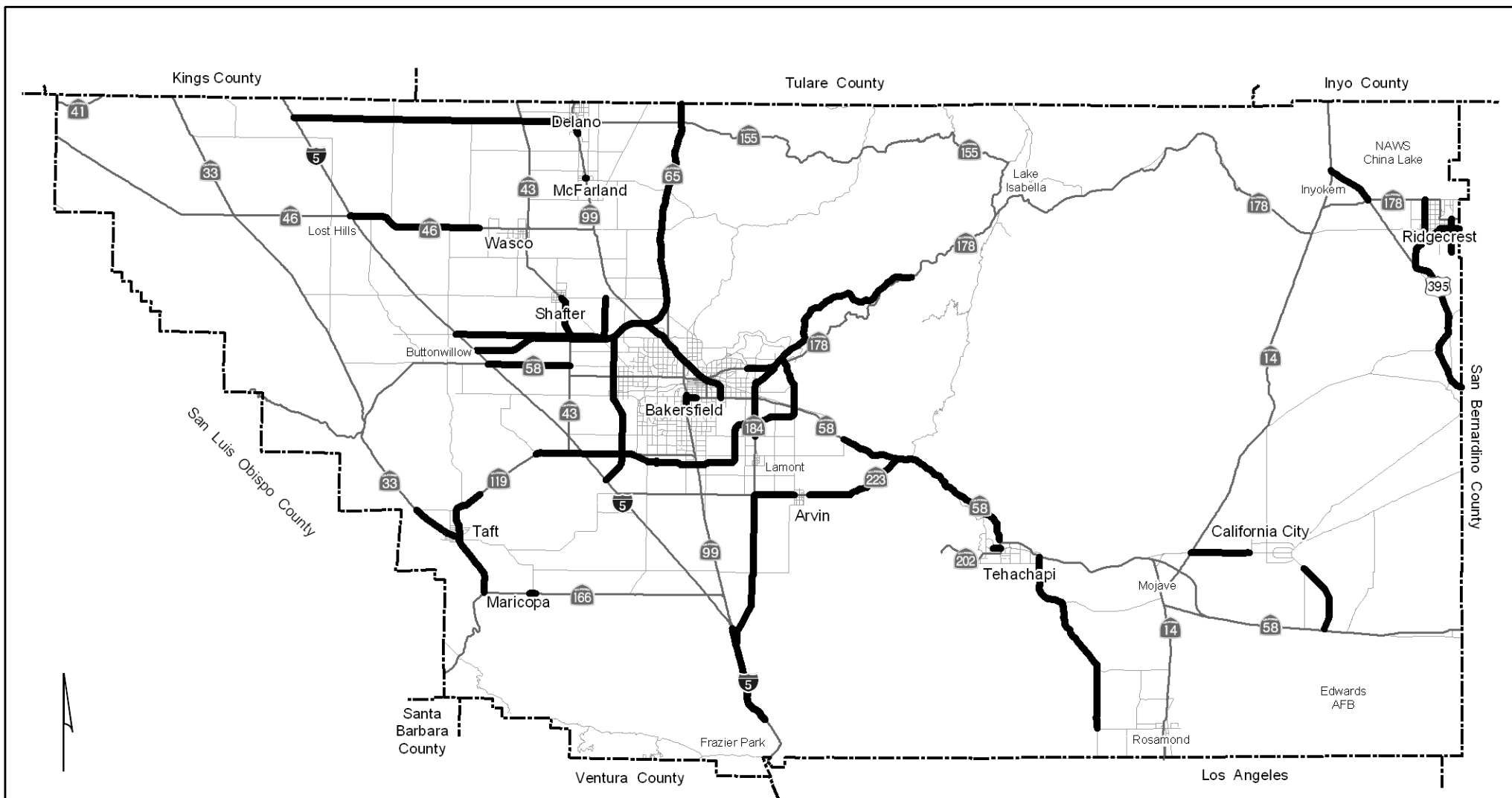
Project	Locale	Scope	2024-2030
Route 223	Arvin	Rt 184 to Rt 99 - widen 2 to 4 lanes	\$43,000,000
Cal City Blvd	Cal City	Rt 14 east six miles - widen 2 to 4 lanes	\$10,000,000
Route 395	Ridgecrest	China Lake Blvd to Rt 178 - widen 2 to 4 lanes	\$57,000,000
Various state hwys	Various	Caltrans IIP projects: I-5 and partnership contributions	\$123,000,000
Route 46	Wasco	Rt 43 to Rt 99 - widen 2 to 4 lanes; reconstruct interchange	\$35,000,000

Total \$838,000,000



UNCONSTRAINED MAJOR HIGHWAY IMPROVEMENTS

Project	Locale	Scope		Project	Locale	Scope	
Route 184	Arvin	Panama Ln to Rt 178 - widen 2 to 4 lanes	\$25,000,000	Route 58	Kern	General Beal Rd to Rt 202 - truck climbing auxiliary lanes	n.a.
Route 223	Arvin	Comanche Rd to Rt 184 - widen 2 to 4 lanes	\$16,000,000	Route 65	Kern	7th Standard Rd to County Line - widen 2 to 4 lanes	\$100,000,000
Route 223	Arvin	Arvin city limits East to Rt 58 - widen 2 to 4 lanes	\$30,000,000	Red Apple Rd	Kern	Tucker Rd to Westwood Blvd - widen 2 to 4 lanes	\$2,000,000
Route 58	Bakersfield	Rt 99 to Cottonwood Rd - widen 4 to 6 lanes	\$15,000,000	Wheeler Ridge Rd	Kern	I-5 to Rt 223 - widen 2 to 4 lanes	\$60,000,000
Route 58	Bakersfield	Rt 99 to H St - auxiliary lanes	n.a.	Route 33	Maricopa	Welch St to Wood St - widen 2 to 4 lanes	\$40,000,000
Route 99	Bakersfield	Rt 58 to Ming Av - auxiliary lanes	n.a.	Route 166	Maricopa	Basic School Rd - reconstruct intersection grade	\$240,000
Route 178	Bakersfield	Fairfax Rd to China Garden - new four lane freeway	\$120,000,000	Route 14	Mojave	Sierra Hwy - widen 4 to 6 lanes and/or construct new alignmt	\$30,000,000
New Alignment	Bakersfield	South Beltway - construct 4 to 6 lane freeway	\$120,000,000	Kern Ave	McFarland	Reconstruct pedestrian bridge at Rt 99	\$250,000
New Alignment	Bakersfield	West Beltway - construct 4 to 6 lane freeway	\$130,000,000	Route 395	Ridgecrest	Searles Station Rd to S China Lake Blvd - widen 2 to 4 lanes	\$17,000,000
New Alignment	Bakersfield	East Beltway - construct 4 to 6 lane freeway	\$42,000,000	Mahan St	Ridgecrest	Inyokern to S China Lake Blvd - widen 2 to 4 lanes	\$15,000,000
Route 65	Metro Bkfd	Realignment to 99/West Beltway Interchange	\$40,000,000	Richmond Rd	Ridgecrest	E Ridgecrest Blvd - widen 2 to 4 lanes	\$3,000,000
Route 58	Metro Bkfd	Rt 58 & Mt Vernon Ave to I-5 - phased freeway construction	\$400,000,000	Bowman Rd	Ridgecrest	China Lake Blvd to S Bdo County Line - reconstruct	\$2,000,000
Cal City Blvd	Cal City	Rt 14 east six miles - widen 2 to 4 lanes	\$19,000,000	S China Lake Blvd	Ridgecrest	Rt 395 to College Heights - reconstruct	\$17,000,000
Northgate Blvd	Cal City	Cal City Blvd to Rt 58 - new alignment	n.a.	Route 43	Shafter	7th Standard Rd to Euclid Ave - widen 2 to 4 lanes	\$17,000,000
Route 155	Delano	Rt 99 to Browning Rd - widen 2 to 4 lanes; reconstruct	\$15,000,000	7th Standard Rd	Shafter	Palm Ave to I-5 - widen 2 to 4 lanes	\$22,000,000
Woolomes Ave	Delano	Rt 99 - widen bridge from 2 to 4 lanes; reconstruct ramps	\$13,000,000	7th Standard Rd	Shafter	Palm Ave to Rt 43 - widen 2 to 4 lanes	\$20,000,000
Garces Hwy	Delano	Hielt Ave to Rt 99 - widen 2 to 4 lanes	\$4,000,000	7th Standard Rd	Shafter	Rt 43 to Santa Fe Way - widen 2 to 4 lanes	\$14,000,000
Garces Hwy	Delano	Rt 43 to Hielt Ave - widen 2 to 4 lanes	\$16,000,000	Zachary Rd	Shafter	7th Standard Rd to Lerdo Hwy - widen 2 to 4 lanes	\$16,000,000
Garces Hwy	Delano	Wildwood to Rt 43 - widen 2 to 4 lanes	\$18,000,000	Route 33	Taft	10th St to 12 miles northwest - widen 2 to 4 lanes	\$4,000,000
Garces Hwy	Delano	Corcoran to Wildwood - widen 2 to 4 lanes	\$33,000,000	Route 33	Taft	10th St to Midway Rd - widen 2 to 4 lanes	\$12,000,000
Garces Hwy	Delano	Corcoran to I-5 - construct new 4 lane road	\$63,000,000	Route 119	Taft	Rt 33 to Cherry Ave - widen 2 to 4 lanes	\$25,000,000
Route 395	Inyokern	Rt 178 to Rt 14 - widen 2 to 4 lanes	\$26,000,000	Route 119	Taft	Tupman Rd to I-5 - widen 2 to 4 lanes	\$28,000,000
Route 395	Johannesburg	San Bdo County to Searles Station Rd - widen 2 to 4 lanes	\$28,000,000	Teh. Willow Springs Rd	Tehachapi	Rt 58 to Rosamond Blvd - widen 2 to 4 lanes	\$70,000,000
Route 5	Kern	Fort Tejon to Rt 99 - widen 8 to 10 lanes	\$40,000,000	Route 46	Wasco	I-5 to Jumper Ave - widen 2 to 4 lanes	\$55,000,000
Route 58	Kern	Rosedale Hwy - I-5 to Rt 43 - widen 2 to 4 lanes	\$37,000,000	Total			\$1,819,490,000



PUBLIC TRANSPORTATION ACTION ELEMENT

Existing Transit Services

Within Kern County, existing public transportation services include public transit, Amtrak, and other private carriers such as Greyhound. Local and regional public transit is available within and between sixteen Kern County communities. In 2002-2003, public transit services carried over 8.1 million passengers in Kern County. Transit services include intercity, intracity, demand responsive and fixed route operations. The County of Kern operates Kern Regional Transit that provides service to the unincorporated communities of Buttonwillow, Lamont, Kern River Valley, Frazier Park, Rosamond and Mojave. In addition, the County has agreements with several small cities to share the cost of providing transit service to county areas surrounding incorporated places, i.e., Delano, Ridgecrest, Shafter, Taft, Tehachapi and Wasco. Kern Regional Transit also provides intercity service between Lamont/Bakersfield; Lake Isabella/Bakersfield; Frazier Park/Bakersfield; and California City/ Mojave/ Rosamond/ Lancaster/Palmdale.

Golden Empire Transit (GET) has provided public transit service for the metropolitan Bakersfield area since 1973. Today, GET operates 18 fixed routes with a fleet of 79 buses. GET's service area covers 153 square miles and serves approximately 365,000 residents. GET-A-Lift provides complementary paratransit service within metropolitan Bakersfield for those who are physically unable to use the fixed route service. Elderly and disabled services are also provided by the Consolidated Transportation Service Agency (CTSA). Table 4-3 summarizes public transportation services operated within Kern County, with a description of services provided by each rural public transit provider, including hours of operation, type of service provided.

GET has determined that within metropolitan Bakersfield, the east and southeast areas exhibit the highest service potential. This analysis is based on population density, income, auto ownership, and age. Other areas with high transit potential are portions of Oildale and central Bakersfield. The lowest potential rider areas include most of the southwest, northwest, Greenacres, and Greenfield.

Transit ridership in Kern County has been increasing over the past four years as shown in Table 4-4. GET experienced the highest patronage ever in 2001/02. Largely because of service expansion, transit ridership on Kern Regional Transit increased by almost 70% between 1997 and 2003. With further expansion set for implementation in 2004-05, transit ridership should continue to rise.

**Table 4-3
PUBLIC TRANSIT OPERATORS WITHIN KERN COUNTY**

Operator	Area Served	Service Type	Days of Service	Fare Structure	
				Regular	Discount
Arvin	Arvin, Lamont	Dial-a-ride	Mon-Fri	\$1.00	\$.50 (seniors, disabled, & youth 5-15)
California City	California City	Dial-a-ride	Mon-Fri	\$1.25	\$0.75 (seniors, disabled, ages 5-14)
CTSA	Metro Bakersfield	Dial-a-ride	Mon-Fri	\$2.00	--
Delano	Delano and adjacent unincorporated area	Fixed route Dial-a-ride	Mon-Sat	\$0.75	\$0.35
McFarland	McFarland	Dial-a-ride	Mon-Fri	\$1.00	\$0.50 (seniors, disabled, students)
Ridgecrest	Ridgecrest and adjacent unincorporated area	Dial-a-ride	Mon-Sat	\$1.25	\$0.75 (seniors, disabled)
Shafter	Shafter and adjacent unincorporated area	Dial-a-ride	Mon-Fri	\$1.00	\$0.75 (seniors, disabled)
Taft	Greater Taft (city, Taft Heights, South Taft, Ford City)	Dial-a-ride	Mon-Fri	\$1.50	\$1.00 (seniors, disabled, students)
Tehachapi	Tehachapi and adjacent unincorporated area	Dial-a-ride	Mon-Fri	\$1.00 (City-County trips) \$0.75 (within City or County)	\$0.75 (seniors, disabled, children) \$0.50 (seniors, disabled, children)
Wasco	Wasco and adjacent unincorporated area	Dial-a-ride	Mon-Fri	\$1.00	\$0.75 (seniors) \$0.65 (Disabled, & youth)
Kern Regional Transit	Bkfd-Frazier Park	Intercity	Mon-Sat	Varies with origin and destination	
	Bkfd-Lake Isabella	Intercity	Mon-Sat	Varies with origin and destination	
	Bakersfield-Taft	Intercity	Mon-Fri	\$2.00	\$2.00
	Bkfd-Tehachapi	Intercity	Mon-Fri	Varies with origin and destination	
	Buttonwillow-Bkfd	Intercity	Tue, Thu	\$1.75	\$1.75
	Bkfd-Lamont	Intercity	Mon-Sat	\$2.50	\$1.50
	Lost Hills/Wasco	Intercity		\$2.50	\$1.50
	Cal City-Palmdale	Intercity	Mon-Sat	Varies with origin and destination	
	Bkfd-Delano	Intercity	Mon-Sat	Varies with origin and destination	
	Mojave-Cal City-Ridgecrest	Intercity		Varies with origin and destination	
	Kern River Valley	Dial-a-ride	Mon-Sat	\$1.00	\$0.75
	Kern River	Fixed Rt.		\$1.00	\$0.75
	Boron	Dial-a-ride		\$1.00	0.75 (Srs, disabled & youth 5-15)
	Kern River	Dial-a-ride		\$1.00	\$0.75 (Srs, disabled & youth)
	Frazier Park	Dial-a-ride	Mon-Sat	\$1.00	\$0.75 (Srs, disabled & youth 5-15)
	Lamont	Fixed route	Mon-Sat	\$0.75	\$0.50 (Srs, disabled & youth 5-15)
	Mojave	Dial-a-ride	Mon-Sat	\$1.00	\$0.75 (Srs, disabled & youth 5-15)

Operator	Area Served	Service Type	Days of Service	Fare Structure	
				Regular	Discount
	Rosamond	Dial-a-ride	Mon-Sat	\$1.00	\$0.75 (Seniors, disabled & youth)
GET	Metro Bakersfield	Fixed route	Daily	\$0.75	\$0.35 (Seniors & disabled)
GET-A-Lift	Metro Bakersfield	Dial-a-ride	Daily	\$1.00	

Table 4-4
Passengers Transported by Kern County Transit Operators
FY 1999/00-FY 2002/03

Operator	1999/00	2000/01	2001/02	2002/03
Arvin	53,600	61,394	82,393	90,421
California City	25,323	24,679	25,131	21,523
CTSA	74,249	42,866	41,035	36,126
Delano	224,500	220,636	170,173	137,114
GET & GET-A-Lift	6,312,534	6,566,533	7,213,693	7,019,175
Kern Regional Transit	432,677	555,647	411,268	637,932
McFarland	21,510	24,299	21,681	25,717
Ridgecrest	51,929	54,789	50,637	43,201
Shafter	33,261	30,881	27,205	34,090
Taft	70,296	58,277	55,497	62,179
Tehachapi	22,454	10,726	10,283	10,938
Wasco	25,815	22,619	22,654	24,860
Totals				8,143,276

Sources: Annual Report of Financial Transaction-Transit, 1997/98 – 2002/03; Transit Operators State Controllers Report

Accomplishments Since 2000

Golden Empire Transit District (GET)

In response to customer requests, GET began offering Sunday and evening service to 11 routes in 1999; Sunday and evening service had not been available since 1981. In 2001, GET's fixed route operation achieved its highest ridership level ever with 7,157,418 riders. Over the last several years, GET-A-Lift's ridership has remained constant, with a small upsurge in 2004.

GET has made a commitment to improving Kern County's air quality by purchasing compressed natural gas (CNG) buses. By 2005, GET's entire fleet, including those assigned to staff, will be CNG-fueled.

In 2004, GET made a capital investment in automatic vehicle location (AVL) technology. Once installed, AVL will provide GET dispatchers the precise location of every bus in

service. GET dispatchers will be able to observe service problems in real time and react accordingly. AVL systems generate data designed to: 1) identify inefficient scheduled running times; 2) recognize inactive or nonproductive stops allowing route planners the ability to actuate more productive routing; and 3) lower operational costs.

GET has installed bike racks on all of its buses to facilitate intermodal trips, which provides an ancillary improvement to air quality.

Consolidated Transportation Service Agency (CTSA)

North Bakersfield Recreation and Park District (NOR) was designated as the CTSA in 1999. During FY 2003-04, CTSA applied for FTA Section 5310 funds to purchase two CNG buses. CTSA has negotiated an agreement to purchase CNG fuel from GET to operate these alternative fuel buses. CTSA is moving toward a CNG bus fleet to replace their existing gasoline powered vans.

In response to a ridership drop from 2000 to 2003, CTSA has provided made several service improvements including wheelchair accessibility on more of its buses and the hiring of additional drivers. By early 2004, CTSA experienced a 24.7% increase in ridership over 2003, despite a fare increase to \$1.50 in September 2003 and then to \$2.00 in June 2004.

Kern Regional Transit

Kern Regional Transit continues to increase mobility within Kern County with its Express intercity services. Two service expansion projects were introduced in 2001:

- 1) Intercity service between Ridgecrest and Mojave. The schedule is designed primarily for commuting workers and students, with additional midday trips for shopping and medical purposes;
- 2) Intercity service between California City and Palmdale. The schedule, similar to the Ridgecrest service extension, accommodates commuting workers and students with additional trips for shopping and medical purposes. The California City service to Palmdale also provides Kern County transit users a connection with Metrolink rail service to the Los Angeles area and other modes of transportation services.

In early 2002, KRT joined with Inyo Mono Transit to provide CREST (Carson Ridgecrest Eastern Sierra Transit), from which transit users can connect in Ridgecrest to points north, including Lone Pine, Independence, Bishop, and Mammoth. The need for this intercity route was brought about by the cancellation of Greyhound's commercial intercity service along the US 395 corridor, which was suspended in August 2001. Communities and cities in the eastern Sierra, north of Mojave, were left without frequent and effective public or commercial service upon the demise of Greyhound service.

CREST is critical to meet the transportation needs of people living and traveling along US 395 and State Route 14. It provides the vital linkage to existing public and commercial transportation services currently serving the counties of Kern, Los Angeles, Inyo and Mono, including demand response services operated by Ridgecrest, California City, Mojave and Rosamond; Antelope Valley Transit Authority and Metrolink in Lancaster/Palmdale; Santa Clarita Transit in Palmdale and Santa Clarita communities; intercity service to Bakersfield with connections to Greyhound and Airport Bus of Bakersfield; Amtrak; and connections to regional air service in Inyokern and Bakersfield.

KRT has implemented state and federal grants to acquire capital items such as replacement diesel buses, replacement CNG buses, a CNG fueling site and bus shelters.

Amtrak – San Joaquin Service Improvements

The state-supported Amtrak San Joaquin service presently extends 362 rail miles between Oakland and Bakersfield and 314 miles between Sacramento and Bakersfield. Four round-trip trains operate daily, and three of these train sets are stored overnight in Bakersfield. Bakersfield represents both the end of the line for the current rail service and the stepping-off point for further travel to southern California and Nevada. Growing demand for rail service on the San Joaquin line prompted Caltrans to add a second train from Stockton to Sacramento in March 2003. Amtrak continues to provide a prompt, inexpensive service in the Central Valley where airlines do not.

In FY 2002-03, the Bakersfield station handled 697,576 passengers (boardings and alightings) and was second only to Sacramento as the busiest Amtrak station on the San Joaquin route. In FY 2000-01, the Bakersfield station was ranked fourth busiest among all Amtrak stations in California.

Caltrans anticipates that demand will warrant eight round-trips on the San Joaquin Amtrak service by 2006. Start up dates for service are based on projected service needs; demonstrated ridership demand, institutional barriers, availability of operating funding and equipment, availability of capital funding for capacity improvements requested by operating railroads, and technical issues outside Caltrans' control will affect when service improvements can be implemented.

Caltrans' proposed expansion of the San Joaquin Route includes:

- 2010-11 Sacramento – Bakersfield, third train to extend from Stockton to Sacramento (seventh round-trip on route).
- 2012-13 Oakland – Bakersfield, fifth train to extend from Stockton to Oakland (eighth round-trip on route).

This commitment to the San Joaquin route is well founded by the growth forecast for the Central Valley over the next two decades.

Transit Needs and Issues

Limited Transit Dollars

Financial resources for public transportation are limited while demand for those resources continues to increase. Traditional public transportation revenue sources do not support the increasing need for public mass transportation to help mitigate population increases, clean air mandates, and trip reduction programs. Should a countywide transportation sales tax measure be implemented, a portion of this revenue would provide capital and operating revenues for all public transit providers.

Kern County is the only major urbanized California county without a dedicated sales tax to support both highway and transit improvements. The expansion of public transportation services in the County is predicated on an aggressive financial plan. Chapter 7 - Future Links provides a discussion of the benefits Kern County's infrastructure would have from a dedicated revenue source,

Short-Range Transportation Development Plans (TDPs)

Transit Development Plans (TDPs) for Kern transit agencies are usually updated every five years and are used as planning tools focusing on short-term transit needs and improvements. From 2000 to 2003, TDPs were prepared for the East Kern area, Boron and North Edwards area, and the cities of Ridgecrest, Tehachapi, and Wasco. For FY 2004-05, Kern COG has requested funds to update the TDP for the City of Delano. McFarland, Shafter and Wasco are proposed as TDP candidates in FY 2005-06.

Senior/Mobility-Disabled Public Transportation

The senior and mobility-disabled populations in Kern County have limited access to public transportation. Differing fare structures, trip priorities, and limited service hours inhibit a coordination of efforts among operators of senior and disabled transportation. A countywide Consolidated Transportation Service Agency (CTSA) could be developed to incorporate all public operators of disabled and senior transportation. Expanding the CTSA would provide a means for coordination of services and efforts.

Population Residing More Than ¼ Mile From Transit Route

GET District policy is for 90 percent of residents within metropolitan Bakersfield to be within one-quarter mile of an existing route; however, within the District, several populated areas are more than one-quarter mile from a transit route. Currently, GET serves about 75 percent, or 15 percent less than the District goal. Most of this population is on the periphery of metropolitan Bakersfield, with some areas that form "holes" in the one-quarter mile buffer around the routes. While some of the unserved areas may not have high transit potential, portions of the southwest have high transit potential, but may be currently under-served.

Continued development around the urban fringe presents many difficulties in meeting route coverage standards. Much of the new development is low density; middle and upper income housing that tends to generate little transit ridership. Furthermore, new development is not always contiguous to existing development causing transit services to cover unproductive miles in outlying areas that generate low ridership. However, urban fringe development may generate levels of transit ridership to justify express bus service, such as is offered by GET has between Bakersfield College and Cal State Bakersfield.

Current Transit Planning Activities

Regional Rural Transit Strategy

Kern COG initiated a study to evaluate alternatives to its current network of rural transit services. Nelson\Nygaard Consulting Associates, working with Kern COG and a project advisory committee representing transit providers and social services throughout Kern County, inaugurated this effort, the Regional Rural Transit Strategy (RRTS), in Spring 2002.

The first report of the RRTS inventoried existing public transit services in rural Kern County. The second report identifies possible alternatives to existing public transit service and the third report recommends strategies to improve the rural Kern County public transit system. The first report provided the following as areas of focus:

- To identify alternatives that would improve the overall quality of transit service in Kern County;
- To identify alternatives to traditional transit addressing Kern County's regional rural mobility needs;
- To develop coordination alternatives that realize an improvement over the way transit is currently operated;
- To review, identify, and discuss alternative administrative and oversight models for transit services in Kern County;
- To create a strategy for increasing the visibility and importance of transit in Kern County;
- To create partnerships between transit and non-transit organizations in addressing Kern County's transit needs.

The second report provided a series of alternatives for further consideration.

The RRTS will produce recommendations for alternative methods of countywide public transit service focusing on improving efficiency, effectiveness and cost savings. A cost benefit analysis is will be prepared in FY 2004/05.

Eastern Sierra Public Transportation Plan

Kern COG has contracted preparation of a Public Transportation Plan for the Eastern Sierra region, ultimately to provide connectivity from Lancaster/Palmdale to Carson City,

Nevada. In the shorter term, the study will focus along the State Route 14/Highway 395 corridor from Mojave to Mammoth. The study will focus on three primary objectives:

- 1) Enhancing the current lifeline intercity services available throughout the Eastern Sierra;
- 2) Improving intercity connections and providing new services to expand the transportation alternatives in the Eastern Sierra;
- 3) Determining the feasibility of passenger rail service in the Eastern Sierra.

The study will analyze public transportation needs for residents living as far south as Los Angeles and San Bernardino Counties, as far north as Reno, and will involve multiple governmental agencies. A secondary function of the study will be to determine what transportation improvements could lead to regional economic improvements. The study should be concluded by December 2004.

High Speed Rail Authority

Established in 1996, the California High-Speed Rail Authority is charged with the planning, designing, constructing and operating a state-of-the-art high speed train system. The proposed system stretches from San Francisco, Oakland and Sacramento in the north -- with service to the Central Valley -- to Los Angeles and San Diego in the south. With bullet trains operating at speeds up to 220 mph, the express travel time from downtown San Francisco to Los Angeles would be just under 2 ½ hours. Intercity travelers (trips between metropolitan regions) along with longer-distance commuters would enjoy the benefits of a system designed to connect with existing rail, air and highway systems.

The recommended high speed rail network would be approximately 676 miles long, and would serve over 90 percent of the state's population. The system would be completely grade-separated, double-tracked and electrified, with maximum speeds exceeding 200 mph.

The first major challenge to the Authority is to secure financing in order to implement the system. Detailed financial projections show that farebox and other revenue will not be sufficient to finance the construction costs of a high speed rail system. A voter approved public funding source (such as a statewide bond measure) will be needed to provide a stable source for construction. The high speed rail construction bond measure is tentatively scheduled for voter approval in November 2004. However, the governor has proposed moving the construction bond measure to November 2006, which would coincide with the currently proposed construction start date.

Proposed Actions

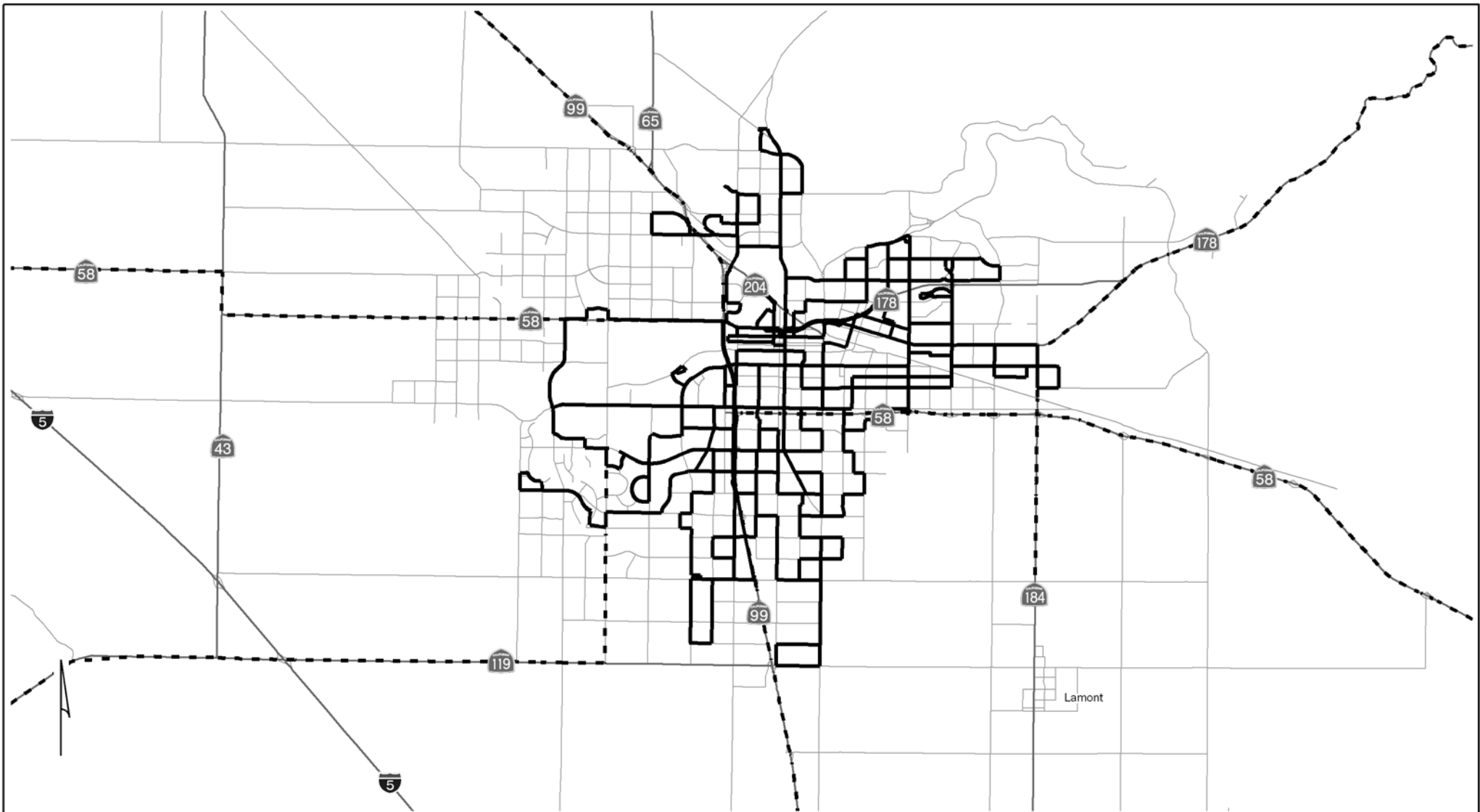
Near-Term, 2004-2009

- Assist local transit agencies in marketing their services.

- Prepare a countywide transit marketing brochure.
- Update the Transportation Resource Directory in consortium with CTSA.
- Update the Social Services Transportation Action Plan.
- Replace full- and mid-size diesel buses with alternative fuel buses within both metropolitan Bakersfield and rural communities, as funding becomes available.
- Construct transfer stations, as identified in Table 4-1
- Determine appropriate locations for park-and-ride lots; construct as funding becomes available.

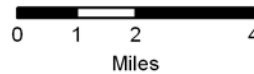
Long-Term, 2010-2030

- Replace all full- and mid-size diesel buses with alternative fuel within both metropolitan Bakersfield and rural communities, as funding becomes available
- Construct transfer stations, as identified in Table 4-1
- Determine appropriate locations for park-and-ride lots; construct as funding becomes available.



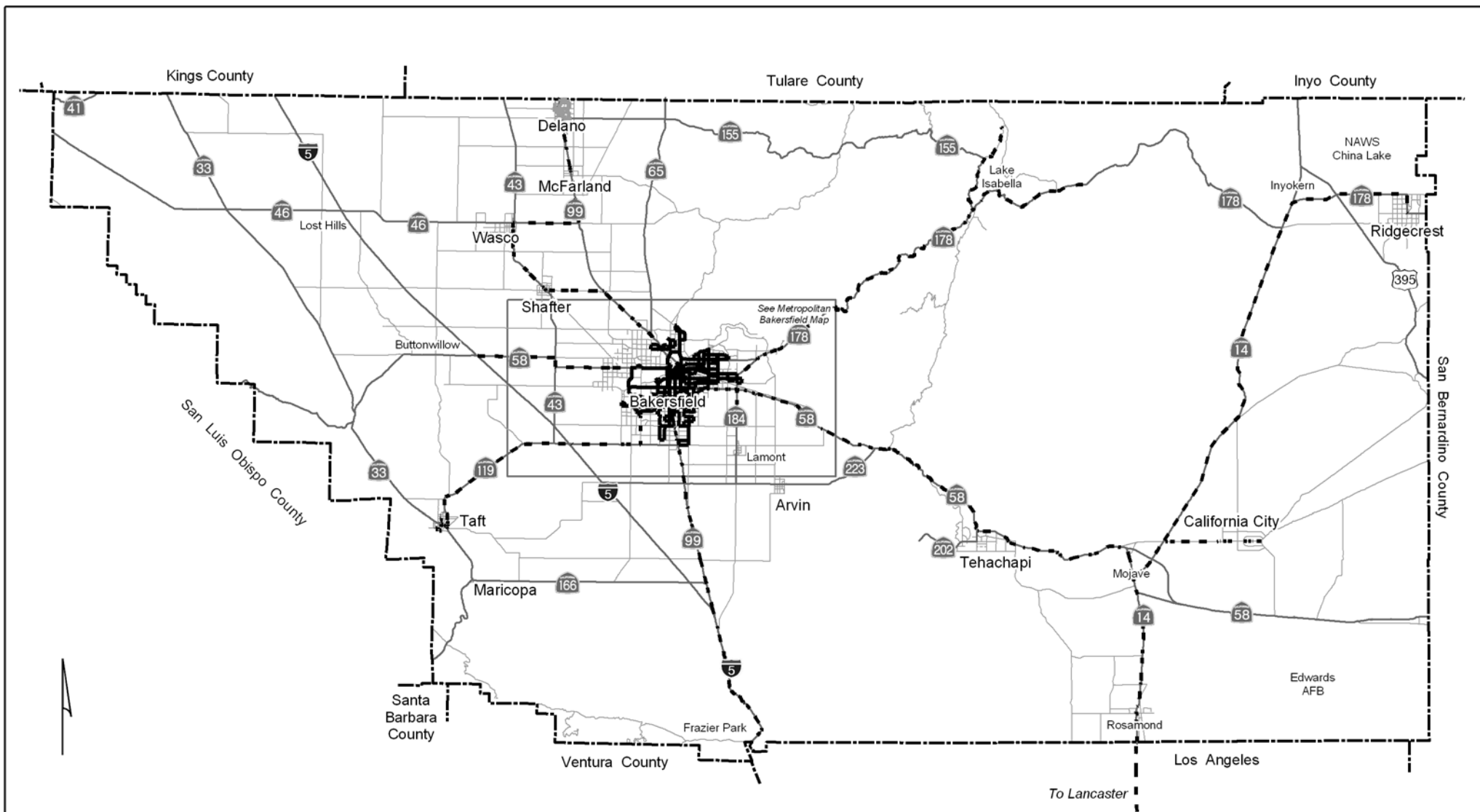
**Kern Council
of Governments**

- Golden Empire Transit
- - - Kern Regional Transit



Metropolitan Bakersfield Fixed Route Transit (2000)

Figure 4-12



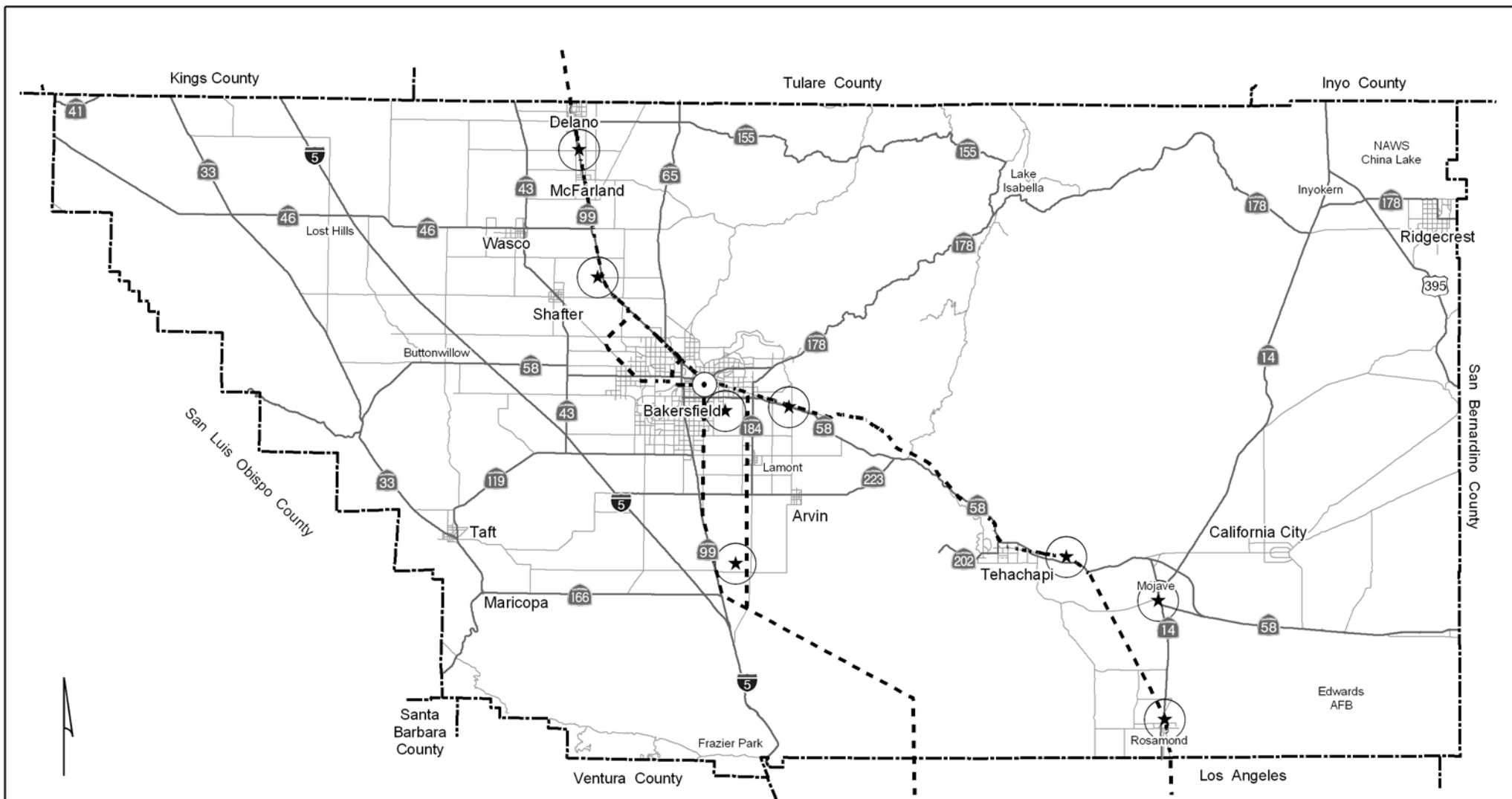
**Kern Council
of Governments**

- Golden Empire Transit
- - - Kern Regional Transit
- Delano Transit

0 5 10 20
Miles

Fixed Route Rural Transit (2000)

Figure 4-13



**Kern Council
of Governments**



Proposed Maintenance Sites



Proposed Station Site

----- Proposed High Speed Rail Alignments



High Speed Rail Alternatives (2002)

Figure 4-14

AVIATION ACTION ELEMENT

Kern County's airports address a variety of local and regional services. The aviation system connects the traveling public and freight and cargo movers with California's major metropolitan airports. The aviation system serves the U.S. military directly or in an auxiliary fashion. Many of the airports support local farmers as well as police and medical services. Aviation activities also provide recreational opportunities for the citizens of Kern County. Together, the airports provide a viable mobility option for the County's residents and businesses.

Existing Aviation System

Kern County's regional airport system includes a diverse range of aviation facilities. It is comprised of seven airports operated by the Kern County Department of Airports, four municipally owned airports, three airport districts, two privately owned public-use airports, and two military facilities (Figure 4-9).

Scheduled air carrier and commuter airline service is provided at Meadows Field, which serves metropolitan Bakersfield and surrounding communities. Scheduled commuter services are also provided at Inyokern Airport, which serves communities in the Mojave desert and eastern Sierra regions.

General aviation needs are served by public use airports, both publicly and privately owned, throughout the County. These serve the full range of business, agriculture, recreation, and personal aviation activities.

Kern County's aviation system includes 14 publicly owned airports that are open for use by the general public:

- Meadows Field
- Elk Hills/Buttonwillow
- Kern Valley Airport
- Lost Hills Airport
- Poso Airport
- Wasco Airport
- Taft Airport
- Bakersfield Municipal Airport
- California Municipal Airport
- Delano Municipal Airport
- Tehachapi Municipal Airport
- Mojave Airport
- Inyokern Airport
- Minter Field

Characteristics of Kern County's public access airports vary significantly, from size and number of operations to their types of activities and to their expected growth and impact on their local economies. As a group, the airports combine a range of services designed to meet the passenger, business, agricultural, recreational and emergency service needs for the region.

County of Kern Airports

Meadows Field, located on 1,107 acres four miles northwest of central Bakersfield, is classified as a commercial service primary airport under the National Plan of Integrated Airport Systems. This facility serves both commercial and general aviation needs for Bakersfield and the southern San Joaquin Valley region.

The airfield consists of two parallel runways and associated taxiways. The main runway (12L/30R) was extended over 7th Standard Road to a length of 10,857 feet in 1987. This is a Category I Instrument Landing System runway with a Medium Intensity Approach Lighting System with Runway Indicator Lights, Precision Approach Path Indicator, and Medium Intensity Runway Lighting System. Airport Surveillance Radar is located northeast of runway 12L/30R.

The airport terminal is a 16,400 square-foot complex of two-story buildings. First floor activities include boarding gate access, passenger ticketing, baggage, and waiting areas, gift shop and FAA offices. County airport administrative offices and equipment are based on the second floor. Office space, a training room, and a control tower are also located onsite. A new traffic control tower located 1,600 feet northeast of the threshold of runway 30R provides air and ground communications and is staffed 17 hours per day.

Meadows Field was the first airport for the Bakersfield area and was established in 1927. By 1930, the airport handled over 12,000 passengers and close to 7,000 operations annually; by 2003, Meadows Field handled 90,634 passengers with a total of 151, 789 operations. America West, Continental Airlines and United Express currently provide passenger services: American West provides direct service to Phoenix Arizona; Continental Airlines provides direct flights to Houston, Texas; and United Express provides direct flights to Los Angeles and San Francisco.

Meadows Field is an active general aviation airport; numerous Kern-based corporations use the facility for their operations. General aviation is served on approximately 35 acres both northwest and southwest of the terminal area. A full range of fixed-base services is available.

Air cargo operations for the Kern region are primarily conducted at Meadows Field, with an increase in activity from 964 tons in 1995 to over 1700 tons by 2030. Federal Express, DHL/Airborne Express, UPS, USPS, United Express and Continental Airlines

currently provide air cargo service from Meadows Field. The *Kern County Airports' Master Plan* update, in preparation through March 2005, will determine the best methods to market further air cargo operations. As Los Angeles-region airports reach saturation, Meadows Field should be considered a prime contender for increased air freight shipment.

Elk Hills/Buttonwillow Airport serves seasonal agricultural aircraft and personal aviation needs of western Kern County. It is located near the intersection of Interstate 5 and Route 58, a highway-oriented commercial area.

The airport has a 3,260 foot unlighted runway, paved aircraft tiedown space for twelve aircraft, and ten automobile parking spaces. Existing land use in the vicinity of the airport is agriculture.

Kern Valley Airport serves commercial, recreational, and occasional fire suppression activities in the Lake Isabella/Kern River Valley area, and is on lease from the U.S. Forest Service. The airport is located south and east of the community of Kernville. Other nearby communities include Wofford Heights, Lake Isabella, Bodfish, Mountain Mesa, Onyx, and Weldon. Outdoor recreation is the prime attraction in this region, and aviation activity continues to increase.

The airport has a 3,500-foot runway and 30 aircraft tiedowns, 15 hangar spaces, and parking for 20 automobiles. Other facilities include gasoline sales, a fixed-base operator and a restaurant. The airport is situated on 51.5 acres leased from the National Forest Service; a Forest Service fire-fighting base is adjacent to the airport on 3.5 acres.

Existing land use includes a small residential area northeast of the airport, farm and rangeland to the east and south, and Lake Isabella on the west. A fly-in campground is available on the west side of the airport.

Lost Hills Airport serves local and regional agricultural, business, and personal aviation needs in northwestern Kern County, and is located the intersection of I-5 and Route 46. This intersection is developing as a highway-oriented commercial area. Route 46 is the primary access to the central coast area from the southern San Joaquin Valley. The airport is an important base for agricultural aircraft operating over the area's extensive cropland.

The airport currently has a 3,020-foot runway, 12 aircraft tiedowns, and four hangar spaces. Existing land use around the airport is predominantly agriculture, with a small residential area northwest of the runway. The community of Lost Hills is west of the airport.

Poso Airport, located approximately 20 miles north of Bakersfield, is used primarily for agricultural and training aircraft. Airport access is via Route 99 and Route 46 East. The

airport is also used for recreational purposes in conjunction with drag racing events at an adjacent paved strip. Poso has a 3,000-foot runway and 20 aircraft tiedowns. No other services or facilities are available. Adjacent land use is agriculture, with a small highway oriented commercial development to the northwest of the airport.

Taft Airport serves business and personal aviation needs for the City of Taft and southwestern Kern County, an area of intensive oil production and processing. While significant demand has been voiced for an airport in this region, the existing facility has been considered unsatisfactory for some years. The runway heading is poorly oriented to wind direction; the runway gradient of 2.2 percent exceeds FAA standards, and insufficient land is available for improvements. Kern County is currently evaluating available options for improving the airport. Existing facilities include two runways, 7/25 and 3/21, with 3 and 7 used for take-offs downhill and 21 and 25 used for landings uphill. Eighteen aircraft tiedowns, 22 T-hangars, and five hangar spaces are available. Runway 7/25 has medium intensity runway lighting and the airport has a beacon. Adjacent land uses consist primarily of oilfield-type activities to the north, east, and south with the urban area of the City of Taft to the west.

Wasco Airport serves agricultural, business, and personal needs for the area around the City of Wasco. The airport is located one mile north of Wasco and 22 miles northwest of Bakersfield. The airport is an important base for agricultural aircraft operations. The airport has a 3,380-foot runway, 36 aircraft tiedowns, six shelters, 11 T-hangars, and four hangar spaces. The main runway has a medium intensity runway lighting system and the airport has a beacon. Existing land use in the vicinity of the airport is agriculture.

Municipal Airports

In addition to the airports operated by Kern County, four airports are owned and operated by municipalities located in three geographic sub regions of the County: San Joaquin Valley, Southern Sierra/Tehachapi Mountains, and Mojave Desert. In the Valley, the Cities of Bakersfield and Delano operate municipal airports. The City of Tehachapi operates a municipal airport in the mountain area, and California City Municipal Airport is located north of the desert community of Mojave.

Bakersfield Municipal Airport serves business, personal, and recreational aviation needs in the Bakersfield metropolitan area. The airport has completed an ambitious development program, including land acquisition, and construction of a 4,000 foot runway, associated taxiways, and support facilities. Bakersfield Municipal is located in southeast Bakersfield, approximately 1.5 miles south of Route 58 and about two miles east of Route 99. When purchased by the City of Bakersfield in 1985, the airport consisted of 100 acres; the City is in the process of acquiring an additional 83 acres.

Existing land use in the vicinity of the airport consists of industrial to the west and north, low-density and rural residential to the northeast and east, and rural/ agricultural to the east and south. Planned land use for the area adjacent to the airport, as depicted in the Casa Loma Specific Plan, continues the current pattern, with some extensions of industrial activity in existing undeveloped areas.

California City Municipal Airport is used for various general aviation activities, especially recreational aviation. The airport is located northwest of California City approximately eight miles east Route 14 and two miles north of California City Boulevard. The airport consists of a single 6,035-foot runway with medium intensity runway lighting and a 5,010-foot parallel taxiway. Two dirt glider landing strips and a parachute drop zone is located $\frac{3}{4}$ mile south of the airport. Existing land use in the immediate area is predominantly underdeveloped desert, with developed portions of the City east of the airport.

Delano Municipal Airport serves business, personal and recreational aviation activity in the north-central part of the County. Extensive crop dusting and helicopter operations, as well as ultralight activities, are accommodated at this airport. The airport is located just east of Route 99 approximately two miles southeast of central Delano. Existing facilities consist of a main runway that is 5,650-feet long. A secondary runway is 3,500-feet long and is a converted taxiway used by agricultural crop dusting aircraft. The main runway has medium intensity runway lights and precision approach path indicators on both ends. A displaced threshold on the secondary runway with 4,010-feet is available for aircraft landings.

Existing land use consists of mixed urban uses to the northwest; a golf course and park area to the northeast; industrial uses to the east and south; and Route 99 to the west.

Tehachapi Municipal is a general aviation airport providing business, personal and recreational aviation services. The airport is located between Route 58 and Tehachapi Boulevard. The airport is also adjacent to the Union Pacific Railroad, but a railroad spur into the airport is not currently available. Existing airport facilities include a 4,035-foot runway equipped with low intensity lighting and precision approach path indicators, as well as displaced thresholds, on both ends of the runway.

Existing land uses consists of industrial to the west, east and south, urban residential uses to the south, and Route 58 freeway on the north. North of the freeway is proposed for primarily commercial and office uses.

Airport Districts

Three airport districts operate in Kern County; each is organized as a special district, with a board of directors and an airport manager. Minter Field is located within the City of Shafter. East Kern and Indian Wells are in eastern Kern County.

Inyokern Airport serves the China Lake Naval Air Weapons Station, the community of Inyokern, and the City of Ridgecrest with scheduled airline service to the Los Angeles basin and other areas. It also serves local general aviation needs for personal, business and recreational flying. Several fixed-base operators provide services at the airport. The airport is located northwest of the small community of Inyokern.

Existing facilities consist of three runways, longest of which is the 7,344-foot runway 15-33. This runway and runways 2-20(6,275-feet length) and 10-28 (4,153-feet length) are equipped with medium intensity runway lights and precision approach path indicators on runways 20 and 33. Displaced thresholds are located on both ends of runway 15-33 and runway 20.

Skywest operates a fleet of turbo-prop aircraft, and began air carrier service from Inyokern to Los Angeles International February 1951. Skywest currently provides three daily flights to LAX. Given the proximity to Reno and Las Vegas, service to these cities may be considered at some future date.

A fixed-base operator currently provides aircraft maintenance and flight instruction service. The airport provides both automated and full service jet fueling. Federal Express currently provides air cargo service, moving over 500 tons annually.

Other activities at Inyokern include based and itinerant soaring activity, film production, and Sheriff's department search and rescue activities. The airport hosts annual air shows and drag races. The airport is in the process of acquiring fire-fighting equipment for aircraft crash protection.

Mojave Airport currently offers fixed-base operator facilities for airport users from Edwards Air Force Base, Rosamond, Mojave, Tehachapi, California City, and Boron. The airport serves as a civilian flight test center for business, military, civil, and home-built aircraft being development testing. It also serves as a base for modification of major military and civilian aircraft. The airport is located northeast of the community of Mojave and is within one mile of Routes 14 and 58. A rail spur from Union Pacific Railroad leads into the airport.

Existing airport facilities include a 9,600-foot runway 12-30 and two crosswind runways 7-25 and 4-22. Runway 12-30 is equipped with high intensity runway lights and 7,040-foot runway 7-25 is equipped with medium intensity runway lights. Runway 4-22 is 4,900-feet long but has no lighting.

Existing land use in the vicinity consists of mixed urban use to the east and south in the community of Mojave, industrial and highway commercial uses to the northwest, and undeveloped desert to the north and east. The airport itself includes a substantial area devoted to aviation related industrial uses.

Minter Field serves general aviation activities at the junction of Route 99 and Lerdo Highway. Minter Field has two main runways and one crosswind runway. Runway 12/30 is 4,520-feet long, has both VOR and GPS non-precision instrument approaches and is equipped with a precision approach path indicator and landing lights. Runway 15/33 is 2,980 feet long. A third runway, 8/26, is 3,550 feet long and is used primarily by agricultural aircraft; it is in the process of being rebuilt to the north. The airport does not have a control tower.

Minter Field is surrounded primarily by agricultural uses with a housing development and commercial area and campground to the south, and industrial uses to the south. The airport owns three miles of rail spur connected to the Union Pacific railroad and is served directly by Kern Regional Transit.

Military Aviation Facilities

China Lake Naval Air Weapons Station (NAWS) and Edwards Air Force Base (EAFB) are located in an area referred to as “the R-2508 complex”, which is used for the advancement of weapons systems technology and tactical training. The R-2508 complex consists of several restricted airspace areas; it is approximately 110 miles wide and 140 miles long, and covers approximately 20,000 square miles in eastern Kern, San Bernardino, Los Angeles, Ventura, Tulare, and Inyo counties. However, the nature of operations conducted within this airspace creates a flight hazard to non-military aircraft..

In addition to NAWS and EAFB, other military installations use this air space, including Fort Irwin Military Reservation near Barstow and Air Force Plant 42 at Palmdale.

Needs and Issues

Demand

In general, demand for aviation services appear to be met within Kern County. Most of the capital improvement projects for Kern County airports focus on maintenance of existing runways and taxiways with an occasional need to improve navigational aids. However, Kern County Airports' staff is working towards qualifying Meadows Field as a reliever airport for Los Angeles International Airport.

Given aviation forecasts for Los Angeles International Airport, at some time over the next twenty years air traffic for the region may reach saturation Minter Field in Shafter, Delano Municipal, and Bakersfield Municipal have all recently invested in above ground automated fueling system to reduce staff cost and improve fueling service hours to local and itinerant pilots. Over the next 5 to 10 years, Kern County airports as well as airports

across the nation, may be investing in navigational equipment designed to allow instrument approaches using global positioning system technology.

Airport Ground Access/Intermodal Connectivity

Regional passenger air service and its intermodal connectivity to the ground transportation systems is a key federal transportation planning goal. Just as land use should be designed to take maximum advantage of the existing transportation infrastructure capacity, the transportation infrastructure should be also designed to maximize access to key intermodal passenger hubs such as regional airports, transit and rail. The existing transportation infrastructure includes two regional airports with passenger service in Kern County. Meadows Field is the primary regional facility for Metropolitan Bakersfield and the Southern San Joaquin Valley. Inyokern Airport services the Ridgecrest, Indian Wells Valley in Northeast Kern.

Existing conditions for the new terminal at Meadows Field provide good access to State Route 99 via Seventh Standard Road. Improvements to this access route are scheduled in the 2004 Federal Transportation Improvement Program. The potential for Meadows Field to serve as an overflow facility for Southern California's air traffic may create the need for improvements to ground access. Improvements to Airport Drive, Snow Road, Seventh Standard Road and Route 65 near the airport may be necessary. Better connectivity with the existing Amtrak station in downtown Bakersfield and the potential for high speed rail to connect San Francisco with Los Angeles could result in the need for a transit shuttle, bus rapid transit, light rail, or spur connection between downtown Bakersfield and the Airport. A ballot initiative on high speed rail may go to the voters in 2006.

Ground access to Inyokern Airport is adequate for the foreseeable future. The potential for air taxi service to smaller airports could increase in traffic at these facilities. Already, corporate jets are using the Internet to pick-up additional travelers headed in the same direction and provide a supplemental funding source for their operation. This capability to book a small aircraft while in flight has transportation planners speculating that a whole industry of air taxi providers using satellite Global Positioning System (GPS) navigation could provide point to point service, maximizing the use of small airports. If this were to occur, an increased demand for vehicle/transit/rail access to existing smaller airports may result. Effort should be made to preserve and maintain access to all civilian airports in the region and expand that access as needed.

Airport Land Use

Over the past decade, former agricultural areas in Kern County have been developed for residential, commercial or industrial use. Since many of the region's public access airports are in agricultural areas or in the urban fringe, much of the new growth is moving closer to the airports. Assuring that the areas around Kern County's airports is

devoted to compatible uses has become a more challenging task in this environment of growth pressures.

Noise issues are generally a function of urban encroachment in the vicinity of an airport. In Kern County, virtually all airports were originally developed in areas that were some distance from other development. Frequently, the very success of the airport served as the catalyst for development in the surrounding area. Since the purpose of an airport is to facilitate the take-off and landing of aircraft, and since aircraft make noise, conflicts over noise are an early indicator that an airport is facing the broader issue of urban encroachment.

Noise contours maps have been prepared through various programs for all of the airports in Kern County, using the FAA Integrated Noise Model. For the more active airports, the noise analysis has been part of preparing an Airport Master Plan. Noise contours were also prepared for airports as part of various ALUC studies. A Comprehensive Land Use Plan has been prepared that includes Land Use Plans, Noise Contours, Airspace Plans and Layout Plans for all airports within Kern County.

Airports throughout the United States were impacted by the events of September 11, 2001. Recently, the Department of Homeland Security has made airport security a top funding priority. Meadows Field and Inyokern airport have constructed security fences and staffed security checkpoints to improve passenger-boarding security and reduce threats of terrorism. It is imperative that Kern County's public access airports meet all Homeland Security directives.

Recent and Current Aviation Planning Activities

Meadows Field is currently constructing a new passenger terminal located on the northeast side of the airport. The project is being funded by federal and state grants as well as City of Bakersfield and Kern County matching funds. The terminal will improve airline operations and meet projected airline service demand for decades.

East Kern Airport District/Mojave Airport is in the process of applying for the first civilian certification as a spaceport. Scaled Composite, an aircraft manufacturer located on Mojave Airport, is attempting to build an aircraft that will eventually take tourists into sub-orbital flight.

Proposed Actions

Near-Term 2004-2009

- Work with Meadows Field and Inyokern Airport to obtain funding from the state and federal governments for their respective development programs;

- Work with local and regional transit providers to increase alternative mode ground access options at Meadows Field;
- Assist Meadows Field with planning related to high-speed rail;
- Work with public access airports to increase their access to state and federal funds.

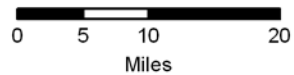
Long Term, 2010-2030

- Continue to work with the public access airports to increase their access to state and federal funds.



**Kern Council
of Governments**

- Kern County Airport System
- Public
- Private (Public Access)
- ★ Military



Airports

Figure 4-15

FREIGHT MOVEMENT ACTION ELEMENT

Efficient freight transportation is critical to the economic health of the Kern region. As one of the prime agricultural regions in the nation, the intra-county road linkage of goods to processing plants, and the inter-county linkage of goods to other regions, manufacturers, and shipping ports is essential. Not only is Kern County a leading agricultural producer, it is also a prominent producer of oil and other minerals. These industries rely heavily on bulk movement by truck, rail and pipeline.

San Joaquin Valley is also becoming a prominent location for regional distribution centers of consumer products, providing service to coastal population centers as well as a growing internal population. In addition, the manufacturing and employment base of the Valley is increasing. All these factors contribute to increasing demand for freight transportation.

Existing System

Trucks

Trucking is the most commonly used mode for transporting freight; its popularity stems from its flexibility, timely delivery and efficiency for haul distances up to 600 miles. Trucking, however, can be more expensive than rail for longer hauls because of its higher energy costs. In addition, trucking is a major cause of street- and highway-surface failures, necessitating a high level of road maintenance.

Heavy trucks contribute to roadway deterioration much faster than do automobiles; however, deferred maintenance and water intrusion in the roadbed continue to be primary causes of road damage. As a result, Kern County streets and highways are subject to rapid deterioration and failure. According to the American Association of Highway Officials, a fully loaded 80,000-pound truck has an impact on roads equal to the passage of approximately 9,000 cars.

Trucking is the dominant mode of freight transport, accounting for 87 percent of outbound tonnage and 81 percent of inbound tonnage (*San Joaquin Valley Goods Movement Study*, September 2000). Commodity movements by truck also indicate a strong relationship with the rest of the state with shipments to/from southern California and the Bay Area, constituting the greatest percentage of total tonnage to and from the San Joaquin Valley (18 and 14 percent of the total, respectively).

To respond to the fastest growing segment of California's economy, the California Legislature approved SCR 96 in April 2000 to create a Global Gateways Development Program, with Caltrans as the lead. The purpose of this program is to identify and implement transportation infrastructure improvements to facilitate international trade

and goods movement. These improvements will enhance overall mobility and increase access at and through international ports of entry, international airports, seaports, other major Intermodal transfer facilities and distribution centers, as well as trade corridors within the state.

Major interregional highway corridors handle relatively high volumes of heavy (3 to 5 axle) truck traffic, usually between 16-24 percent of the annual average daily traffic (AADT). By their very size and slower speeds, trucks lead to congestion and reduced levels-of-service on rural highways and local streets. In addition, emissions from trucks, like automobiles and trains, have an adverse affect on air quality. While current legislation focuses on implementing Transportation Control Measures for passenger vehicles, TCMs do not specifically address trucking.

San Joaquin Valley's major highway corridors, Interstate 5 and State Route 99, run primarily north/south. Other state highways, such as Routes 46 and 58, play key distribution roles as well. As Kern County develops to support a more mobile and service-oriented population, the need for direct, high-capacity east/west truck corridors become increasingly crucial. Special attention must be given to the regional routes to ensure that they remain in serviceable condition so that major reconstruction costs can be minimized.

Cooperative efforts are needed between the trucking industry, the driving public, and local officials to assess the impacts that trucks have on local streets, and to create regulatory guidelines for trucks in urban areas. Alternative transportation modes for long-haul goods movement are being explored and supported. These include improved Intermodal freight transfer facilities and access at major airports and rail terminals.

Surveys conducted in 2000 for the San Joaquin Valley Goods Movement Study identified several significant truck operational issues. These included congestion, railroad crossings, roadway geometry, parking/rest areas, route restrictions, and traffic signal timing. These issues will be assessed in ongoing goods movement analyses conducted by Caltrans and the eight San Joaquin Valley COGs.

Rail

Trains provide an economical means of transporting bulk goods. Although these engines demand heavy fuel consumption, their ability to haul large amounts of cargo makes for an overall low energy requirement per unit of weight when compared to truck or air transport.

Two major rail companies, Union Pacific (UP) and Burlington Northern Santa Fe (BNSF), serve Kern County. UP representatives report that they operate an average

of 19 trains per day through the San Joaquin Valley carrying food products, general freight, grain, and lumber (*San Joaquin Valley Goods Movement Study*, 2000). UP and CSX Transportation have teamed to offer perishable goods service, and Express Lane offers refrigerated service from the San Joaquin Valley to New York and Boston.

The San Joaquin Valley Railroad operates a regional freight service between Tulare, Fresno, and Kern Counties on leased Union Pacific branch lines connecting outlying areas to mainline carriers, moving freight primarily comprised of agricultural products, throughout the Valley.

Most cargoes shipped by rail are bulk items such as grains, food products, vehicles, and fuels. Rail transport provides the option of specialized rail cars such as flatbeds, refrigerated boxcars, fuel tankers, and piggyback cars. These specialized rail cars allow transport to move a large variety of goods, giving rail an advantage over other transportation modes for distances over 500 miles. Transport by rail is generally less expensive for long hauls than air or truck transport; however, rail is limited by speed and by fixed rail track. A major example of rail limitation is the route over Tehachapi Summit. Part of the route is single track, and although tunnels have been modified to allow double-stacked containers to pass through, traffic in the opposite direction is often diverted to sidings, creating a congested bottleneck. An estimated 65 trains pass through the Summit daily, with a forecasted increase of up to 100 trains per day over the next five to six years.

Greater coordination and integration of the various freight transportation modes is becoming increasingly important. Limited resources and intense pressure on existing transportation systems have brought broad-based support for Intermodal transportation systems. Kern COG will promote public/private cooperation between modes to increase goods movement efficiency while maintaining a reasonable highway LOS.

Rail Intermodal Facilities

Intermodal terminals are critical to the success of intermodal services. Terminals are the starting and ending points for trains, as well as the sites of crucial distribution between modes. Terminals also function as equipment storage, maintenance and dispatching centers, and as focal points for the flow of information. Terminals vary widely in configuration, capacity, and operations, and only a few have been built from the ground up as intermodal facilities.

In the 1980s, railroads consolidated their intermodal service networks into fewer, larger hubs. Railroads saw an opportunity to consolidate facilities with mergers, and a need to consolidate sufficient volume in one location to justify lift machines. The recent rapid growth of intermodal traffic, the enormous influx of double-stacked container trains, and the current entry and rapid growth of rail/truck trailer initiatives all

raise questions about the adequacy of intermodal terminals to handle rail traffic increases efficiently and effectively.

Union Pacific Railroad has intermodal facilities in Fresno and Lathrop. Intermodal facilities for Burlington Northern Santa Fe are located in Bakersfield, Fresno, Modesto and Stockton. Construction of the new Mariposa yard in Stockton by BNSF is one example of direct investment by Class 1 carriers aimed at meeting growing demand for intermodal service. Increased intermodal service will create potential for local truck congestion problems and access to intermodal facilities could become a critical issue.

Air Freight Service

Air freight service is characterized by the fast shipment of small bulk items of high value over long distances for high cost. Goods movement by air is an emerging element of freight movement in the San Joaquin Valley. Statewide, 23 out of 43 commercial air carrier airports account for almost 3 million tons of freight transported by air. While air freight is a specialized mode of transportation, it accounts for an estimated 60 percent of the export values in California. Air carriers depend heavily on truck transportation to deliver goods for transport. A significant feature of air movement is its dependability and very short in-transit time. Air freight has not been a large role in the Kern area, but with the proposed Meadows Field expansions and the continued growth of the LA basin, it is feasible that air freight carriers would consider Kern a favorable alternative location.

Inland Port

An inland port would serve as a cargo facilitation center, where a number of import, export, manufacturing, packing, warehousing, forwarding, customs, and other activities (such as Foreign Trade Zone and/or Enterprise Zone inclusion) could take place and be located in close proximity or at the same site. This facility could function as an inland sorting and depository center for ocean containers transported to the inland port via truck or rail. Further study will be required to fully detail the functions and parameters of an inland port.

The City of Shafter has proposed a commerce facility at its International Trade and Transportation Center to foster inland port status. The facility's first phase would include a container hub allowing distributors to drop empty trailers at the site that other drivers can pick up. This has the potential of eliminating a large number of truck trips over the Grapevine and through the Los Angeles basin. The plan would benefit regional air quality in addition to creating jobs.

Pipelines

Various pipelines carry natural gas, crude oil and other petroleum products throughout Kern County. Storage, pumping and branch lines are used to distribute those

products. Pacific Gas and Electric is responsible for the maintenance and operation of the natural gas line, while major petroleum corporations are responsible for the crude oil pipelines throughout the region.

Hazardous Material Movement

Because more than 50 percent of all goods transported throughout the world are hazardous to some degree, human life and property is potentially endangered. Each year, more than 4 billion tons of hazardous products and waste are transported throughout the United States. Hazardous materials are typically transported by rail, small or large trucks, but are also transported by air and pipeline.

Within the Kern region, emphasis is placed on hazardous materials routing and training of emergency personnel in the event of an accidental spill. The County of Kern and the City of Bakersfield maintain Hazardous Material Response Units. Interstate transportation of hazardous products and waste through the Kern region on Interstate 5 and State Route 99 increases the probability of dangerous spills.

Potentially adverse effects associated with transporting hazardous materials can be partially mitigated by restricting roads available to these shipments. Under California law, transportation of hazardous waste must be carried out via the most direct route over interstate highways whenever possible. Exceptions to this general rule are such occasions when it is necessary to avoid highly congested and densely populated areas.

Kings County, north/northwest of Kern County, is the site of a Class 1 hazardous waste facility. The facility, located at Kettleman Hills, draws trucks carrying hazardous materials from all western states. The presence of these trucks on regionally significant routes increases the probability of dangerous spills.

Needs and Issues

Agriculture and the food processing industry provide a stable base to the economy of Kern County. Population and economic growth pressures have resulted not only in the loss of agricultural land, but also an increase in traffic congestion on the rural roadways that facilitate the “farm to market” goods movement. This congestion affects the safe and timely delivery of fresh produce to market and processing plants.

Farm-related transportation also involves the need to move farming equipment along rural roadways. These roadways are usually single-lane with limited shoulders. Heavy, slow-moving farm equipment along these roads conflict with commuter travel requirements and creates unsafe travel conditions.

The evolving freight movement industry has introduced the concept of “just-in-time delivery,” which replaces warehouses with freight haulers. With just-in-time delivery, the efficient and timely movement of freight along highways and railways becomes ever more essential to the regional economy’s growth and development.

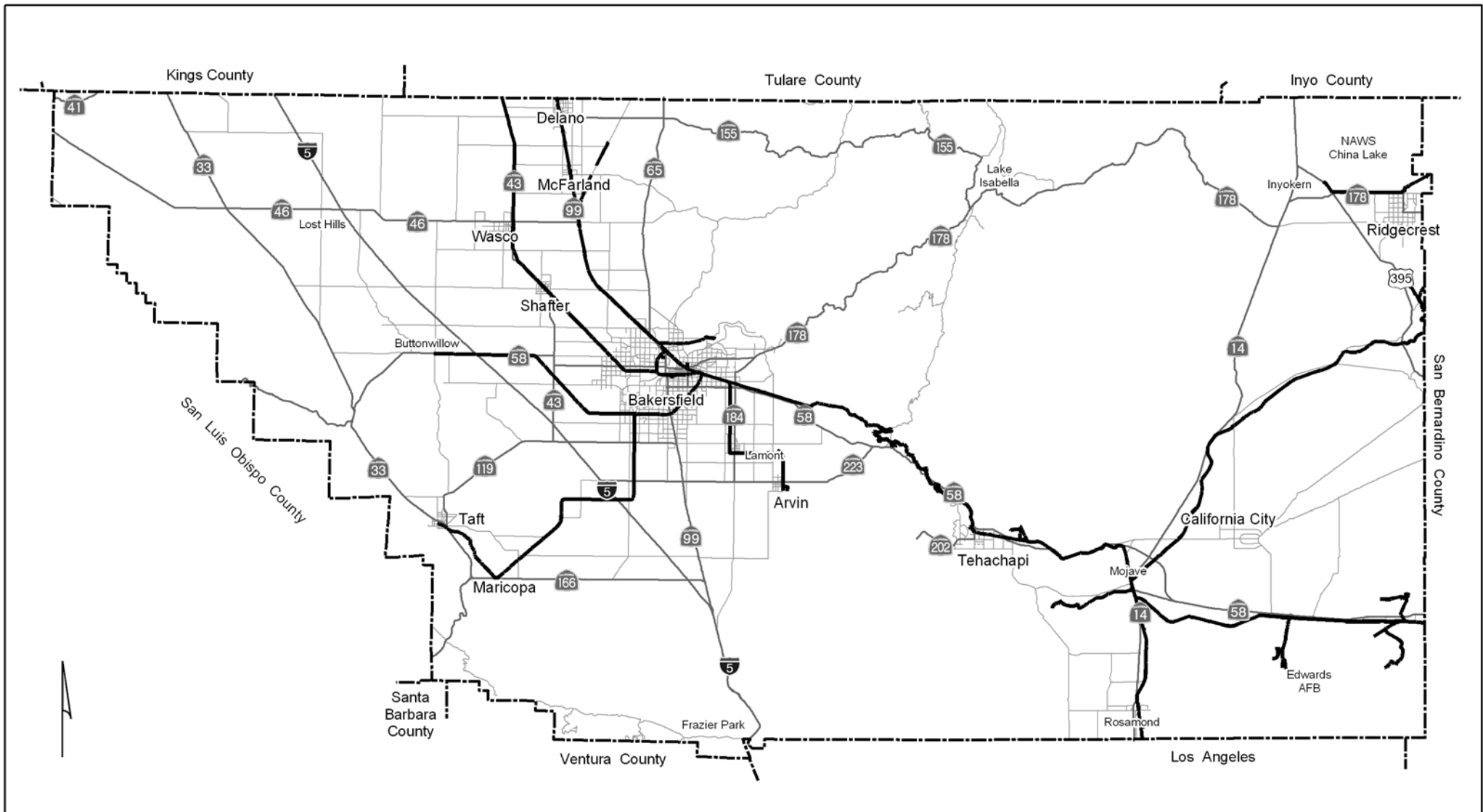
Proposed Actions

Near Term, 2004-2009

- Establish Kern County Goods Movement Task Force.
- Maintain liaison with Southern California Association of Governments and all San Joaquin Valley Councils of Government for efficient coordination of freight movement between regions and counties.
- Construct truck climbing lanes on eastbound Route 58 from General Beale Road to the Bena Road undercrossing.
- In response to proposed freight movement activities at Shafter’s International Trade and Transportation Center and Meadows Field, three highway projects are proposed: (1) Seventh Standard Road and Route 99 Interchange; (2) widen Seventh Standard Road from Coffee Road to Route 99; (3) widen Seventh Standard Road to four lanes from Santa Fe Way to Route 99.
- Continue development of Shafter Intermodal Facility for freight transfer activities.
- Improve Laval Road and I-5 Interchange as part of the Tejon Industrial Park improvements.

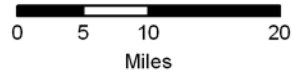
Long-Term, 2010-2030

- Widen Weedpatch Highway (Route 184) to four lanes to respond to increasing agricultural trucking activity.
- Widen Wheeler Ridge Road to four lanes as a gap-closure measure to tie I-5 to Route 58 via Route 184.
- Construct new Route 58 freeway through metropolitan Bakersfield from existing Route 58 at Union Avenue to Route 99 near Golden State Avenue (Route 204), continuing west to I-5. This freeway component would resolve the congested movement
- South Beltway Corridor



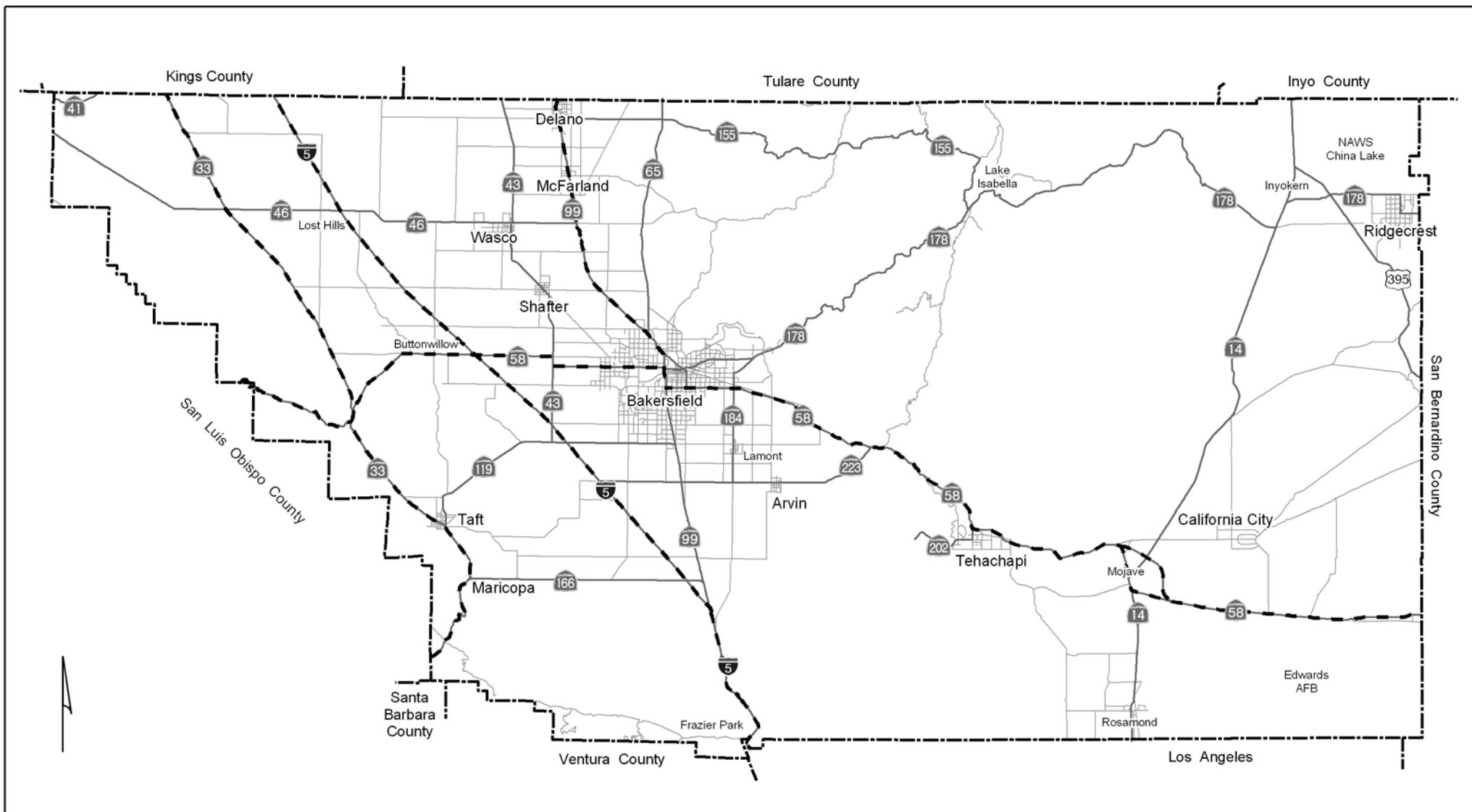
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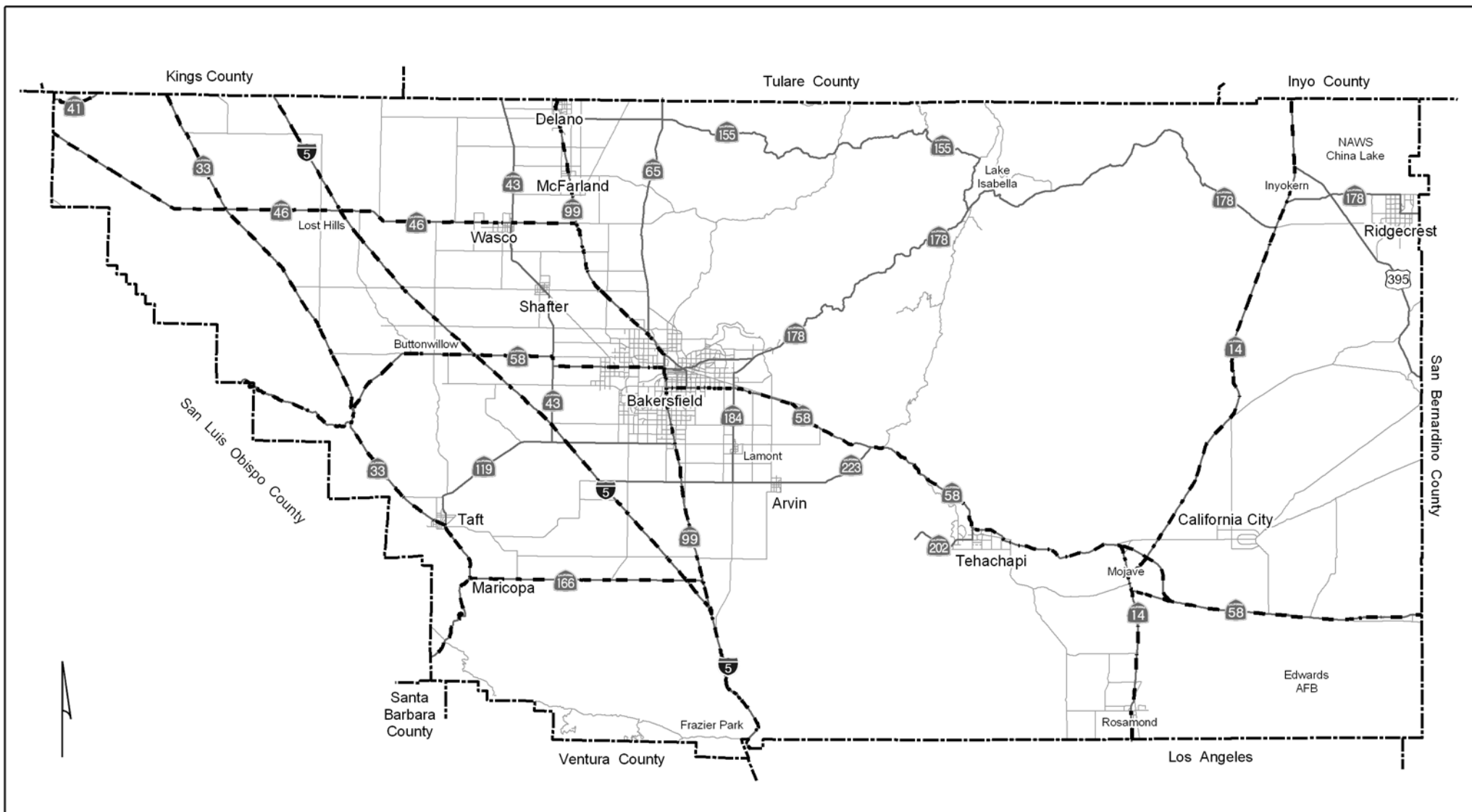
- Rail Corridors
- Major Roads
- Highways



Freight Rail Corridors

Figure 4-16





BICYCLE AND PEDESTRIAN ACTION ELEMENT

Kern County is especially well-suited for bicycle facilities that make a meaningful contribution to the overall transportation system. The climate and terrain of the region is favorable for bicycling, with many clear, dry days and moderate temperatures. For short trips, the bicycle can serve as an alternative to the automobile. Because the bicycle is non-polluting and energy efficient, it is an element in the region's multi-modal transportation system that leads to a more efficient transportation network.

This section of the Destination 2030 RTP focuses on bicycle travel; however, it should not be overlooked that walking is also a viable travel mode. Residential developments are often within walking distance of commercial centers. Mild weather, coupled with safely-designed sidewalks and paths can make walking an enjoyable activity.

Existing Systems

Bicycle facilities generally fall into three distinct categories: Class I bike and variations of Class I facilities are the first category. Class I facilities provide a means of safe and reliable means of transportation for those wishing to cycle or walk to their destinations. Several jurisdictions have variations on Class II facilities, which provide optional striping scenarios to allow on-street parking. The County has a Class III variation that provides a four foot delineated shoulder and bicycle route signing in rural areas.

Accomplishments Since 2000

Bicycle Facilities Plan

In October 2001, Kern COG adopted the *Kern County Bicycle Facilities Plan*, which provided a compendium of bicycle transportation facilities, both constructed and planned. Its intent is to serve as the guide to developing bicycle facilities in an orderly and timely fashion within the region.

In the transportation planning profession, more emphasis is being placed on "soft" solutions to transportation control and traffic congestion. The trend toward solving traffic issues without resorting to expansion of highway and freeway facilities has been evident over the last decade. Kern County has many notable success stories where more effective management of the existing transportation system has reduced or eliminated the need for costly and disruptive expansions. Providing alternatives to automobile travel is a central tenet for smart growth.

The *Kern County Bicycle Facilities Plan* is incorporated by reference as a part of the Destination 2030 RTP.

Class II Bikeway Facilities Constructed

- University Street Bike Lanes (Bakersfield)
- Paladino Bike Lanes Extension (Bakersfield)
- Southwest Bike Path Extension (Bakersfield)
- Redwood Boulevard Bike Lanes (California City)
- Upjohn Avenue Bike Lanes (Ridgecrest)
- Leroy Jackson Park Bike Path (Ridgecrest)
- Bike lanes in various locations (Shafter)
- Main/Gardner Road Bike Lanes (Taft)
- Valley Boulevard Bike Lanes (Tehachapi)
- Snyder Avenue Bike Lanes (Tehachapi)
- “E” Street/City Park Bike Path (Tehachapi)
- Lake Ming Bike Path
(Kern County)

Pedestrian Enhancements

- Tucker, “A”, and Plumtree Streets sidewalks (Arvin)
- Santa Rosa Street sidewalks (Arvin)
- Civic Center sidewalks (California City)
- Sidewalks at various locations (Delano)
- Hall Road between San Diego Street and Main Street (Lamont)
- Mount Vernon Street sidewalk (County pocket within Bakersfield)
- Lerdo Avenue sidewalks (Shafter)
- Tehachapi Boulevard sidewalks (Tehachapi)
- Downtown sidewalks (Tehachapi)
- Sidewalks between Griffith Street and “G” Street on 7th Avenue (Wasco).

Needs and Issues

Maintenance Issues

Maintenance of bicycle facilities has always been an issue for local agencies. Roadway maintenance backlogs in nearly every jurisdiction are increasing annually. As the roadway network expands, maintenance efforts and pavement conditions fall further behind. Commitments for investment into new bicycle facilities cannot guarantee a continuing revenue source for upkeep, particularly for bicycle paths on separate rights-of-way. Rather than diminishing bicycle improvements, however, new funding sources or ways to deal with maintenance should be pursued. Alternative and innovative measures will be studied in order to accomplish the bike master plan.

Public Support

For a number of reasons, bicycling has not realized its full potential as a transportation mode within the Kern region. Primarily, they are relative to: (1) ease of short-distance travel via automobile; (2) lengthy distances between residences and work sites; (3) relatively inexpensive and widely available sources of automobile fuel; (4) lack of shower and/or locker facilities at employment centers; and (5) a general aging of the population that may reduce the number of persons who are inclined to take bicycle trips.

General attitudes toward bicycling also present issues. Many area residents do not view cycling as a real mode of transportation. Such attitudes are attributed to multiple factors:

- Many urban roads do not provide adequate space, because of lack of shoulders, causing some cyclists to ride within the flow of traffic;
- Lack of adequate bicycle facilities, such as lockers or alternative means of securing a bicycle;
- Decentralization of employment centers, residential areas, and retail facilities;
- Lack of education.

Motorists are occasionally unwilling to share the roadways with bicycles, and this may lead to antagonistic situations in the street. Education regarding the transportation system must include cyclists, pedestrians, motorists, and transit passengers.

Current Planning Activities

These activities include implementing the existing Kern County Bicycle Facilities Plan and promoting more pedestrian and bike uses throughout the county as an alternative to driving.

Proposed Capital Improvements

Proposed capital bicycle and pedestrian projects for the Destination 2030 Regional Transportation Plan are listed in Tables 4-1 and 4-2. Specific projects identified include those that have recently received funding commitments as well as those that have been identified by COG-member jurisdictions in their capital improvement plans.

Proposed Actions

Lake Ming Bike Path

The City of Bakersfield is in the process of extending the bike path along Lake Ming. The eastern extension of the bike path will tie the existing trail to the planned Lake Ming Loop. This three-mile section will afford breathtaking views of the Kern River with the Greenhorn Mountains as a backdrop. An added notable feature of this expansion is the

construction of a branch of the bike path between Morning Drive and Alfred Harrell Highway. This segment of the bike path will overlay the 54-inch water pipeline carrying Kern River water for delivery to the soon-to-be constructed Northeast Bakersfield water treatment plant.

Kern COG will assist in seeking the necessary funding to implement the bike path's routing through the county.

Intermodal Bike Facilities

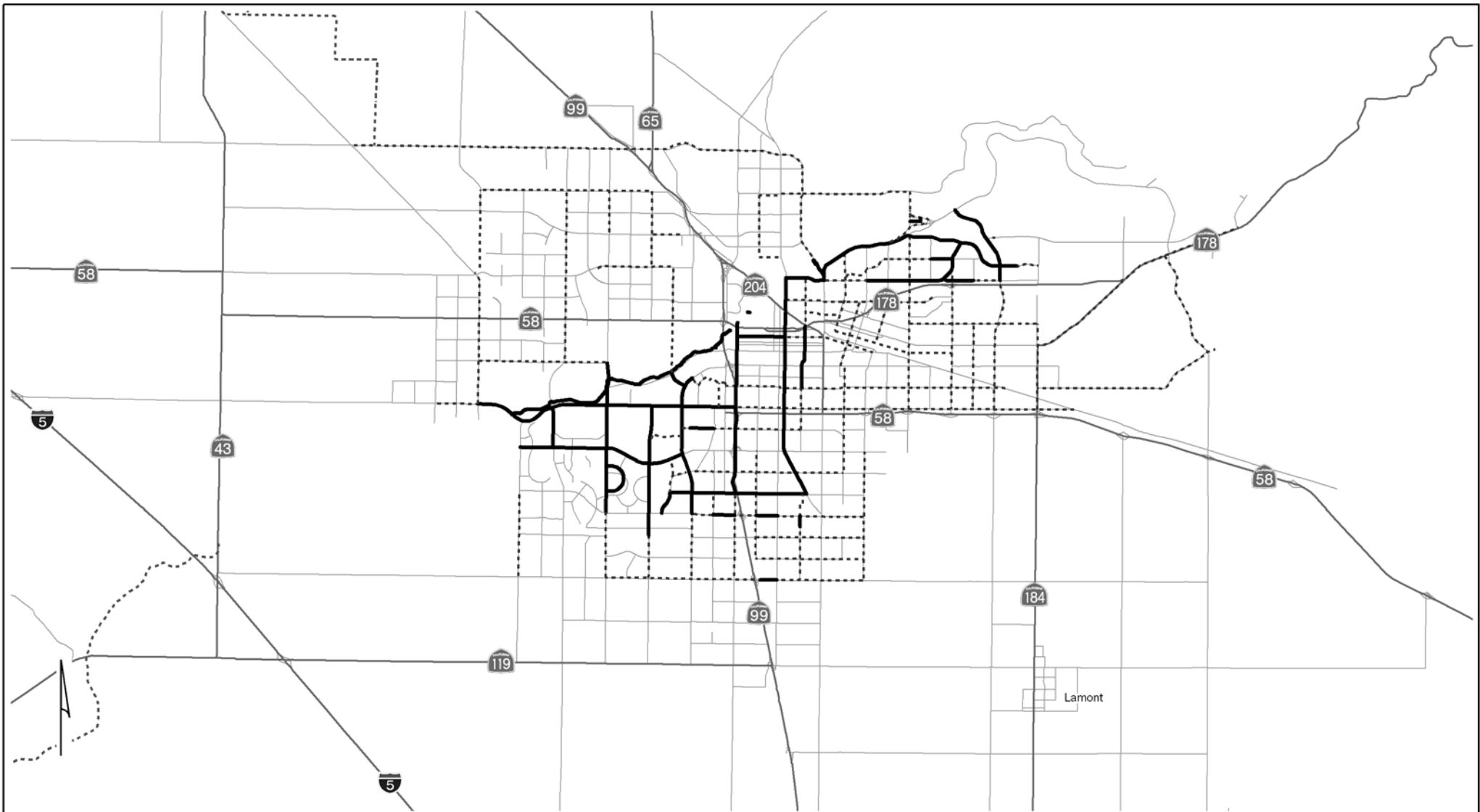
Promote the purchase and construction of bicycle racks and lockers for Kern County multimodal stations. Promote the inclusion of bike tie-downs and racks on commuter trains and buses.

Near-Term 2004-2009

- Encourage COG member jurisdictions to implement their adopted local bicycle plans and to incorporate bicycle facilities into local transportation projects.
- Continue to seek funding for bicycle projects from local, state and federal sources.
- Continue to seek funding to help maintain existing bikeways.

Long Term 2010-2030

- Periodically update the bicycle plan.
- Continue to seek funding for bicycle projects from local, state and federal sources.
- Continue to seek funding to help maintain existing bikeways.



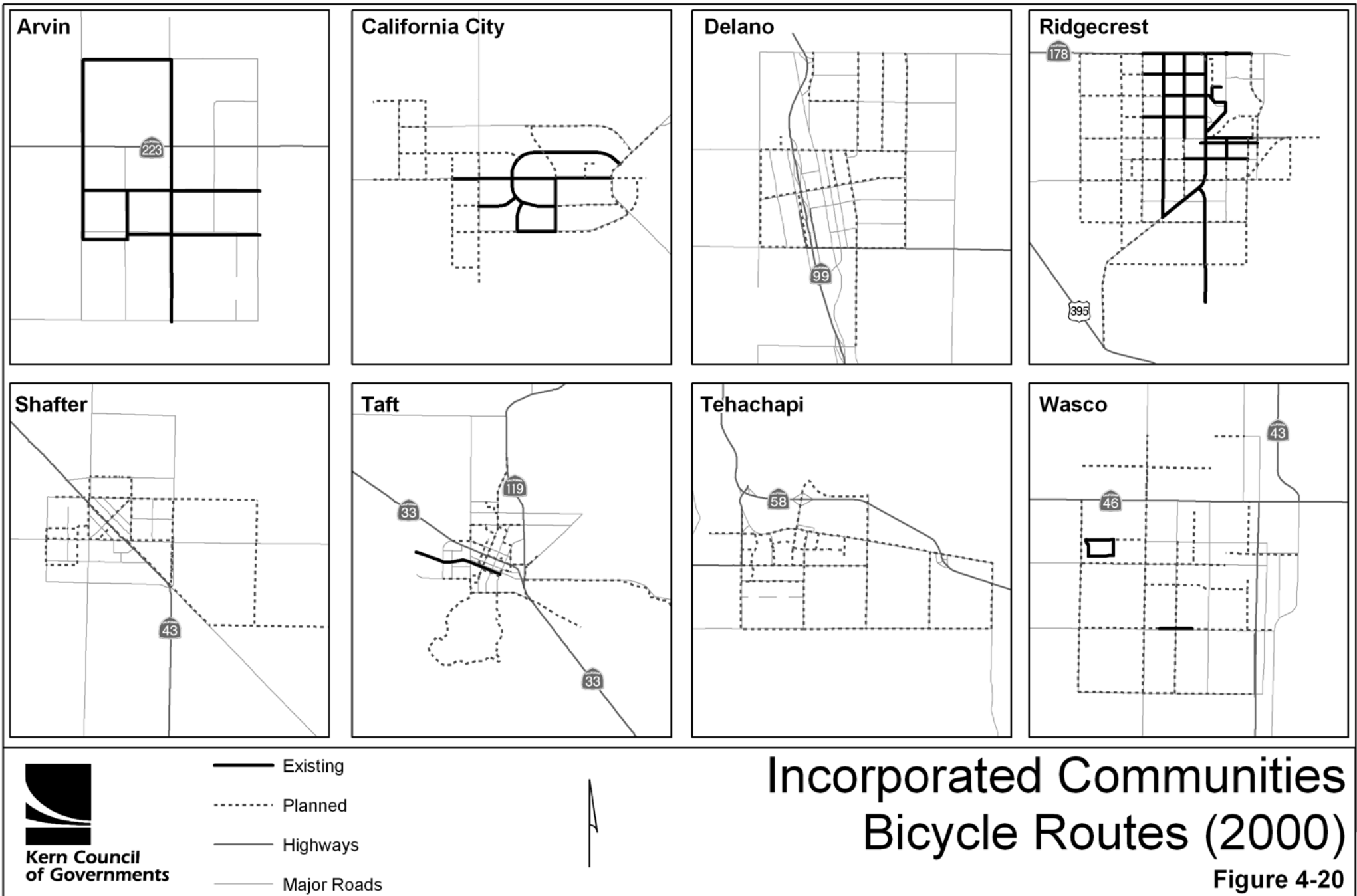
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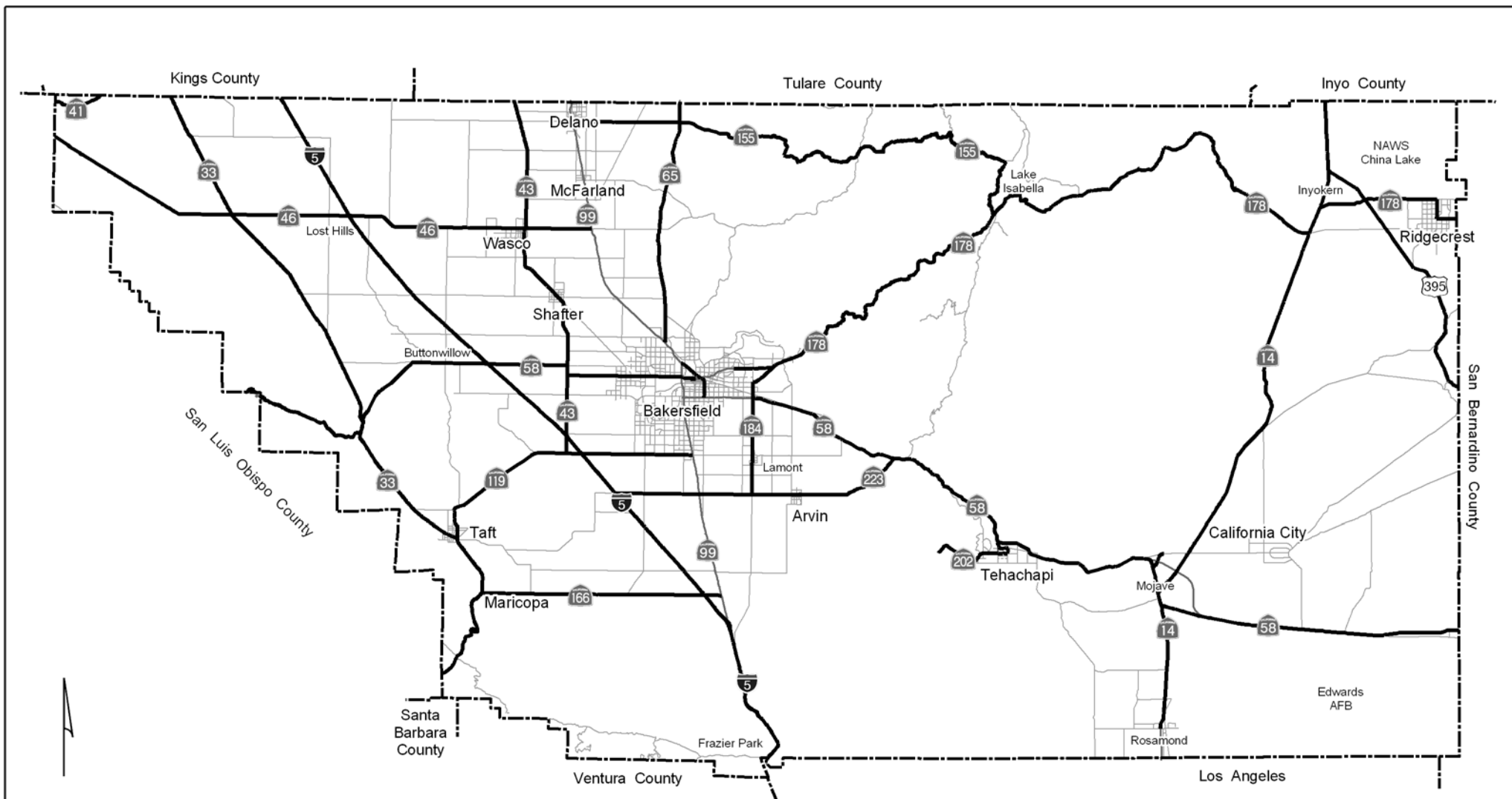
- Existing
- - - - - Planned
- Highways
- Major Roads

0 1 2 4
Miles

Metropolitan Bakersfield Bicycle Routes (2000)

Figure 4-19





TRANSPORTATION CONTROL MEASURES ACTION ELEMENT

Transportation Control Measures (TCM) have received a high level of attention since the passage of the State and Federal Clean Air Acts and congestion management legislation. As a result, air quality planning areas for the entire San Joaquin Valley, Mojave Desert and Indian Wells Valley (Ridgecrest) have been designated as “non-attainment” for at least one harmful pollutant (See Chapter 8 – Findings of Air Quality Conformity). According to state and federal Clean Air Acts, the worst non-attainment areas must ensure that “all feasible measures” be implemented to reduce harmful air emissions. A goal of the Destination 2030 RTP focuses on carrying out these requirements to achieve required standards for healthy air.

Existing System

Kern COG’s existing TCM activity has focused on four areas:

- Alternative Fuels
- Traffic Flow Improvements
- Paving Dirt Roads
- Transportation Demand Management.

Kern COG’s efforts in these areas, in combination with State and Federal implementation of control measures, have been successful in reducing overall emission levels. These reductions have been realized, in part, by the following TCM accomplishments.

Accomplishments Since 2000

Alternative Fuels

Since 1990, Kern COG has allocated more than \$20 million to replace over 120 transit vehicles with alternative fueled vehicles and create a network of alternative fueling stations, resulting in a 1/3rd ton reduction in daily ozone-related emissions. Golden Empire Transit, Kern’s largest transit provider, will operate a 100-percent compressed natural gas (CNG) fixed route fleet (65 buses) by 2005. Other alternative fueled transit fleets include Kern Regional Transit and Arvin.

Traffic Flow Improvements

Kern Council of Governments has invested significant resources in signalization of four-way stops, signal synchronization, traffic monitoring and a metropolitan traffic operations center. Significant reductions in vehicle emissions resulting from unnecessary idling and acceleration have been realized.

Paving Dirt Roads

Kern COG's TIP/RTP has funded for dirt-road paving in the Indian Wells Valley Air Basin, an area in nonattainment for particulate matter.

Kern Commuter Connection/Public-Employer Outreach

Since the early 1980s, Kern COG has operated the Kern Commuter Connection rideshare program and 832-RIDE phone line to promote vanpooling, telecommuting, ridesharing, walking and biking to work. In 2003, Kern COG began a public and employer educational campaign as a part of its commitment to implement all Reasonably Available Control Measures (RACM) for the San Joaquin Valley Ozone Attainment Demonstration Plan. The program features the slogan "Once a week makes a difference," and complements existing public education programs by the Air District. The program included billboards, radio advertisements and a break-room poster/information mailer to all employers with more than 20 employees to encourage biking, walking, telecommuting, transit use, and ridesharing one day each week.

Needs and Issues

In response to Vision 2020's activities and to comments provided by the general public at Kern COG's workshops, reducing unhealthy air emissions is a primary goal of the Destination 2030 RTP. Recent polls on issues facing Kern consistently rank air quality as the greatest concern for our region's residents. Reducing the 100 tons of PM-10 and the 300 tons of ozone-related emissions while allowing for continued population growth is a major challenge. Several issues must be weighed:

- **Cost effectiveness** – Limited funding exists to clean air emissions resulting directly or indirectly from transportation. Maximizing funding is a critical component to successfully achieve air quality goals.
- **Alternative-fuel fleets** – Between 2007 and 2010, clean diesel fuel standards will be implemented. This will reduce the effectiveness of CNG/Alternative fueled fleets from 6-times less polluting to half as polluting. This reduction in effectiveness may reduce the emphasis on funding alternative fuel fleets. However, diesel still has a toxicity component that may warrant continued conversion of fleets, especially school busses.
- **Indirect source emissions from new development** – A major long-range challenge in non-attainment areas is controlling offsite (indirect source) emissions generated from housing development in the region. According to the Kern COG Transportation Model, each new house generates an average of 60-70 daily vehicle miles traveled (VMT). As new gasoline-electric hybrids and zero emission hydrogen-fuel-cell vehicles become commonplace, ozone-related emissions from transportation sources may someday be eliminated. However,

fugitive dust (PM-10) kicked-up by moving vehicles increases as VMT increases. New housing developments need to fully mitigate their indirect source impact to air quality, especially for PM-10.

Current Activities

The following TCM-related activities are being promoted by Kern COG and its member agencies:

- Alternative-fuels station and fleet are being implemented by Kern Superintendent of Schools
- GET's alternative fueled transit fleet is replacing the diesel-fueled fleet
- Commuting alternatives are being promoted by public and employer outreach programs
- GET, City of Bakersfield and County of Kern are coordinating signal preemption to improve on-time service for existing GET fixed routes.
- Traffic flow improvements, park & ride lots, public transit, bicycling and walking throughout the Kern region.

Proposed Actions

Proposed actions for transportation control measures can be divided into three areas or policies:

- **TCM Coordination** - Coordinate with all responsible agencies necessary to implement all feasible measures that control harmful air emissions.
- **TCM Implementation** - Promote implementation of all feasible, cost effective TCMs to achieve air quality emissions by mandated deadlines.
- **TCM Education** - Provide necessary support and education to member agencies on all feasible control measure.

In the San Joaquin Valley, the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the eight Regional Transportation Planning Agencies (RTPAs)/Metropolitan Planning Organizations (MPOs) have jointly prepared TCMs as a part of the air district's State Implementation Plans (SIP) for the pollutants Ozone (O₃) and Particulate Matter smaller than 10 microns in diameter (PM-10). These mutual efforts are the result of a Memorandum Of Understanding signed by all of the agencies to coordinate air quality and transportation planning activities.

TCM Coordination

The following TCM Coordination activities are being undertaken for the Kern region:

- Maintain Air Quality Coordination MOU with the eight San Joaquin Valley MPOs, San Joaquin Valley Air Pollution Control District and Caltrans Districts 6 and 10.
- Maintain air quality coordination MOU with the Kern County Air Pollution Control District.

TCM Implementation

TCMs generally fall into two categories:

- **Transportation Demand Management (TDM)** – Activities that will reduce the demand for the fossil-fueled, single-occupancy vehicles as a mode of travel, such as ridesharing/vanpooling, increased parking fees, decreased parking supply, park and ride lots, bus transit, rail transit, and bicycle and pedestrian facilities.
- **Transportation System Management (TSM)** – Activities that increase the efficiency of the existing transportation system without adding new travel lanes, thus reducing the amount of energy required to make the system function, such as traffic signalization, ramp metering, truck auxiliary lanes on major inclines, intersection turning lanes, railroad grade separations, and replacing four-way stop signs with traffic signals.

TDMs and TSMs also benefit mobility and congestion relief by reducing demand and maintaining system efficiency, thereby delaying the need for capacity increasing highway projects.

The Destination 2030 RTP discusses the air quality requirements facing the Kern region (See Chapter 8 – Findings of Air Quality Conformity), as well as demand management strategies, including bus and rail services (Transit Action Element), bicycle facilities (Bicycle and Pedestrian Action Element), and grade separation (Freight Movement Action Element).

TCMs being implemented by the Destination 2030 RTP and 2004 Federal Transportation Improvement Program include the following strategies for reducing vehicle related emissions:

- Public transit
- Alternative-fuel fleets
- Ridesharing and voluntary employer-based incentives
- Traffic flow improvements/railroad grade separations
- Park-and-ride lots
- Bicycle and pedestrian travel

- Controlling extended vehicle idling
- Smart growth and transit/pedestrian oriented development
- Paving/controlling dust from streets and shoulders
- PM-10 efficient street sweeping
- Pursue funding opportunities for Congestion Mitigation Air Quality Program (CMAQ), AB 2766 Motor Vehicle Emissions reductions Program, and other sources that allow allocations for transportation control measures

Three control measures are not being implemented through the TIP/RTP: voluntary removal of pre-1980 vehicles and engines, controlling extended vehicle idling, and high-occupancy vehicle (HOV) lanes. However, it should be noted that Kern County's Project Clean Air removed over 1000 pre-1980 gross-polluting vehicles between 1991 and 1999. Recent environmental mitigations at new truck stops and warehousing operations include electric hook-ups to reduce idling of heavy-duty diesel trucks.

In 1996, Kern COG prepared a study of HOV lanes as a part of the Tier I EIR for the Kern River/Downtown Parkway (Centennial Corridor). The study found that an HOV lane during peak period would only carry 2 vehicles per minute. Future studies should consider HOV lanes that allow single-occupancy zero emission vehicles and an HOV system that might include a beltway system and ramp metering.

TCM Education

The following educational activities are being undertaken in the Kern region:

- Identification of all Reasonably Available Control Measures (RACM) for ozone and all Best Available Control Measures (BACM) for PM-10 by Kern COG's member agencies;
- Special presentations and workshops for member agencies on transportation related control measure strategies for air pollution emissions as new standards, technology and funding opportunities evolve
- Media campaigns promoting the various TCMs listed above.

LAND USE ACTION ELEMENT

Land use is one of the most important elements of effective transportation planning. Policy for transportation projects depends on effective and efficient land use policies. While Kern COG does not have jurisdiction over land use planning, Kern COG does advise and encourage dialogue among those involved in the decision making process. As part of this land use action element Kern COG will continue to use the CEQA (California Environmental Quality Act) and NEPA (National Environmental Policy Act) processes to promote dialogue with its member agencies on land use, transportation and air quality issues, to ensure that land use projects are environmentally sound. Also, the San Joaquin Valley Unified Air Pollution Control District will ensure that air quality standards are upheld, bringing the Valley into acceptable emission attainment levels.

Major Transportation Investment Study

In 1997, Kern COG completed the Metropolitan Bakersfield Major Transportation Investment Strategy (MTIS). The MTIS was jointly conducted by the following agencies:

- City of Bakersfield
- County of Kern
- Golden Empire Transit
- Kern COG
- Caltrans, District 6
- San Joaquin Valley Unified Air Pollution Control District.

The strategy developed by the participating agencies contained eight components, including land use. The land use planning component encourages mixed-use, infill, and other balanced land development to minimize concomitant vehicular traffic increases. Developer incentives for mixed-use and infill have been instituted. Large developments proposed as an amendment to the metropolitan Bakersfield General Plan trigger the requirement for a traffic impact analysis that uses the Kern COG regional transportation model. Developments with a balanced mix of residential income housing and commercial/industrial will show less of an impact than strictly residential development, thereby reducing the traffic impact fee that a development must pay.

To encourage infill development, the City of Bakersfield and the County of Kern have jointly adopted a two-tiered traffic impact fee for metropolitan Bakersfield. The fee is half of the \$5,200 per house fee in the “core area” of Bakersfield. The core area is primarily the older “built out” portions of the community that have the infrastructure in place. The logic behind the lower core area fee is that housing in these areas should not have to pay as high a fee because the transportation infrastructure is already in place. The result is a fee structure that promotes infill and increased densities in areas with readily-available bus transit and pedestrian access.

The MTIS also looked at light and heavy rail. The study indicated that even with an optimistic growth rate, light rail would not be viable in metropolitan Bakersfield before 2014. However, as the land use program is implemented, densities could eventually provide enough infill to support such a system. In addition, the MTIS developed a sketch plan for a heavy commuter rail network connecting Metro Bakersfield to outlying communities. The development of a feeder rail network using existing spur lines in support a potential high-speed rail connection to Los Angeles and San Francisco would require future study should funding be approved for the proposed high-speed rail system. The viability of either system is dependent on a pattern of development that is much more dense than is being implemented currently. Land used development patterns should include dense, pedestrian-oriented future transit hubs that could support viable alternatives to single occupancy vehicle travel. The MTIS concluded that, for the near term, transportation investment should focus on increasing and expanding the existing bus service. This strategy has the added potential of one day providing a feeder network that would increase the viability of other modes such as pedestrian, bike and rail service.

Land Use Decisions Outside Kern County

Land use decisions in neighboring jurisdictions can greatly impact Kern's regional transportation system, as is being experienced at the northern end of San Joaquin Valley. Spillover development from the coastal areas will be a primary-source driver for development in the Kern region. However, the percent commuting to Los Angeles County from 1990 to 2000 remained unchanged at 3 percent of the total households in Kern, indicating that the main wave of urbanization has yet to reach this county. Kern COG and Southern California Association of Governments (SCAG) meet bi-annually to discuss inter-regional planning issues such as land use, transportation strategies, and regional housing needs. Recent meetings have been held to discuss the proposed Centennial new town development on Tejon Ranch property just south of the Kern County line near Interstate 5 and State Route 138. Kern COG is providing modeling information on the transportation impacts of this development to the Kern region. In addition, Kern COG has agreements in place with the eight San Joaquin Valley metropolitan planning organizations and the four-county Eastern Sierra planning partnership.

Regional Housing Allocation Plan

As required by the California Department of Housing and Community Development (HCD), Kern COG prepares a Regional Housing Allocation Plan (HCP) to provide for adequate low and very low income housing throughout all jurisdictions in the region. The distribution of low income housing is becoming more of an issue as pressures from the southern California housing market drive housing prices up in Kern. The increasing

need for lower income housing may result in an increase in higher densities for new housing.

Near Term Actions 2004-2009

Encourage land uses decisions by member agencies that promote pedestrian, bike and transit oriented mixed use and infill development.

- Review and comment on environmental documents and their identified transportation impacts, recommending pedestrian, bike and transit oriented development strategies
- Track progress on the MTIS Land Use strategy in metropolitan Bakersfield in the MTIS annual report

Promote increased communication with neighboring jurisdictions on interregional land use issues.

- Coordinate regularly with SCAG on interregional land use and transportation planning issues.
- Coordinate with the eight San Joaquin Valley Metropolitan Planning Organizations on interregional land use and transportation planning issues.
- Coordinate with the Eastern Sierra Transportation Planning Partnership on interregional land use and transportation planning issues.

Long Term Actions 2010-2030

Encourage land uses decisions by local government member agencies that promote pedestrian, bike and transit oriented mixed use and infill development.

- Encourage local government agencies to plan for high density, pedestrian oriented transit hubs that support the current and planned investment in alternative transportation modes such as bus transit.
- Encourage higher densities by member agencies in with the Regional Housing Allocation Plan.

Promote land uses patterns that support current and future investments in bus transit and may one-day support commuter rail alternatives.

- Re-evaluate feasibility or commuter rail alternatives and intermodal connections after 2014 and in light of potential high-speed rail service.

Promote increased communication with neighboring jurisdictions on interregional land use issues.

- Coordinate regularly with the SCAG on interregional land use and transportation planning issues.
- Coordinate with the eight San Joaquin Valley Metropolitan Planning Organizations on interregional land use and transportation planning issues.
- Coordinate with the Eastern Sierra Transportation Planning Partnership on interregional land use and transportation planning issues.
- Develop an agreement with San Luis Obispo and Santa Barbara COGs on interregional land use and transportation planning issues for State Routes 33, 41, 46, 58 and 166.

INTELLIGENT TRANSPORTATION SYSTEMS ACTION ELEMENT

Introduction

Intelligent Transportation Systems (ITS), is the application of advanced information processing, communications, vehicle sensing and traffic control technologies to the surface transportation system. The objective of ITS is to promote more efficient use of the existing highway and transportation network, increase safety and mobility, and decrease the environmental impacts of congestion. Federal Highway Administration (FHWA) sponsored the preparation of Early Deployment Plans (EDPs) in different areas of the country to identify ITS application opportunities.

The EDP's primary focus for the Kern County region is the maximization of safety, traffic flow, and efficiency in both rural and urban areas. It presents an integrated, multi-modal, phased strategic plan to address the surface transportation needs and problems of the Kern region through the use of ITS. By preparing the EDP, Kern County will be in a position to take advantage of federal and other funding opportunities and implement various components of ITS.

Kern COG was the lead agency for this study, with key participation from California Department of Transportation (Caltrans) District 6, Caltrans New Technology and Research Program, as well as various cities and transportation agencies within the Kern region. The project consultant team was headed by Kimley-Horn and Associates, Inc., with sub-consultant services provided by Ronald F. Ruettgers, civil engineer, and Moore, Iacofino, and Goltsman (MIG), Inc. (public participation).

The overall goal of the ITS EDP was to develop a multi-year strategic deployment plan for the Kern region that would result in a well-balanced, integrated, intermodal transportation system. Kern's transportation needs that have the potential of being addressed by ITS technologies have been identified and ITS elements that would be beneficial, cost-effective, and implementable have been evaluated. The strategic plan will facilitate the integration and coordination of ITS applications valley- and state-wide in conjunction with other EDPs conducted throughout California.

Kern EDP Needs and Issues

Poor visibility because of fog and blowing dust, large percentages of truck traffic, high winds in eastern Kern County, steep grades, snow and ice, rockfalls, and red-light violations all contribute to the growing concerns about highway safety. Tule fog, a problem through the entire central valley region, has caused some of the worst accidents in the state involving dozens of vehicles and closing Interstate 5, the main artery through the valley, for hours at a time. Blowing dust, related directly to seasonal agriculture, causes similar difficulties for travelers. In the urban area, red-light violations

are an issue. In eastern Kern County, high winds cause high profile vehicles to overturn. Snow, ice, and rockfalls can make travel unpredictable through the rural areas. This EDP places traveler safety first in determining ITS solutions for Kern.

Additional issues related to:

- Improved information sharing among agencies;
- Improved traffic progression across jurisdictional boundaries;
- Reduction in delays due to incidents;
- More informed traveler decision making through improved traveler information systems;
- Improved data collection through expanded coverage of information sources;
- Increased transit ridership;
- Enhanced transit coverage and efficiency;
- Improved air quality analysis; and
- Improved commercial vehicle operations.

Kern ITS Programs

Six programs were developed for Kern that integrate existing ITS efforts underway in the Kern region and will incrementally develop a sound base for future expansion of ITS in the region. These programs are:

- Communication Network Development Program
- Traffic and Incident Management Program
- Kern Traveler Safety Program
- Kern Informed Traveler Program (TravelKIT)
- Kern Smart Transit Program
- Enhanced Emergency Response Program.

Implementation of these programs will make transportation throughout Kern County safer, more efficient, and noticeably more pleasant for travelers.

These programs were developed specifically for the Kern region, but each was developed as a part of an open, expandable plan, in order to provide a starting point for valley-wide integration of ITS. This means that other counties in Central California, that have similar problems and needs, will benefit from this plan and combine ITS programs for different regions. This region-wide integration will provide further opportunities for cost sharing and funding and ultimately result in cost savings to all agencies involved. The broader goal is to facilitate a seamless, statewide ITS network.

ITS Benefits

Over the past decade, deployment of ITS in the United States has resulted in substantial, quantifiable benefits. Several measured benefits of ITS in different areas of the country are summarized in Table 4-5 to demonstrate the potential for improvements in Kern.

Table 4-5
Examples of ITS Benefits

Freeway Management	Reduced accidents by 15% - 62% while handling 8% - 22% more traffic at 16% - 62% greater speeds compared to pre-existing congested conditions (quantified benefit through the use of ramp metering).
Incident Management	By providing video feeds from the field into a Traffic Management Center, the responding towing concession yielded a clearance reduction of 5 - 8 minutes.
Traffic Signal Control	Implementation of a transit signal priority system yielded a 5% - 8% decrease in transit run times.
Transit Management	On-time performance yielded improvements of 12% - 28% while reducing costs to generate a positive return on investment in as little as three years.
Signal Coordination	Has resulted in an average of 20% reduction in travel times in various locations throughout California.

Source: FHWA-JPO-96-008, *Intelligent Transportation Infrastructure Benefits: Expected and Experienced*.

San Joaquin Valley ITS Plan

Within the San Joaquin Valley, utilizing a federal planning grant, the eight counties formed an ITS committee focused on solving transportation problems within the region. The ITS vision for the San Joaquin Valley ITS Strategic Deployment Plan is to enhance the quality of life, mobility, and the environment through coordination, communication, and integration of the ITS technology in the Valley's transportation systems. The ITS plan for this corridor includes major local elements developed by each of the eight counties. The plan coordinates architecture, standards and the institutional issues and also provides a framework for deploying ITS.

Short Range / Long Range Actions – 2004-2030

- Continue to coordinate planning of interregional transportation facilities to the extent necessary and feasible.
- Continue to support efforts by state and federal agencies to program priority projects that enhance interregional transportation.
- Support and participate with Caltrans in corridor studies on State Route 99.
- Support new funding sources to fund local street and road maintenance needs.
- Should US 395 and Route 14 be identified as appropriate ITS corridors, Kern COG will support those efforts.

Chapter 5

FINANCING TRANSPORTATION

The Destination 2030 RTP is required to include a financial element that identifies resources to implement the plan (23 USC 134(h)(2)(B)). The Financial Element fulfills the federal requirement that the plan be financially “constrained,” (i.e., budgeted).

This chapter provides a cost analysis for implementing the projects included in the Strategic Investments (Action Element). It describes the financial situation that will exist between FY 2004 and FY 2030, the implementation period for Destination 2030 RTP.

Financial Analysis Process

Kern COG has estimated the revenues that are reasonably expected to be available from known federal, state, local and private sources of transportation funding to implement the projects. A fund estimate not apportioned on a regional basis cannot be made. Thus, Kern COG has responsibilities for the allocation of funds and the approval of transportation projects each year that represent tens of millions of dollars. These responsibilities involve the use of federal, state and local transportation funds, each of which may have different requirements, limitations and schedules.

Projecting revenues and expenditures over this long-term planning period is difficult at best. The analysis relies on historical funding patterns from state and federal sources, though effort has been made to account for new methods of allocating state transportation funds since the passage of Senate Bill 45 (Government Code Chapter 622) effective January 1, 1998.

Even for existing funding sources, understanding and implementing the complex array of local, state and federal programs is not easy. Some of the programs rely on allocations; others on apportionments; and others are matching programs, and different combinations of apportioned, allocated or matched dollars from local, state and federal sources can be applied to one project. Many of the projections included in the Destination 2030 RTP rely on making simplified financial assumptions upon which to base programming assumptions.

Therefore, the best use of a comparison of revenues and expenditures is for broad, suggestive purposes about Kern COG’s future financial situation rather than as an exact budget of revenues and expenditures for the FY 2004-2030 planning period covered by this RTP.

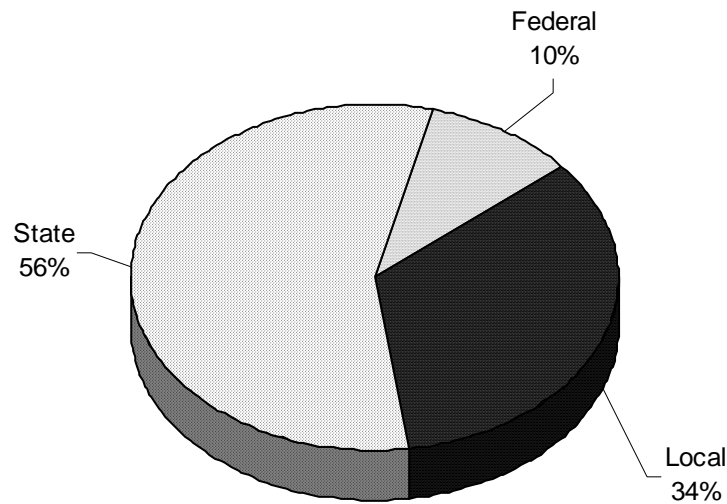
Revenue Sources

Revenues identified in the Destination 2030 RTP financial forecast are those that have been provided for the construction, operation, and maintenance of the current roadway and transit systems in the Kern region. Baseline revenues include existing local, state, and federal transportation funding sources. As Table 5-1 and Figure 5.1 summarize below, revenue forecasts for the Kern region are estimated to be approximately \$5.6 billion for the RTP period. Revenue levels identified in Table 5-1 reflect reasonably available funding and include estimates for funding programs used over the last several years.

Table 5-1 Revenue Forecast 2004-2030

Funding Source	Regional Total	Percent of Total
Local Sources		
Local Transportation Funds	\$460,000,000	8
Bus Fare box	\$171,000,000	3
Local Agency Funds/Developer Fees/Regional Fee/Other	\$1,274,000,000	23
State Sources		
STIP (Regional and Interregional)	\$1,797,000,000	32
State Transit Assistance (STA)	\$460,500,000	8
State Highway Operation and Protection Program (SHOPP)	\$1,000,000,000	18
State Aid to Airports	\$3,000,000	<1
Federal Sources		
Surface Transportation Program	\$135,000,000	2
Transportation Enhancement Activities Program	\$10,400,000	<1
Congestion Mitigation and Air Quality Program	\$106,000,000	2
Local Assistance (HES, HBRR, Section 130, Emergency Relief)	\$82,000,000	1
Federal Aid to Airports	\$45,000,000	1
FTA Section 5307 (Transit – metro)	\$38,800,000	1
FTA Section 5310 (Transit – senior / disabled)	\$2,100,000	<1
FTA Section 5311 (Transit – rural)	\$5,400,000	<1
State/Federal Demonstration	\$13,000,000	<1
Total	\$5,603,200,000	100%

Figure 5.1 Transportation Revenues 2004-2030



Local Revenue

Funding from local sources contributes nearly one-third of the revenues to this RTP. Major contributions to local revenue include: Local Transportation Funds (8%), bus transit fare box (3%) and other local funding such as developer fees and general funds (23%).

Sales Tax Bond Measure

One potential local revenue source not identified in Table 5-1 is a dedicated sales tax measure to fund transportation infrastructure. As the largest county in the state without a separate sales tax for transportation, Kern could generate approximately \$900 million over 20 years, which would finance many necessary transportation improvements. Sales tax monies are also used throughout the state to leverage state and federal transportation dollars to construct improvements on the state highway system. Unlike general tax increases, these dollars would remain in Kern County and would be used for specific highway, transit and air quality improvements.

Another potential source of local funding for Kern County is a transportation impact fee (TIF). Outside metropolitan Bakersfield, most developments currently do not pay a fare-share impact fee to offset the costs of constructing regional street or highway improvements. The impact fee is designed to collect the difference between the cost of the new roads attributable to new development and the amount of gas tax revenues that the new development will produce for the County or cities to use in road construction. Kern COG is undertaking a series of studies to assess the potential for future TIF programs within unincorporated county areas and small cities.

State Revenue

State funding sources constitute about 58% of the total 30-year transportation budget. Most of these come from the State Transportation Improvement Program (STIP) (32%) and the State Highway Operation and Protection Program (SHOPP) (18%). State Transit Assistance funds make up the remaining 18%.

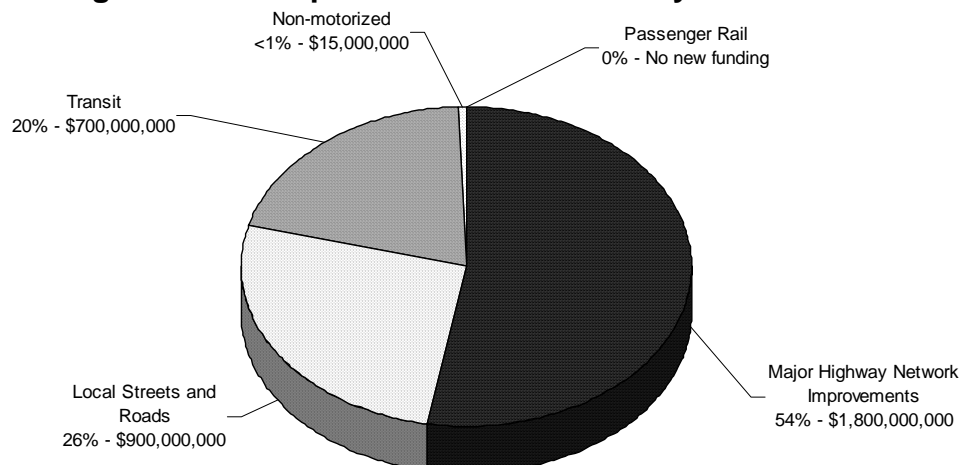
Federal Revenue

Approximately 8% of the transportation funds for the Destination 2030 RTP come from federal funding sources. For purposes of discussion in this document, the STIP and SHOPP programs were discussed as state revenue programs; however, their funding is approximately 80% federal highway funds or 40% of the estimated state revenues discussed above. Federal Transit Administration dollars constitute approximately 2% of all RTP funds. These funds are generally used to support transit capital and operating needs. Federal sources also include the flexible funding programs known as Surface Transportation Program (STP), Congestion Mitigation / Air Quality Improvement Program (CMAQ), and Transportation Enhancement (TE). In the Destination 2030 RTP, STP, CMAQ and TE total approximately 4% of anticipated funds. The remaining 2 % includes 1% for safety projects and another 1% for aviation funding.

Baseline Expenditures

Given the Destination 2030 RTP's baseline cost estimate of \$5.6 billion, the following table illustrates the mode split for the region. The data show that about 80% of the region's baseline costs are dedicated to street and highway improvements or maintenance. Twenty percent of expenditures are for transit operating and capital needs. The remaining 3% of RTP expenditures are for aviation, non-transit control measures, and non-motorized projects.

Figure 5.2 Transportation Investments by Mode 2004-2030



Financial Constraint Demonstration

Kern COG has assembled a comprehensive inventory of the transportation revenue programs currently in use by all governmental entities (federal, state and local) and has projected these revenues based on historical averages over the life of the RTP. The financial revenue projections are based on the best available data from existing sources (i.e., FHWA, Caltrans, Kern COG historical programming data, member agency information). Following are a series of graphs that illustrate, by mode, how the revenues could be constrained and balanced with anticipated investments.

Figure 5.3 Financial Resources for Non-Transit TCM

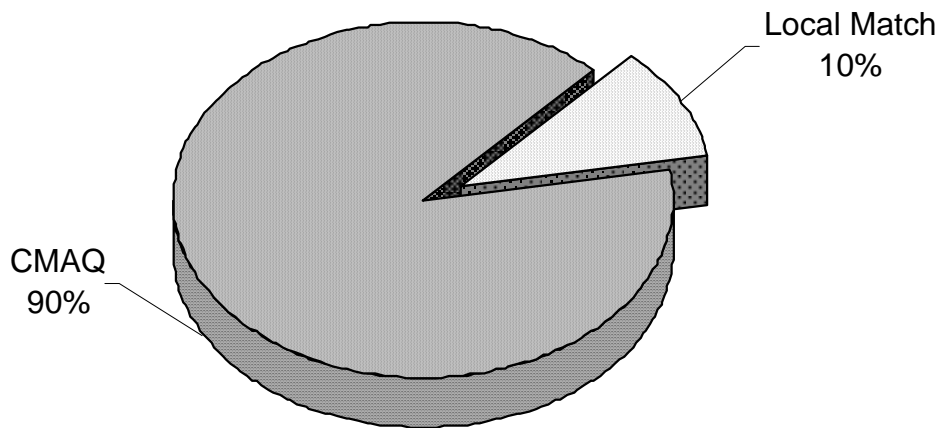


Figure 5.4 Financial Resources for Public Airport Projects

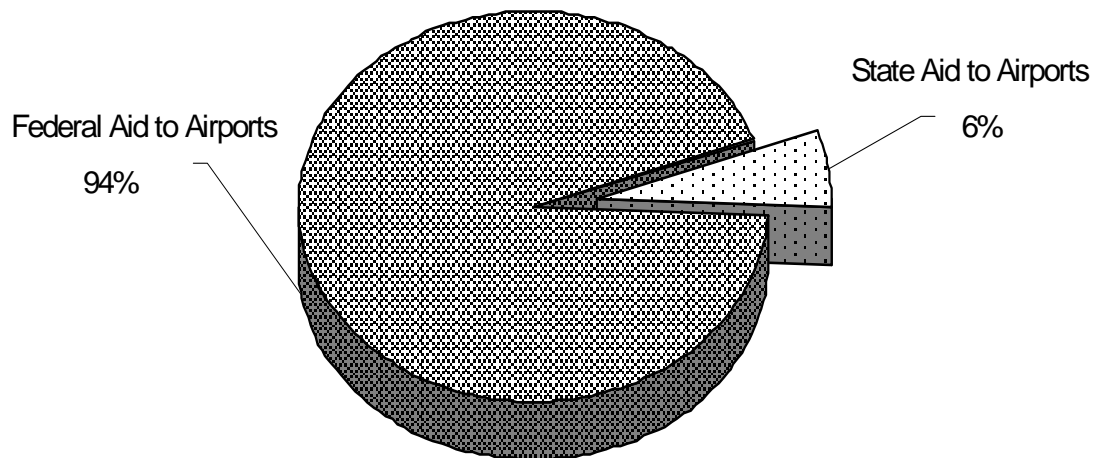


Figure 5.5 Financial Resources for Bus Projects

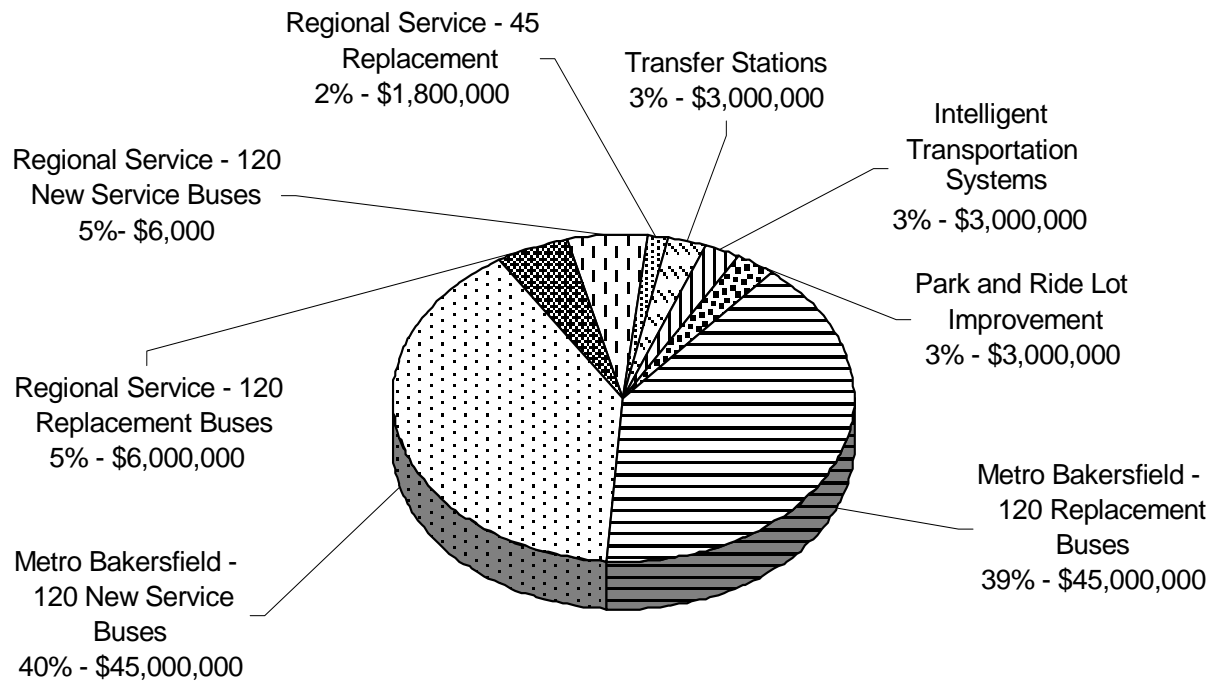


Figure 5.6 Financial Resources for Road Rehabilitation and Safety Projects

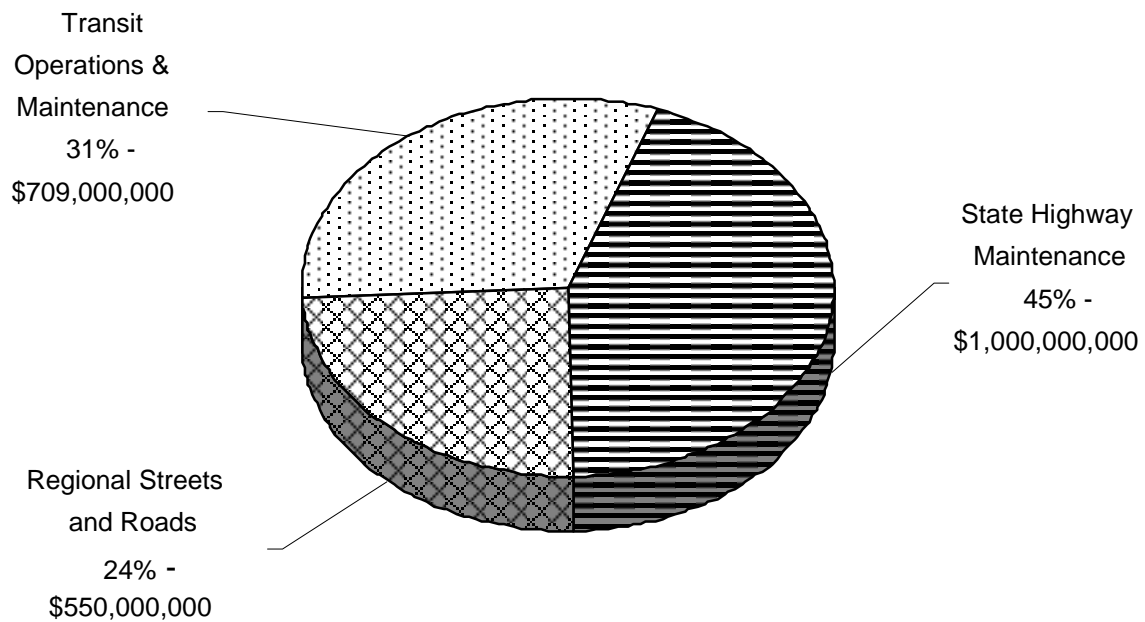


Figure 5.7 Financial Resources for Non-Motorized Projects

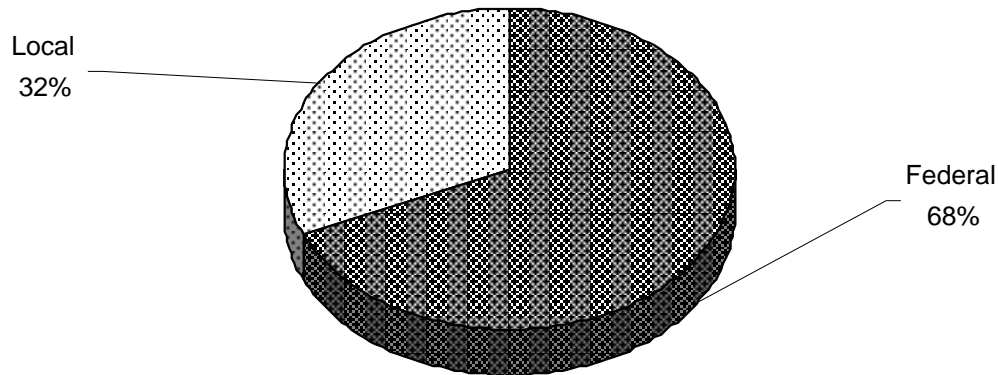
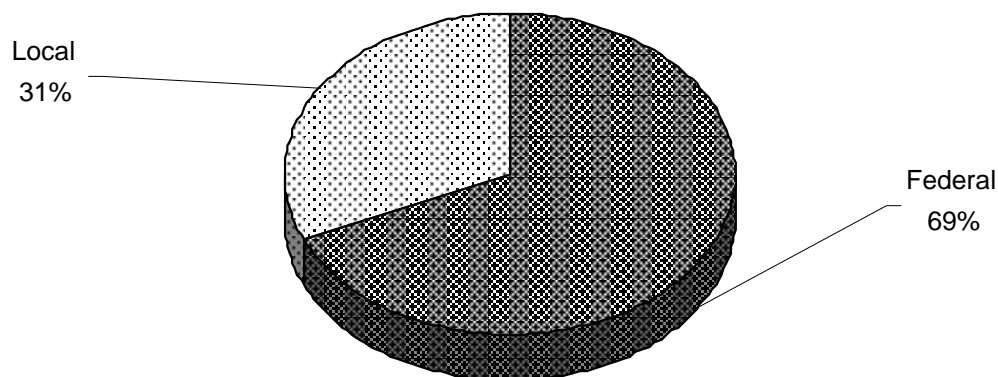


Figure 5.8 Financial Resources for Highway, Street, Interchange and Rail Crossing Projects



Funding Shortfall of \$2 Billion

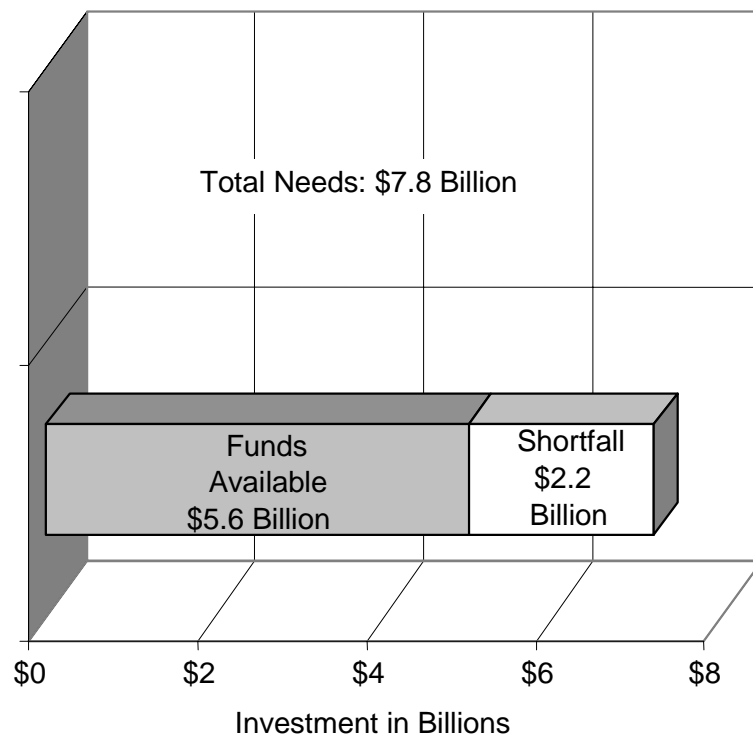
To further assess the region's financial outlook, baseline revenues were matched against a program of projects that have been divided into two groups: constrained and unconstrained. The Unconstrained Program of Projects is a list of projects (Table 4.2), still considered necessary for development of Kern County's transportation infrastructure, but for which funding cannot reasonably be expected within the timeframe of this RTP. This comparison clearly indicates that the Kern region will experience funding deficits to operate, maintain, and rehabilitate the existing transportation system over the Destination 2030 RTP timeframe. While the shortfall totals to approximately \$2 billion, it is actually

much greater because some projects do not as yet have actual cost estimates. Such projects as high-speed rail improvements and grade-separation projects (over- and under-crossings) do not have identified funding. Some grade separations have been included as components of street widening undertakings, many are stand-alone projects. Costs will vary based on existing right-of-way needs in addition to construction costs. A baseline cost estimate is on the order of an additional \$8 million added to the \$2 million identified shortfall.

The extensive list of unconstrained projects, including regionally significant highway improvements, interchanges, regional roadway improvements, rail and bus service, railroad grade crossings, transportation control measures and deferred roadway maintenance begins to paint a picture of Kern County's need for additional revenue support.

Funds to support operations and maintenance - whether it be street and highway, bus and rail, or transportation demand management programs - are the most difficult to find. Historically, the Kern region has relied heavily on local monies for these operating funds.

Figure 5.9 Investment Shortfall



Operating funds for streets and road maintenance traditionally have been available through gas taxes, Transportation Development Act (TDA) funds and flexible federal transportation funds; however, TDA funds are not expected to continue in support of street and road maintenance projects. With increasingly fuel-efficient vehicles and the rising cost of gasoline, revenues from gas taxes are not expected to increase at more than a nominal rate.

For transit, some relief was available in the form of operating subsidies; however, these subsidies are expected to end with the reauthorization of TEA-21. No alternative funding source has been identified to replace these funds. Thus, the Kern region's shortfall could easily double over the amount of constrained funding.

Future Revenue Shortfalls for Transportation Maintenance and Expansion

Problem: Federal Energy/Environmental Policies Undermining Transportation Goals - Recent proliferation of supplemental gas tax funding sources such as toll freeways in Southern California, sales tax measures, and transportation impact fees on new development may be symptoms of a much larger problem. Federal transportation, energy and environmental policies are linked by the use of federal tax law involving motor fuels to advance national objectives. Unfortunately, these tax policies are often debated and decided on separately, resulting in policy that sometimes contradict goals and objectives in another policy area.

In 1956, the federal Highway Trust Fund was established to ensure that America would have a "pay-as-you-go" system for funding needed highway and bridge improvements. The principle was: The more you drive, or use the roads, the more you pay to build and maintain them. Congress in the 2004 transportation-spending bill is reaffirming this principle. Unfortunately, current public investment in road, bridge and mass transit improvements financed by highway user fees is not sufficient to maintain the physical conditions of the system and has left local governments scrambling to find alternative funding sources to fund their transportation infrastructure. Several Issues are exacerbating this situation.

Cause: Improved Fuel Economy Threatens Highway Trust Fund Revenue - Since the 1970s vehicle manufacturers have struggled to meet federal requirements for fuel economy, unfortunately, improvements to fuel economy allow more travel on the transportation system with lower tax revenues generated per mile of travel, resulting in increased wear and tear on the system. From 1970 to 2000 the average vehicle fuel economy (for all cars and trucks, not just new vehicles) has improved 42-percent (from 12 MPG to 17 MPG). If today's vehicle fleet had remained at 12 MPG, gas tax revenues would be \$46 billion higher than the current \$110 billion per year (federal, state and local). If this trend continues for the next 30 years, the potential loss in gas tax revenue per vehicle mile traveled, drop by a third, exacerbating maintenance of the system.

The vehicle manufactures commitment toward providing more fuel-efficient gasoline-electric hybrids; the promise of hydrogen fuel cell technology, and increasing fuel costs motivating consumers to purchase these vehicles will likely accelerate this trend. A more fuel-efficient national vehicle fleet is a worthy national policy to reduce dependence on foreign oil, but a mechanism is needed to preserve of the nations transportation infrastructure investment used by that fleet.

Cause: Use of Gas Tax Revenue to Promote Alternative Fuels/Modes

In addition to highway maintenance and expansion, the small portions of the gas tax are used for things like deficit reduction and improved air quality. The Congestion Management and Air Quality (CMAQ) Program uses 3 percent of federal gas tax funds to reduce transportation related emissions in areas not attaining the federal clean air standards. Projects using CMAQ funds are required to demonstrate a reduction in emissions, usually by reducing gasoline/diesel fuels consumption through the implementation of alternative fuels to clean up the air. Many of the projects result in a reduction in gas sales and subsequent tax revenue. CMAQ is a worthy and effective program for providing funds to help clean the air in non-attainment areas and has only a relatively minor impact on gas tax revenue, however it is one of many instances of how federal energy and environmental policies are undermining the “pay-as-you-go” policy of our transportation system.

Possible Solution: Transportation Funding Overhaul Needed

Many revenue mechanisms are being considered to augment the gas tax. They include: gas-tax increases, sales-tax measures, transportation impact fees on new development, and tolls. One system to consider for augmenting or replacing the current flat rate gas tax system has been implemented for trucking in Europe. The Swiss version of the system uses satellite Global Positioning Systems (GPS) technology and tachometer data that is uploaded to the Internet to create a travel log for calculating a toll fee based on where the vehicle has traveled (http://www.dw-world.de/english/0,3367,1431_A_1116833,00.html).

Alternative transportation funding mechanisms can provide incentives to carry out national policies for cleaning the air, and conserving fuel while reducing wear and tear on the existing transportation infrastructure and providing increased capacity where needed. A variable toll rate based on weight per tire is an example of an incentive that would promote the reduction of wear and tear on the highway system. With such a variable rate, trucking companies might consider adding more axles to reduce per tire weight (and subsequent road wear) to achieve a reduction in their toll fee.

With a toll-based system, congestion pricing becomes an option. Trips in heavily congested areas during peak hours could also be billed a higher toll to fund increased transportation capacity to the facility and provide an incentive for drivers to seek alternative modes during peak times.

Gravitation toward a toll based system would have some significant hurdles. The public often view tolls as double taxation, tolls being paid in addition to the gas tax, and toll-plazas are not convenient. In addition, a toll-based system for trucks could eliminate the passenger vehicle subsidy for maintenance on highways created by trucking. Eighty percent of the wear and tear on the nations roads is attributed to heavy trucks while they only account for approximately 20 percent of the total fuel tax revenue and 8 percent of the total vehicle miles traveled. Despite this, in southern California, the trucking industry is advocating incentives such as using the toll funds to build commercial "All-Truck" toll facilities. The advantage to the trucking industry is that the lanes could be built to allow heavier loads, longer train sets (triple trailers) to safely operate in California.

In the interim, local governments will have to focus more on local funding sources to make up the funding shortfall in the face of ever-increasing vehicle use and congestion.

Chapter 6 ENVIRONMENTAL JUSTICE

Planning Approach

The goal of Kern COG's Environmental Justice process is to ensure that all people, regardless of race, color, national origin or income, are protected from disproportionate negative or adverse impacts caused by the Destination 2030 RTP Program of Projects.

This chapter examines the methodology Kern COG uses to determine whether all neighborhoods have reasonable shares of the benefits from the Destination 2030 RTP. Chapter 6 incorporates by reference Kern Council of Governments' *Environmental Justice Report* dated November 2003, and adopted at its January 15, 2004 public hearing, as well as Kern Council of Governments' *Environmental Justice Policies and Procedures*, adopted at the same public hearing.

Background

The legal basis for environmental justice (EJ) is rooted in the United States Constitution of the United States and civil rights laws. Title VI of the Civil Rights Act of 1964 provides protection from discriminatory actions or results from programs or activities receiving federal financial assistance. Title VI not only bars intentional discrimination, but it also prohibits unjustified and disparate-impact discrimination, i.e., a neutral policy or practice that has a disparate impact on protected groups. As a governmental agency receiving federal funding, Kern Council of Governments is responsible for implementing Title VI and conforming to federal environmental justice principles.

President Clinton signed Executive Order 12898 in February 1994 that considered *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population*. EO 12898 requires that federal agencies shall, to the greatest extent allowed by law, administer and implement their programs, policies, and activities that affect human health or the environment so as to identify and avoid disproportionately high and adverse effects on minority and low-income populations.

Kern COG's Environmental justice principles are:

1. To avoid, minimize or mitigate disproportionately high and adverse human health or environmental effects, including social and economic impacts, on traditionally disadvantaged communities, especially racial minority and low-income communities;
2. To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process;

3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

Demographic Profile

Kern County is California's third largest county, encompassing approximately 8,200 square miles. Kern County comprises 11 incorporated cities and a federally recognized urban area, Metropolitan Bakersfield, with a population of just over 400,000 (2000 Census), as well as 42 Census-recognized unincorporated communities.

Federal environmental justice guidelines call for identification of traditionally under-represented populations, including classified minorities such as those of Hispanic/Latino descent, African-Americans, Asian-Americans, Native Americans and others, as well as low-income populations;. To these groups, Kern COG added seniors of 65 and older and the disabled.

Kern County Population = 662,000	Percentage of Total Population
White	49.5
Hispanic / Latino	38.4
African American	6.0
Native American	1.5
Asian	3.4
Other	1.2

Approximately 17% of households and 21% of individuals live below the federal poverty line, generally defined as \$13,290 for households (of three members) and \$8,501 for individuals.

In addition, 9.4% of the county's population identify themselves as seniors age 65 and older, while 22.4% of the civilian non-institutionalized population are considered to have a disability.

Kern County has experienced a rapid population growth in the past decade. Census data indicates that the county has gained more than 150,000 persons from 1990 to 2003, which translates to a 29% increase. However, this population growth is not equally distributed among racial groups. Racial minorities experience a much faster population growth rate, based on the data from the 2000 Census. Countywide, the proportion of whites shrank noticeably in the past decade, down from 63% in 1990 to 50% in 2000. All racial minorities except Asians have experienced gains in the population share. It is likely that the racial composition of the population growth will follow this pattern in the near future, mirroring the general population growth pattern for the State. Consequently, addressing these racial minority neighborhoods' special transportation needs becomes even more urgent and significant in transportation planning.

From 1990 to 2000, the Hispanic population grew from 28% to 38% of Kern County's total population. The rise and shift in Kern County's population is primarily because of births within the Hispanic population, along with an influx of new immigrants. The next largest non-Hispanic population groups (Black: 6%; Asian: 4%; and American Indian: 2%) each increased by 1% over the past decade, according to the California Dept. of Finance. This population growth mirrors the rest of the state, which is one of the most diverse in the nation. Population growth resulted from large net increases in three population groups: aging baby boomers, their young children (echo boomers) and immigrants, mostly from Mexico and Central America.

Natural increase (births minus deaths) accounted for most of the population gain between 1990 and 2002. Natural increase accounted for 61% of the population gain and net migration, that is, those moving in minus those moving out of the region, accounted for 39%. Nearly two-thirds of the net migration was the result of immigration from outside the U.S.

Kern County's changing demographics necessitate a shift in the manner environmental justice concerns are received and addressed.

Environmental Justice Process

In January 2002, Kern COG appointed representatives from 22 government and community-based agencies to serve on an environmental justice task force. In addition to the environmental justice populations identified by FHWA and FTA – non-white and low-income groups – Kern COG added senior citizens and transportation-disabled individuals to its list of “targeted” groups. The agencies were chosen based on the services they provided to environmental justice populations.

Participating agencies included:

- Native American Heritage Council
- Kern County Economic Opportunity Corporation
- Kern Senior Collaborative/Center for Living and Learning
- Independent Living Center
- City of Shafter
- Kern Council Housing Authority
- Kern County Office on Aging and Adult Services
- Consolidated Transportation Services Agency
- Hispanic Chamber of Commerce
- California Highway Patrol
- Hispanic Chamber Foundation
- NOR Recreation and Parks District
- American Indian Health Project.

The task force was provided an overview of requirements that government agencies such as Kern COG must meet to conform to federal mandates as well as graphic representations of the environmental justice populations using 2000 Census data for the county as a whole and metropolitan Bakersfield in particular. Distributions included:

- Non-white people
- People age 65 and older
- Transit-disabled people (defined as those who declared themselves unable to go outside the home alone to shop or attend appointments because of a disability)
- Hispanics/Latinos
- Low-income households (defined as households at or below the federal poverty level)
- Zero car households.

Population Concentrations

The challenge was to identify all populations within the Kern region that qualify as “traditionally disadvantaged” without counting the same people more than once. In addition, because of Kern County’s farm- and oil-based economies, significant portions of both its rural and urban regions would qualify under one or more of the criteria if population “floors” were not established to represent minimum concentrations.

To account for these issues, Kern COG limited its inquiry to four populations: low-income, non-white, seniors and transit-disabled. Specific demographic groups, such as the homeless or migrant farm workers, were discussed as particularly identifiable. Because these groups often share characteristics with other groups already identified as traditionally disadvantaged, Kern COG determined that they were already being considered in the process.

Population concentrations of traditionally disadvantaged groups were established to better focus the examination onto particular neighborhoods rather than attempting to look at the entire county *en masse*. The maps showed significant concentrations of environmental justice populations outside more densely populated areas, but near major transportation facilities, such as Routes 46 (Wasco) and 178 (Lake Isabella).

Transportation System Criteria

For its environmental justice program, Kern COG assessed environmental justice impacts using the same criteria identified in Destination 2030’s Transportation Planning Policies Element. Seven criteria were used to assess environmental justice impacts. They comprised:

- Accessibility – the ease of reaching destinations as measured by the percent of commuters who can get to work within a given period of time;
- Mobility – the ability to move throughout the region and the time it takes to reach desired destinations within a reasonable amount of time;
- Environment – enhancing the existing transportation system while improving the environment;
- Cost-effectiveness – maximizing the return on transportation investments;
- Reliability – percentage of on-time arrivals by both transit and automobiles;
- Safety – minimizing risk of accidents/injuries as measured by accident rates;
- Equity – equitable distribution of transportation investment benefits;
- Consumer satisfaction – conditions under which users agree that their transportation needs are being met in a safe, reliable, efficient and cost-effective manner.

Transportation System Objectives

This set of objectives are intended to define measurable outputs that ensure transportation system investments benefit all populations, without consistently burdening any single one.

Because Kern COG's transportation model was not calibrated to address rural transit operations, it was difficult to establish specific, time-constrained goals for transit that could be measured effectively. The transportation model is a computerized database that assimilates data from physical traffic counts to establish baseline travel patterns. By adding past and current Census data to the model, travel pattern projections can be forecasted to 2030. Census data that addresses such issues as the number of miles traveled to work, how many vehicles per household, and the number of drivers per household are particularly germane in modeling transportation behavior.

With the model's inability to reliably test transit travel times, Kern COG worked to broaden its Destination 2030 RTP goals and policies to ensure that EJ populations fared no worse than the region as a whole for accessibility and mobility. Furthermore, because the model is incapable of predicting such factors as accident rates, project impacts on the environment, and transportation system investments, Kern COG chose to compare countywide averages versus identified EJ areas for each of the eight criteria. This level of analysis demonstrates whether EJ areas fare better or worse than the general population.

Objectives for the eight criteria include:

Accessibility

- a. Projects in the Destination 2030 RTP will bring services for environmental justice populations up to countywide average.

- b. If already maintaining countywide average, projects in the Destination 2030 RTP will show no degradation of service.

Mobility

- a. Projects in the Destination 2030 RTP will bring services for environmental justice populations up to countywide average.
- b. If already maintaining countywide average, projects in the Destination 2030 RTP will show no degradation of service.

Environment

Projects in the Destination 2030 RTP will demonstrate no difference in unmitigated impacts between environmental justice populations and the Kern region as a whole.

Cost-Effectiveness

In environmental justice areas, projects in the Destination 2030 RTP will show an average cost per passenger mile for both auto and transit that is no less than the countywide average.

Reliability

- 1. Projects in the Destination 2030 RTP will provide 85% on-time arrivals (transit).
- 2. Environmental justice areas will suffer the same or less congestion in vehicle hours traveled as Kern County as a whole (auto).

Safety

On new facilities inside environmental justice areas, projects in the Destination 2030 RTP will demonstrate no more accidents than the Kern County average.

Equity

Accounting for context-sensitive design factors, projects in the Destination 2030 RTP will show an equitable distribution of transportation expenditures, inside and outside environmental justice areas.

Consumer Satisfaction

Projects in the Destination 2030 RTP will maintain delay times for environmental justice areas that are less than or meet the Kern County average.

Measurement of Objectives

Kern COG's transportation model was used to develop tangible EJ measures that would assist the agency in meeting its environmental justice objectives. The model's limitations necessitated a substantial financial investment for upgrades to measure accurately transit trip times and lengths, as well as to compare all trip

times and lengths between metropolitan Bakersfield and more rural areas of the county.

For criteria whose objectives the model was unable to quantify (such as environment, reliability, safety and equity), Kern COG developed other measures based on Census and accident data. Measurements for the eight criteria include:

Accessibility

1. Average automobile trip time to major job centers (from target urban neighborhoods to major job centers)
2. Average transit travel time to major job centers (from target urban neighborhoods to major job centers)
3. Average automobile trip time to major job centers (from target rural neighborhoods to major job centers)
4. Average transit time to major job centers (from target rural neighborhoods to major job centers)

Mobility

1. Average travel time for all trips by automobile (urban)
2. Average travel time for all trips by transit (urban)
3. Average travel time for all trips by automobile (rural)
4. Average travel time for all trips by transit (rural)
5. Average travel time for all trips by automobile (countywide)
6. Average travel time for all trips by transit (countywide)

Environment

1. Conformity with the Clean Air Act Amendments of 1990 according to measures of pollutants such as nitrous oxide and reactive organic gases

Cost-Effectiveness

1. Average cost per passenger mile (urban, auto, countywide)
2. Average cost per transit trip mile (urban, transit, countywide)
3. Average cost per passenger mile (urban, auto, EJ target areas)
4. Average cost per transit trip mile (urban, transit, EJ target areas)
5. Average cost per passenger mile (rural, auto, EJ target areas)
6. Average cost per transit trip mile (rural, transit, EJ target areas)

Reliability

1. Reasonably dependable levels of service as measured by percent of on-time arrivals
2. Reasonably dependable levels of service as measured by congestion on highways

Safety

1. Number of high crash locations improved

Equity

1. Investment comparisons across modes of transportation, including livable and/or walkable communities
2. Distribution of planned transportation expenditures inside and outside of target-communities/neighborhoods

Consumer Satisfaction

1. Average trip delay time (urban, auto, countywide)
2. Average trip delay time (rural, auto, countywide)
3. Average trip delay time (urban, auto, EJ area)
4. Average trip delay time (rural, auto, EJ area)
5. Average trip delay time (urban, transit, countywide)
6. Levels of service on roads countywide (A-F)
7. Levels of service on roads in EJ target areas (A-F).

Level of Service (LOS) is the “yardstick” in standard use to categorize the flow and efficiency of highways, roads, and intersections.

LOS A	Free flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection)
LOS B	Generally stable traffic flow conditions
LOS C	Occasional back-ups may develop, but delay to vehicles is short-term and still tolerable
LOS D	During short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e., vehicle delayed one cycle or less at signal)
LOS E	Intersections operate at or near capacity, with long queues developing on all approaches, and long delays
LOS F	Jammed conditions on all approaches with excessively long delays and vehicles unable to move at times

Project-Level Evaluation

General funding priorities addressing equity across transportation modes are handled primarily through the RTP. Because capital projects identified in this RTP will be funded and move toward completion by the time they are included in the short-range Federal Transportation Improvement Program (FTIP), EJ concerns at the later stage will address project-specific issues.

Fundamental questions about whether a specific project should be prioritized over any other or generally where the project should be located are decided through the RTP process; attempting to do so at the FTIP level is too late. Conversely, the RTP cannot hope to answer environmental questions or

aesthetic issues about a specific project. Those project-level questions will be addressed at Caltrans' and/or local agency workshops as projects move forward.

Modeling Results

Once EJ populations were identified and mapped – and criteria, measures and goals established – Kern COG used the transportation model to determine whether the goals for mobility, accessibility, cost-effectiveness, consumer satisfaction, reliability and safety were being met.

The process involved preparing and testing a series of “scripts” or small programs that allow the model to run projections for the 1998 base year and future years on measures established for environmental justice criteria. Specific model scripts requested were:

- **Accessibility** – Calculate average trip time by mode (auto and transit) to major job centers from a group of approximately 600 Traffic Analysis Zones (TAZs).
- **Mobility** – Calculate average trip time by mode (auto and transit) from environmental justice TAZs and countywide.
- **Cost-effectiveness** – Passenger miles traveled. Calculate passenger miles traveled by both vehicle and transit networks for current and planned transit projects (increased headway, new routes) and capacity increasing road projects links in future years, inside EJ TAZs and countywide. These figures are divided by the total investment in these projects and used to calculate their cost-effectiveness.
- **Reliability** – Calculate the distance of level of service D through F links inside environmental justice TAZs and countywide.
- **Consumer satisfaction** – Calculate the average trip delay after feedback between constrained and unconstrained roadways on links inside EJ TAZs and countywide.¹
- **Safety** – Calculate the percentage increase between property damage, injury and fatal accident rates between base year 1998 and 2030.

Environment was not included in the model because it is not a component the model can measure readily. The model generated several factors, including: travel times, vehicle miles traveled, passenger miles traveled, transit boardings, transit trip hours, transit trip distance and miles of LOS C or worse roads for 1998 (base year), 2030 build scenario, and the 2030 no-build scenario. The 2030 build scenario assumes all projects listed in the Destination 2030 Regional Transportation Plan will have been completed, whereas the no-build scenario assumes 2030 traffic on the same network used in 1998. Additional assumptions include funding sources and technology will remain constant. The model also

¹ Delay refers to the amount of additional time a vehicle spends on the road because of congestion. Constrained and unconstrained roads refer to those streets, highways or freeways where congestion is either typical or atypical.

stratified its factors along three separate lines: All of metropolitan Bakersfield (urban); all other areas of Kern County, including the 10 other incorporated cities (rural); and countywide. Kern COG paid particular attention to the accessibility and mobility criteria because they represented overall system performance now and in the future.

Mobility

Mobility is defined as the ability to move throughout the region, and the time it takes to reach desired destinations. The criterion is measured by calculating average travel times during the base year 1998, in 2030 when all RTP projects are completed, and in a 2030 no-build scenario where none of the RTP projects are completed. The goal for mobility is to demonstrate that EJ TAZs perform better, or at least no worse, than the countywide average. Peak highway and transit trip periods (evening commute times) were used to demonstrate the worst-case scenario.

Metropolitan Bakersfield's average travel time in 1998 for all trips was 15.17 minutes, compared to a rural time of 17.25 for a countywide average of 16.15. In considering just metro Bakersfield's EJ TAZs, the average travel time was 14.68, versus rural EJ TAZs at 14.43, for a countywide average of 14.6 minutes. During the 1998 base year, EJ TAZs throughout the county enjoyed shorter average travel times than the county as a whole. As depicted in the chart below, that trend is maintained over both the 2030 and the 2030 no-build scenario. On the whole, people living in EJ TAZs will have shorter average travel times anywhere within the county than the county will have as a whole.

Average Travel Time – Peak Highway Trips (in minutes)

Region	1998	2030	2030 No Build
Bakersfield	15.17	16.54	18.45
Rural Areas	17.25	17.75	17.44
Countywide	16.15	17.44	18.14

EJ TAZs Average Travel Time – Peak Highway Trips

Region	1998	2030	2030 No Build
Bakersfield	14.68	15.91	17.56
Rural Areas	14.43	15.91	16.45
Countywide	14.6	15.91	16.59

Because rural transit ridership comprises such a small percentage of trips throughout the county as a whole, and because no data is kept by rural transit agencies regarding trip lengths and travel times, staff is unable to compare the

rural transit network to the Golden Empire Transit system in metro Bakersfield. However, in judging average travel times for transit trips between EJ TAZs in Bakersfield and the rest of Bakersfield as a whole, EJ TAZs also continue to fare better in this category across the board. In 1998, the average peak hour transit trip took 46.33 minutes in Bakersfield. However, transit trips emanating from EJ TAZs were clocked at 46.21 minutes. In 2030, the model estimates the difference to increase from 49.54 minutes in Bakersfield as a whole to 48.11 minutes in Bakersfield EJ TAZs.

Average Travel Time – Peak Transit Trips²

Region	1998	2030	2030 No Build
Bakersfield	46.33	49.54	47.34
Rural Areas	N/A	N/A	N/A
Countywide	46.33	49.54	47.34

EJ TAZs Average Travel Time – Peak Transit Trips

Region	1998	2030	2030 No Build
Bakersfield	46.21	48.11	46.59
Rural Areas	N/A	N/A	N/A
Countywide	46.21	48.11	46.59

Accessibility

Accessibility differs from mobility in that it is measured by commuter trip times to major job centers rather than overall trip times. Major job centers are defined as those TAZs containing employment sites with 75 or more workers. Specifically, accessibility is defined as the ease of reaching destinations as measured by the percent of commuters who can get to work within a given period of time. As with mobility, the goal is to ensure that commuters in EJ TAZs throughout the county have average trip times that are shorter, or at least no longer, than the county as a whole.

²No data are maintained on average travel times for rural fixed route and dial-a-ride services. The countywide average listed under Average Travel Time – Peak Transit Trips and EJ TAZs Average Travel Time – Peak Transit Trips reflects statistics on the Golden Empire Transit network only. Rural transit ridership is a small percentage of countywide and would result in a negligible increase.

In 1998, the average trip length from anywhere in Bakersfield to a major job center was 15.64 minutes. For areas outside Bakersfield, the time was approximately five minutes longer – 20.73 minutes. The average commute time to a major job center in Kern County was 18.03 minutes in 1998. This compares to 15.55 minutes for all commutes from EJ TAZs to major job centers throughout the county in 1998.

Again, EJ TAZs generally fare better across the board against urban, rural and countywide averages for commutes to major job centers in 1998, under the 2030 build and 2030 no-build scenarios. This is true for both private vehicle trips countywide and transit trips in Bakersfield. Rural transit data are unavailable.

Average Travel Time to Major Job Centers – Highway

Region	1998	2030	2030 No Build
Bakersfield	15.64	15.91	17.76
Rural Areas	20.73	23.97	25.79
Countywide	18.03	20.54	21.41

Average Travel Time from EJ TAZs to Major Job Centers – Highway

Region	1998	2030 Build	2030 No Build
Bakersfield	14.96	14.91	18.12
Rural Areas	16.77	18.63	19.51
Countywide	15.55	16.98	17.1

Average Travel Time to Major Job Centers – Transit ³

Region	1998	2030 Build	2030 No Build
Bakersfield	46.87	51.39	48.06
Rural Areas	N/A	N/A	N/A
Countywide	46.87	51.39	48.06

Average Travel Time from EJ TAZs to Major Job Centers – Transit

³ No data are maintained on average travel times for rural fixed route and dial-a-ride services. The countywide average listed under Average Travel Time – Peak Transit Trips and EJ TAZs Average Travel Time – Peak Transit Trips reflects statistics on the Golden Empire Transit network only.

Region	1998	2030 Build	2030 No Build
Bakersfield	47.64	51	48.3
Rural Areas	N/A	N/A	N/A
Countywide	15.55	16.98	17.1

Cost-Effectiveness

Cost-effectiveness is measured by maximized returns on transportation investments. Staff calculated this criterion by dividing the average daily investment from 2000 RTP projects through 2025 by the average number of daily passenger miles traveled (PMT) on the transportation network, both inside and outside of EJ TAZs.

In the metropolitan Bakersfield area, the average daily investment in roads will amount to \$.0019 per PMT versus \$.0023 per PMT in Bakersfield EJ TAZs. In rural areas outside Bakersfield, the cost is \$.0022 versus \$.0025 in rural EJ TAZs. For transit service in Bakersfield, the daily investment per PMT is \$.0724, versus \$.0723 in Bakersfield EJ TAZs. While the daily investment per PMT for roads indicates that the transportation system will meet the goal of spending more money per PMT in EJ areas than in the county as a whole, *the transit system does not measure up to that criterion, with all factors constant.* However, more funding will be spent per PMT in EJ TAZs than the county as a whole, and mobility and accessibility for EJ TAZs will also be higher.

Because the cost-effectiveness criterion assumes that RTP projects will be built, the no-build scenario is not displayed.

Average Daily Investment per Passenger Mile Traveled – Highways

Region	2030 Build
Bakersfield	\$.0019
Rural Areas	\$.0022
Countywide	\$.0021

Average Daily Investment per Passenger Mile Traveled – Highways: EJ TAZs

Region	2030 Build
Bakersfield	\$.0023
Rural Areas	\$.0025
Countywide	\$.0024

Average Daily Investment per Passenger Mile Traveled – Transit⁴

Region	2030
Bakersfield	\$.0724
Rural Areas	N/A
Countywide	N/A

Average Daily Investment per Passenger Mile Traveled – Transit: EJ TAZs

Region	2030
Bakersfield	\$.0723
Rural Areas	N/A
Countywide	N/A

Equity

Equity is defined as an equitable distribution of transportation investment benefits (as a share of benefits). Kern COG took a similar approach to equity as with cost-effectiveness, comparing the total investment in roads and transit through 2030 with total passenger miles traveled in Bakersfield, rural areas and the county as a whole. All numbers were converted to percentages for simplicity.

In 2030, Bakersfield EJ TAZs will account for 39% of all passenger miles traveled in the region. However, approximately 47% of transportation expenditures will go directly into the metropolitan EJ TAZs. Similarly, rural EJ TAZs, will represent 18.2% of countywide PMT; however, 20.6% of all transportation funding will be spent in those areas. Countywide, approximately 26% of all passenger miles traveled will occur in EJ TAZs, which will collect 30% of funding and projects.

Although Kern COG cannot reliably project the number of passenger miles traveled by rural transit agencies in 2030, the model does predict that EJ TAZs in the metro Bakersfield region will make up approximately 61% of transit PMT. Those same TAZs, however, will receive 73% of all transit funding attributable to the metropolitan area. Stratification between metro and rural transit services is impractical because of the rural transit PMT variable.

Percent of Expenditures versus Passenger Miles Traveled in 2030 - Highways

Region	2030 PMT	Total investment	PMT (percent)	Investment (percent)
Bakersfield	20,393,176	\$431,347,252	38.5	35.2

⁴ Because Kern COG's regional transportation model cannot estimate passenger miles traveled for rural transit services, estimates for daily investment per PMT countywide are unable to be made.

Rural Areas	32,522,947	\$791,051,531	61.5	64.8
Countywide	52,916,123	\$1,222,398,783	100	100

**Percent of Expenditures versus
Passenger Miles Traveled in EJ TAZs by 2030 - Highways**

Region	2030 PMT	Total investment	PMT (percent)	Investment (percent)
Bakersfield	7,901,6801	\$202,995,526	38.7	47.1
Rural Areas	5,933,711	\$162,630,218	18.2	20.6
Countywide	13,835,392	\$365,265,744	26.1	29.9

**Percent of Expenditures versus
Passenger Miles Traveled in 2030 - Transit**

Region	2030 PMT	Total investment	PMT (percent)	Investment (percent)
Bakersfield	100,921	\$80,000,000	N/A	80.1
Rural Areas	N/A	\$19,985,000	N/A	19.9
Countywide	N/A	\$99,985,000	100	100

**Percent of Expenditures versus
Passenger Miles Traveled in EJ TAZs by 2030 - Transit**

Region	2030 PMT	Total investment	PMT (percent)	Investment (percent)
Bakersfield	61,639	\$48,800,000	N/A	73.1
Rural Areas	N/A	\$17,986,500	N/A	26.9
Countywide	N/A	\$66,786,500	100	100

Consumer Satisfaction

Consumer satisfaction is defined as the condition where consumers can largely agree that their transportation needs are being met in a safe, reliable, efficient and cost-effective manner. The criterion is measured by the daily amount of trip delay in hours. On roadways, trip delay refers the difference between the time a trip should take and the time it actually requires, or the difference between uncongested traffic (free flow) and some level of congestion.

For example, between 1998 and 2030, Kern COG's traffic model estimates the number of daily trip delay hours to rise from 43,724 to 92,249 – a 111 percent increase. However, in Bakersfield's EJ TAZs, the number would increase from 26,164 to 48,533, an 85% rise. While neither scenario is desirable, EJ TAZs within Bakersfield continue to perform better than the area as a whole. The same situation is found in rural Kern County, where the delay goes from 19,971 delay hours to 77,447 by 2030, a 288% increase.⁵ Nevertheless, in rural EJ TAZs, delay time increases by 54% – from 6,906 hours in 1998 to 10,620 hours in 2030.

Average Trip Delay Time in Hours

Region	1998	2030	Percent increase
Bakersfield	43,724	92,249	111
Rural Areas	19,971	77,447	288
Countywide	63,696	169,696	166

Average Trip Delay Time in Hours for EJ TAZs

Region	1998	2030	Percent increase
Bakersfield	26,164	48,533	85
Rural Areas	6,906	10,620	54
Countywide	33,070	59,152	79

Reliability

Reliability is the percentage of on-time arrivals for both transit and highway trips. For highways, it is measured by the number of hours daily passengers spent in congestion. Congestion is measured by levels of service (LOS) on roadways and also by the amount of time in hours that a vehicle is not able to reach the speed limit on a given roadway segment. For transit, reliability is judged by the percent of on-time arrivals for each operator.

Golden Empire Transit District in Bakersfield has developed its own environmental justice analysis, "Title VI Update" last produced in April 2001 and scheduled for update in June 2004. Based on observation through February

⁵ In 1998, Rosamond Blvd., which leads to Edwards Air Force Base, was the only roadway outside metropolitan Bakersfield to report LOS D or worse traffic during peak commute times. In 2030, portions of at least 11 roads outside the metro area are expected to suffer LOS D traffic delays.

2004, GET estimates its on-time arrival rate at 92% of all trips.⁶ It does not stratify by EJ TAZ.

Congestion levels, measured by Kern COG's traffic model in vehicle hours, show the worst degradation in rural EJ TAZs by 2030. However, the extremely low level of congestion apparent in 1998 skews that result. According to the model, all rural roads outside metropolitan Bakersfield experienced a cumulative total of 18 hours of congestion daily. By 2030, that number will have risen to 8,772 hours.

By contrast, metropolitan Bakersfield will see the number of hours spent in congested traffic rise from 25,194 in 1998 to 116,854 in 2030. However, its level of congestion to begin with is far greater than the rest of the county combined. Relative to increases regionally, EJ TAZs in Bakersfield and countywide still see lower levels of congestion than rural areas of the county.

Average Level of Congestion in Hours

Region	1998	2030	Percent increase
Bakersfield	25,194	116,854	364
Rural Areas	7,014	161,861	2208
Countywide	32,209	278,714	765

Average Trip Delay Time in Hours – EJ TAZs

Region	1998	2030	Percent increase
Bakersfield	14,622	49,643	240
Rural Areas	18	8,772	48,633
Countywide	14,622	58,416	300

Safety

For Kern COG's environmental justice policy purposes, safety is considered to be the minimal risk of accident or injury as measured by reduced accidents. While the model does make predictions regarding the number of accidents that cause property damage, injury and fatalities, it cannot stratify that information specifically by project, as the environmental justice safety goal requires: On new facilities inside environmental justice TAZs, projects outlined in the Destination 2030 RTP will demonstrate no more accidents than countywide average.

⁶ GET acknowledges potential bias in its observation system. Global positioning system hardware was installed on all GET buses in Winter 2003 ensuring a more accurate assessment of on-time arrivals.

Despite the model's inability to predict accident rates on specific projects, it does provide an aggregate look at annual accidents in 1998 compared to 2030. Results show that injury accidents in particular will rise sharply throughout the county by 2030, however, EJ TAZs will see half the rate increase for injury accidents as countywide. For example, in rural Kern County, the injury accident rate is predicted to rise from 996 in 1998 to 2,239 in 2030, a 124.8% increase. In rural EJ TAZs, however, the same type of accident will go from 214 to 425, a 49.65% rise.

Annualized Accident Statistics for Annual Average Daily Traffic

Region	1998	2030	Percent increase
Bakersfield			
Property damage	1,207	2,556	52.78
Injury	690	1,461	111.74
Fatal	43	92	53.26
Rural			
Property damage	1,742	4,076	57.26
Injury	996	2,239	124.8
Fatal	13	147	91.16
Countywide			
Property damage	2,949	6,631	55.53
Injury	1,686	3,790	124.79
Fatal	106	239	55.65

Annualized Accident Statistics for Annual Average Daily Traffic – EJ TAZs

Region	1998	2030	Percent increase
Bakersfield			
Property damage	552	990	44.24
Injury	316	566	44.17
Fatal	20	36	44.44
Rural			
Property damage	375	744	49.6
Injury	214	425	49.65
Fatal	13	27	51.85
Countywide			
Property damage	927	1,734	46.54
Injury	530	991	46.52
Fatal	33	62	46.77

Environment

Environment is defined as enhancing the existing transportation system while improving the environment. It is the one factor in Kern COG's environmental justice criteria set that the transportation model cannot measure. Environmental effects vary wildly among different transportation projects, and can only be determined meaningfully on a project-by-project basis. The goal is for projects in the Destination 2030 RTP to demonstrate no difference in unmitigated impacts between environmental justice populations and the region as a whole. This goal is measured through conformity with the Clean Air Act Amendments of 1990 according to measures of certain pollutants such as nitrous oxide and reactive organic gases.

Both Kern COG's long-range Destination 2030 RTP and the short-term Federal Transportation Improvement Program (FTIP) require a demonstration of air quality "conformity" prior to being adopted by Kern COG and the federal government. This conformity process is necessary because of the San Joaquin Valley air basin's designation as "severe" for ozone and particulate matter less than 10 microns (PM-10). The process ensures that new transportation projects will either benefit, or at least have no negative effect on air quality. Kern COG's conformity analysis for its most recent FTIP, covering 2002-2004, was approved by the U.S. Department of Transportation on October 4, 2002. A revised conformity analysis has been undertaken to support the Destination 2030 RTP and the 2004-2006 FTIP.

Conclusion

Ideally, transportation projects not only achieve immediate transportation goals (such as congestion relief) but contribute to the betterment of our physical and socioeconomic environment. It is inevitable, however, that some transportation projects generate negative impacts as well. This chapter identifies the methodology used to determine the Destination 2030 RTP projects' equitability and their overall cost and benefit to the residents of Kern County, particularly on traditionally-disadvantaged neighborhoods.

From a public information perspective, Kern COG's commitment to environmental justice is demonstrable through its efforts at gathering public input. These efforts include broadcasting its monthly meetings on television; using display advertising and flyers to announce workshops and public hearings; and developing radio advertisements for long-range planning efforts. Kern COG staff has been visible in every community over the last two years during city council meetings, street fairs and community festivals. Press releases are generated at project milestones. Kern COG's quarterly newsletter is distributed to over 1,000 organizations and individuals.

From a planning standpoint, the transportation model indicates that, with few exceptions, Kern COG has and will continue to divide its resources equitably, with no single population group suffering disproportionate and adverse effects from agency activity. Analyses demonstrated some shortcomings that will be addressed, however. For example, in Bakersfield during 1998, average transit commute times to major job centers took approximately 7% longer (about one minute) in metropolitan EJ Areas than in the city as a whole. The model predicts that this situation will be reversed by 2030, assuming all constrained RTP projects are completed.

Kern COG's position that it is meeting the rigors of environmental justice is based largely on averages, and in some cases predicated on a worst-case scenario for every portion of the Kern region. The fact that delay times will rise by *only* 300 percent in EJ Areas versus 765% countywide over the long-term is nothing to trumpet; however, it does demonstrate that despite substantial financial commitments, and with all issues remaining constant, the Kern region's transportation network will continue to deteriorate for every segment of the population. The transportation model simply shows that the transportation network will not deteriorate in EJ Areas as quickly as in the county as a whole.

Kern COG expects to re-evaluate its environmental justice policies and procedures at least every three to five years. In its initial analysis, Kern COG determined that several of the criteria were measured redundantly. For example, consumer satisfaction is measured in delay time whereas reliability is measured in the number of vehicle hours spent in congestion. The two measures, while different, may be similar enough to use one or the other, though not both.

Similarly, cost-effectiveness and equity both attempt to determine how expenditures are being divided between EJ Areas and the region as a whole. While each measure uses a different analysis method, the conclusions appear to be the same. Because environmental issues such as noise, air quality, wildlife disturbances, and context-sensitive design must be addressed through the mitigation process on a project-by-project basis, no substantive means are available to measure environmental effects as a criterion in this analysis.

Considering all the analyses as a whole, it is sufficient to conclude that the Destination 2030 RTP meets the environment justice requirements by ensuring that all of the population is subject to proportionate benefits and detriments. It also must be understood that environmental justice does not create an entitlement; however, it does attempt to assure that transportation projects do not have discriminatory effects or disparate impacts on any segment of the population, especially those traditionally disadvantaged groups such as racial minorities and low-income communities. The above analyses demonstrate that the Destination 2030 RTP has met those expectations.

Corridor Preservation

It is important to identify and preserve transportation corridors needed to expand or enhance transportation for Kern County's future. Kern region's local governments will find it difficult to obtain optimal locations for these corridors unless efforts to preserve them are made early.

The American Association of State Highway and Transportation Officials (AASHTO) report on corridor preservation states that early efforts provide the following benefits:

- prevent inconsistent development;
- minimize or avoid environmental, social and economic impacts;
- prevent loss of desirable corridor locations;
- allow for orderly assessment of impacts;
- permit orderly project development; and
- reduce costs.

Ideally, planners and policy-makers will begin preparing strategies for preserving corridors now as part of the long-range planning process. Planning prevents losing right-of-way that will become necessary for transportation beyond 2030. The County and cities can adopt a specific plan line to preserve open land in undeveloped and rural areas. More opportunities to capitalize on preservation are available in less urban areas, where local governments have an opportunity to obtain available land for new transportation facilities.

The first step to identify potential long-range corridors and determine that a need exists to preserve them. This will require intergovernmental coordination and should include a funding component. Next, criteria to evaluate and prioritize the selected corridors must be developed. Once a corridor is selected, environmental studies will be needed. Traditional preservation techniques include purchasing land and using government statutes to place a corridor alignment on a general plan land use and/or circulation map. Other state and federal funds can be used to assist in acquiring land for long-range corridors.

The following High Emphasis Interregional Routes are identified by Kern COG and Caltrans as high priority corridors. These corridors are also identified as future circulation needs in the respective city or county General Plan Circulation Elements.

Post-2030 Long Range Corridors	
Corridor	Source
Inter- Regional Corridors	
Route 46 (New Alignment through Wasco)	City of Wasco; Caltrans; Kern COG
Route 58 (New Alignment - Route 99 west to I-5)	Caltrans; Kern COG
Willow Springs Expressway	Rosamond TIF; Kern COG; Caltrans
Passenger Rail	
Link to Mammoth / Reno	Eastern Sierra Planning Partnership
Kern County	
Centennial Corridor (Routes 58 & 178)	City of Bakersfield; Kern County; Kern COG
South Beltway	City of Bakersfield; Kern County; Kern COG
West Beltway	City of Bakersfield; Kern County; Kern COG
East Beltway	City of Bakersfield; Kern County; Kern COG
Intermodal Corridors	
Route 58 (Bakersfield to Tehachapi)	Caltrans; Kern COG
UP/BNSF Rail Corridor (Bakersfield to Tehachapi)	Caltrans; Kern COG

High Speed Rail

California High Speed Rail Authority is proposing a high-speed train (HST) system for intercity travel between the major metropolitan centers of Sacramento and the Bay Area, through the San Joaquin Valley, to Los Angeles and San Diego. The HST system is projected to carry as many as 68 million passengers annually by 2020. The Authority adopted a final Business Plan in June 2000 that examined the economic viability of a train system capable of speeds in excess of 200 mph on a fully grade-separated track, with state-of-the-art safety, signaling, and automated control systems. Following adoption of the Business Plan, the Authority initiated an environmental review process as required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), which was released to the public in early 2004.

The purpose of the proposed HST system is to provide a reliable mode of travel, which links the major metropolitan areas of the state and delivers predictable and consistent travel times. Further objectives are: (1) to provide an interface with commercial airports, mass transit, and the highway network; (2) to relieve capacity constraints of the existing transportation system as intercity travel demand in California increases; (3) to construct the proposed HST system in a manner sensitive to and protective of California's unique natural resources. The system needs to be practicable and feasible as well as economically viable. The

system should maximize the use of existing transportation corridors and rights-of-way, be implemented in phases, and be completed by 2020.

The state's population is projected to increase by 31% by 2020, with the highest growth rate expected in the San Joaquin Valley and the greatest increase expected in the Los Angeles metropolitan area. The need for improved intercity transportation is demonstrated by the insufficient capacity of the existing transportation system to meet current and expected future travel demand. The need is also reflected in poor air quality, impaired travel reliability, and increased travel congestion and longer travel times. The interstate highway system and commercial airports serving the intercity travel market are operating at or near capacity in major parts of the system. In order to meet travel demand and future growth over the next 20 years and beyond, highway and airport systems will require large public investment for maintenance and expansion.

Electrically powered, high-speed, steel-wheel-on-steel-rail technology is being considered for the proposed system that would serve the major metropolitan centers of California, extending from the Bay Area and Sacramento, through the San Joaquin Valley, to Los Angeles and San Diego. By 2020, the proposed service would include approximately 86 weekday trains in each direction to serve the intercity travel market, with 64 of the trains running between northern and southern California, and the remaining 22 trains serving shorter-distance markets. Most passenger service is assumed to run between 6 a.m. and 8 p.m. The proposed system would be capable of speeds in excess of 200 mph, and the projected travel times would be designed to compete with air and auto travel. For example, the projected travel time by HST between San Francisco and Los Angeles would be just under 2 hours and 30 minutes, and between Los Angeles and San Diego, it would be just over one hour.

The cost to implement the HST system is estimated to range between \$33 billion and \$37 billion (at 2003 dollars), depending on the alignment and station options selected. The cost estimate includes right-of-way, track, guideway, tunneling, stations, and mitigation. The Authority has indicated that private funds would be sought for the train sets and operating costs.

High-speed rail would provide a new intercity, interregional, and regional passenger mode that would improve connectivity and accessibility to other transit modes and airports compared to the other alternatives. High speed rail over and above automobile and airline travel would improve the travel options available in the San Joaquin Valley and other areas of the state with limited bus, passenger rail, and air service for intercity trips.

High Speed Rail Terminal Impact Analysis

The High Speed Rail Terminal Impact Analysis was prepared to determine a community-preferred site for Bakersfield's future high speed rail station. Three

sites within metropolitan Bakersfield had been previously identified: Meadows Field vicinity, Golden State/"M" Street, and Truxtun/"S" Street

Kern COG commissioned this study to recommend a locally preferred station site to be forwarded to the California High Speed Rail Authority. This study was not intended to include final station design concepts or cite specific environmental impacts, but rather as a tool for CHRSRA to understand the Bakersfield community's concerns as well as to explain potential partnering opportunities.

The study evaluated the sites for the concerns regarding mobility, access and Intermodal connectivity, cost, user convenience, impact on built environment, air quality, economic development and environmental impacts.

A series of outreach meetings was undertaken in order to compile and understand various objectives and preferences for a station site.

On July 1, 2003, the Kern County Board of Supervisors adopted Resolution 2003-290 in support of the Truxtun Avenue terminal site. On July 9, 2003, the Bakersfield City Council voted to adopt Resolution 118-03 endorsing the Truxtun Avenue site as their preferred site. And on September 18, 2003, Kern Council of Governments adopted Resolution 03-23 to designate the Truxtun Avenue terminal site as "the preferred base system local alternative site for the Metropolitan Bakersfield high-speed rail terminal."

The Truxtun site is located within the vicinity of the current Amtrak station. It is west of Union Avenue and east of Chester Avenue along the BNSF corridor. The High Speed Rail Environmental Impact Report has identified the station site between S Street and Sonora Street as the most promising area, but has indicated a possible alternative with a north/south orientation along Union Avenue. The Truxtun Station is located within walking distance of the downtown area including two hotels, the convention center, many government office buildings and Bakersfield's new Ice Center and McMurtrey Aquatic Center.

Connections to other modal uses would be effortless. Amtrak and Greyhound connections have existing facilities at or near the Truxtun Station while Golden Empire Transit and Kern Regional Transit also have regular stops at the Amtrak station. This proximity would facilitate passenger transfer connections, sharing of the Amtrak feeder bus terminal and possibly even sharing of an expanded station.

Need for Constrained Project Development

Under the Transportation Equity Act for the 21st Century and its successor, regional transportation plans must demonstrate all proposed projects are capable of being fully funded within the RTP's timeframe. This requirement has constrained regions to spotlight and prioritize high performing, cost-effective

projects. This approach enables the Kern region to focus on immediate transportation priorities.

If new funds are identified, then projects in the unconstrained Program of Projects (Table 4.2) can be amended into the constrained Program of Projects (Table 4.1) via the amendment process. Under this arrangement, decision-makers would have flexibility to consider new projects and to respond to funding opportunities that may present themselves in the future.

Unconstrained Projects/Unmet Transportation Needs

Beyond the Destination 2030 RTP, an estimated \$ 2.3 billion in unmet transportation needs within the Kern Region for capital improvements, operation and maintenance, remain unfunded because of lack of federal, state and local monies. Kern COG, in cooperation and coordination with its stakeholders, maintains a list of capital projects that are financially unconstrained (see Table 4.2). Conceivably, as the future funding picture changes, some of these projects could be advanced to the “constrained” status in future RTP updates.

TIFs, Bonds and Sales Tax

Kern County continues to experience strong growth, adding more traffic and taxing the capacities of the street and highway system. In an effort to expand needed transportation facilities before traffic congestion causes the roads system to fail, Kern COG has proposed that the cities and County of Kern implement a transportation impact fee (TIF) to pay for needed transportation facility improvements. Kern COG is developing a series of subregional traffic impact fee studies throughout the County, with the initial study focusing on southeast Kern (Tehachapi, California City, and Mojave). Kern COG anticipates completing the studies by mid-2006.

The focus of the needed transportation improvements is on regional roads of significance. At this time, only Bakersfield, Wasco and unincorporated Rosamond have adopted TIFs.

Adopting a new transportation impact fee will require working closely with both the local development community and the Kern community at large to gain acceptance to fund needed rights-of-way and widening improvements to transportation facilities that are deemed deficient.

Issuance of bonds to finance and deliver projects more rapidly is a common practice. Under a Federal Highway Administration program, Garvee Bonds are being considered for some of the larger corridor projects within the Kern region. The minimum covered for Garvee Bond projects is such that only the largest corridor projects would be eligible.

Bonding for projects from a sales tax measure is another strategy commonly used for finance “early delivery” of transportation projects. A countywide sales tax measure is being proposed that would allow many of the projects discussed in the Destination 2030 RTP to be constructed much sooner. A draft list of projects under consideration for funding by the one-half cent sales tax measure follows.

Transportation Projects Proposed by Countywide Sales Tax Measure (STM)

RTP projects that could be advanced by STM funding:

Financially Constrained

- Route 14 from Route 178 to Red Rock Canyon - widen to four lanes
- Route 46 from SLO County line to I-5 - widen to four lanes
- Route 46 from Route 99 to Wasco - widen to four lanes
- Route 58 at Dennison Road - construct interchange and bridge
- Route 99 at Olive Drive interchange - construct capacity-increasing improvements
- Route 178/24th Street at Oak Street - construct interchange
- Route 178 from Morning Drive to Rancheria Road - construct freeway
- Route 223 – from Comanche Road to Route 99 - widen to four lanes
- Seventh Standard Road from Route 43 to Route 99 - widen to four lanes
- Downtown Parkway in Bakersfield - construct local freeway
- Hageman Extension Knudsen Drive to Route 204 – construct four-lane extension

Financially Unconstrained

- Route 58 from I-5 to Route 99 - construct freeway/expressway
- Route 65 - widen various segments to four lanes
- Route 119 from I-5 to Tupman Road - widen to four lanes
- Red Apple Avenue from Tucker Road to Westwood Blvd - construct new two-lane road
- Wheeler Ridge Road from (Route 23 to I-5 - widen segments to four lanes

Non RTP Projects Proposed for STM funding

- Route 178 - 24th Street Improvements in Bakersfield)
- Route 202 from Woodford-Tehachapi Road to Old Town Road - widen to four lanes
- Route 395 South of South China Lake Blvd - construct passing lanes
- Route 14 – Extend K Street north to connect (Midland Trail)
- Kern Canyon Road – (old 178)
- North Gate Road from California City to North Edwards - construct two lane road
- Rosamond Blvd - grade separation over Union Pacific tracks
- Twenty Mule Team Road from California City to Route 58 - construct two lane road
- Lake Isabella - capacity increasing project
- Frazier Park - capacity increasing project

Air Quality Contingencies

Air quality uncertainties could play a critical role in future funding linkages. In areas such as San Joaquin Valley that may fail to attain federal clean air standards by the mandated deadlines, the federal Clean Air Act Amendments of

1990 (CAAA) can require withholding funding for capacity increasing transportation projects, including projects funded from non-federal sources. In the San Joaquin Valley, up to \$2 billion in transportation funds could be at stake. A variety of mechanisms in the CAAA can require withholding transportation funds, including highway sanctions, conformity lapses and conformity freezes.¹ Should one of these occur, Kern COG may be required to amend its TIP and RTP to fund additional projects that are proven to reduce emissions and/or improve safety. With federal highway sanctions, the U.S. Environmental Protection Agency would prepare a Federal Implementation Plan (FIP) that would reprogram TIP funding to projects that improve air quality and allow the region to demonstrate attainment of federal clean air standards.

Transit improvements, intermodal freight facilities, transportation related air quality control measures and safety projects can be exempt from federal highway sanctions, lapses and freezes. It is prudent to consider studying these types of projects as funding becomes available, to provide local policy makers with a complete range of options should funding interruptions become imminent. Many of these project types are already funded through a mix of resources. Every effort is made to attain federal standards by identifying and implementing cost-effective methods that reduce transportation related emissions from single occupancy vehicles.

Air Quality-Related Projects For Future Study

- MetroLink Commuter Rail (Rosamond to L.A.)
- Eastern Sierra Passenger Rail Corridor (Reno to L.A.)
- Major Transportation Investment Study (MTIS) long-range transit improvements - passenger light-rail (Metro Bakersfield) and passenger heavy-rail (connecting outlying valley communities)
- Bakersfield High Speed Rail Station - Airport Bus Rapid Transit (BRT) Shuttle
- Shafter Intermodal Trade and Transportation Center (ITTC) expansion
- Shafter Airport/Union Pacific Intermodal Freight Facility expansion
- Laval Road Industrial Complex - new freight rail line and intermodal facility
- Freeway ramp metering
- High occupancy/zero-low emission vehicle (HOV/ZEV/LEV) lanes
- Toll lane/facility congestion pricing
- Paving and sweeping shoulders and dirt roads
- Alternative fuel fleets and infrastructure
- Incentives for increasing land use densities

Safety Projects For Future Study

- Route 58 from General Beale Road to Tehachapi Blvd offramp.- truck auxiliary lane
- I-5 from Route 99 split to Kings County line - truck auxiliary lane
- Network of dedicated truck lanes

¹ Highway sanctions, conformity lapses, and conformity freezes are mechanisms in the federal Clean Air Act Amendments of 1990 that are triggered when a region fails to demonstrate attainment of federal clean air standards by required deadlines.

- Route 178 from Lake Isabella to Ridgecrest - realign and add passing lane

Valleywide Chapter

Included as an appendix, the Valleywide Regional Transportation Plan provides an interregional perspective for transportation planning throughout the San Joaquin Valley. It presents an overview of cross-jurisdictional issues facing the eight related counties and regional transportation planning agencies within central California.

Chapter 8 Monitoring Progress

As the designated MPO for the Kern region, Kern COG monitors transportation plans, projects and programs for consistency with regional plans. Kern COG also monitors the performances of the transportation system. This performance monitoring is especially important to inform the planning process for future RTPs. Regional transportation problems cannot be solved until they are identified and measured.

Kern COG is required to prepare the RTP using performance-based measures that help public officials to better analyze transportation options and trade-offs. By examining performance of the existing system over time, the RTPA can monitor trends and identify regional transportation needs that may be considered in the RTP. Performance measurement helps to clarify the link between transportation decisions and eventual outcomes, thereby improving discussion of planning options and communication with the public. This may also help determine which improvements provide the best means for maximizing the system's performance within cost and other constraints.

Kern COG has developed performance measures (see chapter 6 – Environmental Justice) for the regional transportation system. In addition, new tools are being developed that will help Kern COG to monitor system performance over time. The Freeway Performance Measurement System (PeMS) is being developed by U.C. Berkeley in cooperation with Caltrans, which has the ability to measure and track freeway speeds, delay and reliability for the regional freeway system.

Transportation planning for the Kern region requires continually-improved information on the condition and use of the transportation system. Special reports are prepared periodically by Kern COG to demonstrate highway infrastructure conditions and to monitor the Kern region's overall traffic. The Highway Performance Monitoring System (HPMS) is a federally-mandated program designed by FHWA to assess the performance of the nation's highway system. Under the Clean Air Act, Kern COG and its member agencies are required to report periodically on vehicle miles traveled in each air basin to determine whether traffic growth is consistent with the projections on which the State Implementation Plans (SIPs) are based.

The following sections outline several significant tools used by Kern COG to monitor regional progress in advancing the Destination 2030 RTP.

Federal Transportation Improvement Program (FTIP)

Kern COG is the designated Metropolitan Planning Organization (MPO) charged with developing and maintaining the Federal Transportation Improvement Program (FTIP). The FTIP is a financially constrained (i.e., budgeted) multi-

modal transportation planning program, developed by the MPO through its member agencies and in cooperation with state and federal agencies. The basic premise behind a TIP is that it is the incremental implementation of the long-range RTP. The TIP serves to present to federal funding agencies manageable components for the funding of long-range plans.

The FTIP is a compilation of project lists from the State Transportation Improvement Program (STIP), State Highway Operations and Protection Program (SHOPP) and other federal-aid programs. The FTIP is composed of two parts: (1) a priority list of projects and project segments to be carried out in a three-year period; and (2) a financial plan that demonstrates how the FTIP can be implemented. The financial plan is also required to indicate all public and private resources and financing techniques that are expected to carry out the program. TEA-21 further defined the FTIP process to focus on enhanced public and private agency participation.

Regional Transportation Improvement Program (RTIP)

Every odd-numbered year, Kern COG prepares a Regional Transportation Improvement Program (RTIP), the short-term implementation tool for transportation goals described in this Destination 2030 RTP.

The RTIP provides a listing of projects proposed for implementation within the Kern region during its five-year period. Transportation projects are described in detail, with funding allocated by source and fiscal year. RTIP projects are categorized according to the transportation system to which they apply, i.e., State Highways, Local Highways/Expressways, or local streets and roads. Although eligible, transit projects are not included in the RTIP; rather, they are funded by other federal aid programs and included in the FTIP.

During each RTIP development cycle, Kern COG provides member agencies with adopted RTIP Policies and Procedures in order that Caltrans as well as local agencies can initiate project delivery. The Policies and Procedures manual defines the prioritized project candidates, which are then incorporated as the RTP's Capital Improvement Program (CIP) (see Section 4, Tables 4-1 and 4-2). Only after projects are included in the CIP can they then be funded and advanced as part of the RTIP.

TIP Database Management

Kern COG maintains its own database in order to track project status. TIP data for the Kern region is entered directly into the California Transportation Improvement Program System (CTIPS), which allows an efficient and accurate record of current programming needs. The monitoring process compares project needs with current programming as it advances. When the need arises to modify

a project, or when delays are anticipated, Kern COG can recommend amendments to CTIPS.

Air Quality Conformity Monitoring

Before federal approval of the RTP and TIP, the Federal Clean Air Act Amendments of 1990 require Kern COG to make a finding of the documents' conformity with the State Implementation Plan's air quality goals as established by the responsible air district. The Conformity Analysis for the Destination 2030 RTP and the 2004 FTIP are hereby included by reference; Resolution will be included as an Appendix in the Final Destination 2030 RTP. This analysis demonstrates that the criteria specified in the federal transportation conformity determination rule are satisfied by the TIP and RTP.

A new conformity finding must also be made anytime the TIP and/or RTP is adopted or significantly amended. Kern COG performs specific project monitoring of both the TIP and RTP project lists and monitors socioeconomic changes on an ongoing basis.

Summarized below are the applicable federal criteria for conformity determinations, and the results of the conformity assessment of the TIP and RTP. Additional information on air quality impacts can be found in the Destination 2030 RTP's environmental documentation.

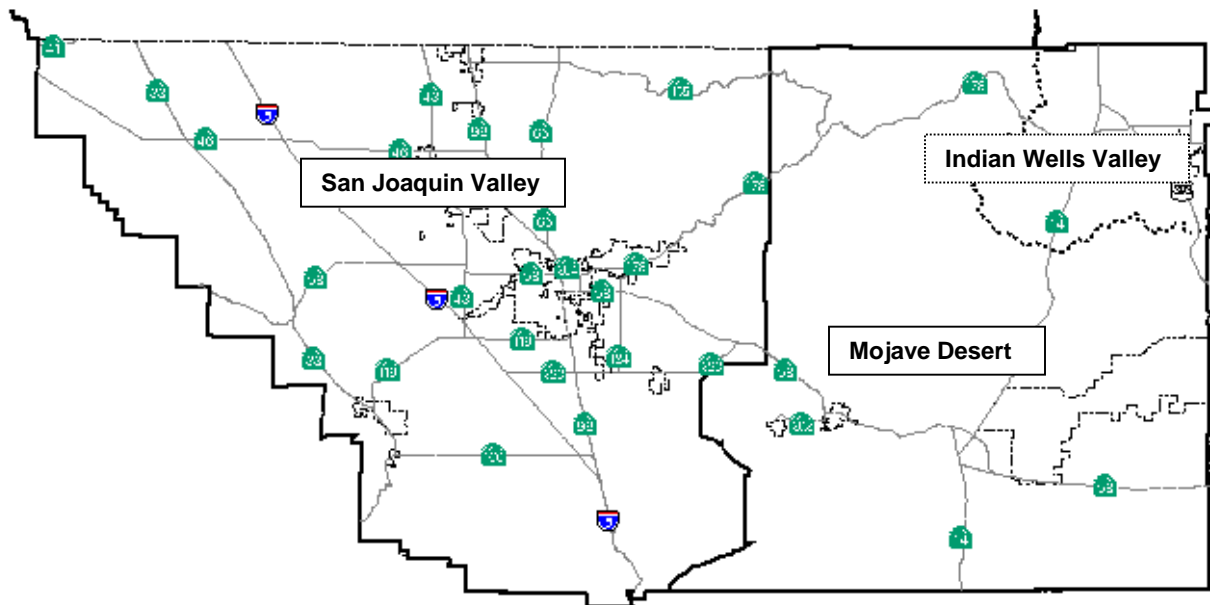
Conformity Requirements

The federal transportation conformity rule (40 Code of Federal Regulations Parts 51 and 93) specifies criteria and procedures for transportation plans, programs, and projects, and their respective amendments. The transportation conformity rule and court opinions are summarized in Chapter 1 of the conformity analysis for the TIP and RTP.

The conformity rule applies nationwide to "all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan" (40 CFR 93.102). Currently, San Joaquin Valley (or portions thereof) is designated as nonattainment with respect to federal air quality standards for three criteria pollutants: carbon monoxide (CO), ozone, and particulate matter under ten microns in diameter (PM-10).

Eastern Kern County is also non-attainment or has a maintenance plan for two separate planning attainment areas or basins. These basins are defined by mountain ranges. Conformity for eastern Kern County includes analysis of existing and future air quality impacts for ozone in the Mojave Desert Air Basin (MDAB) and PM-10 in the Indian Wells Valley Planning Area (IWVPA). [Figure X](#) illustrates the air basins and districts for Kern County.

FIGURE X– KERN COUNTY AIR QUALITY PLANNING AREAS



Under the federal transportation conformity rule, the principal criteria for transportation plans' and programs' conformity determination are:

- 1) The TIP and RTP must pass an emissions budget test with a budget that has been found to be adequate by EPA for transportation conformity purposes, or an emissions reduction test;
- 2) The latest planning assumptions and emission models specified for use in conformity determinations must be employed;
- 3) The TIP and RTP must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans; and
- 4) Consultation, which occurs at the beginning of the conformity analysis process, on the proposed models, associated methods, and assumptions for the upcoming analysis and the projects to be assessed, and at the end of the process, on the draft conformity analysis report.

Results of the Conformity Analysis

A regional emissions analysis was conducted for the years 2005, 2008, 2010, 2013, 2020, and 2030 for each pollutant. All analyses were conducted using the latest planning assumptions and emissions models. Major conclusions of the 2004 Kern Council of Governments Conformity Analysis are:

Carbon Monoxide (CO) - San Joaquin Valley Portion of Kern County

The total regional vehicle-related emissions associated with implementation of the TIP/RTP for the analysis years are projected to be less than the approved emissions budget established in the *1996 Carbon Monoxide Re-designation Request and Maintenance Plan*. The applicable conformity test for carbon monoxide is, therefore, satisfied.

Ozone - San Joaquin Valley and Mojave Desert Portions of Kern County

The total regional vehicle-related emissions (VOC and NO_x) associated with implementation of the TIP/RTP for all years tested are projected to be less than the adequate emissions budgets specified in the Amended 2002 and 2005 Ozone Rate of Progress Plan for the San Joaquin Valley, and less than budgets for the Mojave Desert Planning Area Attainment Maintenance Demonstration Plan. The conformity tests for ozone are, therefore, satisfied.

PM-10 - San Joaquin Valley and Indian Wells Valley Portions of Kern County

The total regional vehicle-related emissions (PM-10 and NO_x) associated with implementation of the TIP/RTP for all years tested are either: (1) projected to be less than the approved emissions budgets; or (2) less than the emission budgets using the approved PM-10 and NO_x trading mechanism for transportation conformity purposes from the Amended 2003 PM-10 Plan for the San Joaquin Valley and the Indian Wells Valley Attainment Maintenance Demonstration Plan. The conformity tests for PM-10 are, therefore, satisfied.

The latest conformity determination did not require credit for emission reductions from the TCMs being implemented by Kern COG and its member agencies. However, to expedite the region's air quality attainment goals, every effort will be made to expedite implementation of TCMs identified in the TIP/RTP.

Federal standards for the 8 hr. ozone and PM-2.5 are currently being studied for future implementation. These standards will require a revised conformity determination.

California Clean Air Act Transportation Performance Standards

The California Clean Air Act, passed in 1988, provides the basis for air quality planning and regulation independent of federal regulations. The Act specifically requires local air districts that are in violation of the California Ambient Air Quality Standard prepare attainment plans; the plans must identify air quality problems, causes, trends, and actions to be taken to attain and maintain California's air quality standards by the earliest practicable date. The implementation of TCMs in this RTP help to further progress toward attainment of these standards and

require that they continued and expanded even after all federal standards are met.

Highway Performance Monitoring System (HPMS)

HPMS is used as a transportation monitoring and management tool to determine the allocation of federal aid funds, to assist in setting policies and to forecast future transportation needs as it analyzes the transportation system's length, condition and performance. Additionally, HPMS is used to provide data to the U.S. Environmental Protection Agency (EPA) to assist in monitoring air quality conformity, and its data are used in support of the Biennial Report to Congress On the Status of the Nation's Highways.

In California, the HPMS program is implemented annually by Caltrans. Kern COG's responsibility is to assist Caltrans in collecting data from local jurisdictions. Kern COG's responsibility also includes distribution, collection and administration of all HPMS survey packages in the Kern region.

To facilitate the HPMS program locally Kern COG is developing a regional traffic monitoring program. The program will provide regular traffic counts and speed survey across all jurisdictions in the region. The data collected will be used to assist in setting policies and to forecast future transportation needs. In addition, the data will be used to assist in monitoring air quality conformity.

Congestion Management Program (CMP)

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). The purpose of the CMP is to: (1) monitor the performance of the transportation system; (2) develop programs to address near-term and long-term congestion; and (3) better integrate transportation and land use planning.

As the designated Congestion Management Agency, Kern COG must establish a system of roadways that will be monitored in relation to established level of service standards. The goal of the CMP is to identify a regional network and work toward maintenance of level of service D or better on the highways and roads that are identified in this network.

The CMP requirement was born of the realization that large capital projects alone cannot solve congestion problems and that local land use decisions contribute to roadway congestion. Kern COG, as the designated Congestion Management Agency (CMA) for the Kern region, adopts and updates the CMP.

Up to now, metropolitan Bakersfield and other urbanizing areas have been able to absorb increased traffic and have met these communities' transportation needs by adding some local roads, the Mojave Bypass and a few more buses.

But the Kern region can no longer assimilate additional traffic because of this continuing growth. Kern COG estimates that the population of metropolitan Bakersfield alone will increase by more than 60 percent. Congestion on arterial roadways and city streets will become intolerable unless significant new transportation facilities and services are provided.

The Congestion Management Program should stay in place in order to respond to the anticipated problems.

The Congestion Management Program, recertified in 2000 as Section 6.2 of the Regional Transportation Plan, is herein incorporated by reference.

Intergovernmental Review

Under federal law, Kern COG is designated as the Areawide Clearinghouse for review of all submitted plans, change changes, projects and programs for consistency with adopted regional plans and policies. Regionally significant transportation projects reviewed for consistency with regional plans are defined as: construction or expansion of freeways; state highways; principal arterials; routes that provide primary access to major activity centers, such as amusement parks, regional shopping centers, military bases, airports, as well as potential high speed rail. Any project involving transportation improvements is reviewed to determine whether such improvements are included in the RTIP.

Transportation Planning Studies

Roads to Ruin

Kern COG prepared *Roads to Ruin: Transportation Funding Options for Kern County* in early 2002 to educate decision-makers and the public regarding the “dire straits” of Kern County’s roads and public transportation systems. As described in the document, Kern’s cities and the county are falling further behind in maintaining already beleaguered roads, while agencies such as Golden Empire Transit have no operating monies to meet growing demands for its services. In addition, the pace of new capital transportation projects cannot hope to meet anticipated needs under current funding projections.

Roads to Ruin discusses potential revenue sources available to assist Kern County’s growing transportation needs. Among the possibilities, voters could approve a countywide, special transportation-related sales tax ballot measure; a “special district” sales tax measure; a countywide parcel-based tax; a gasoline tax increase; a regional transportation impact fee; or a combination of these.

Regardless of which strategy appears the most viable, however, the consequences of continuing to rely solely on traditional funding are abundantly clear: the regional transportation system for Kern County will continue to

deteriorate on an increasingly rapid scale and will become increasingly congested. Drivers will pay more and wait longer to commute; public transportation operators will be unable to provide for the additional demands for service; and capital project construction will take too long to provide meaningful congestion relief.

The question no longer is whether additional transportation revenue is necessary to ensure a properly maintained and functioning transportation system, but rather will be the infrastructure last until new revenue arrives?

Metro Bakersfield Major Transportation Investment Strategy (MTIS)

In 1997, Kern COG completed the *Metropolitan Bakersfield MTIS Action Plan*. The MTIS considered nine alternatives including various combinations of increased bus service, a cross-town freeway, a beltway system, super arterials, enhanced transportation system management (TSM) and passenger light rail service (found not be financially viable until sometime after 2015). The preferred option focused on growing the transit bus fleet to 200 vehicles, and building a crosstown freeway. Increased transit operations will someday provide a feeder network for future passenger rail options. The MTIS transit action plan includes additional bus transfer stations, bus automatic vehicle location (AVL) system and additional routes and increased headways. GET is deploying AVL, automated fare box and passenger count systems.

The 2001 Bakersfield System Study developed regional consensus on the road system improvements. The MTIS formed the Inter-agency Metropolitan Transportation Committee (IMTC) to monitor the progress of the MTIS action plan. The IMTC publishes an annual report on the action plan progress. The sixth annual report was published in November 2003, which included transportation projects under development in 2002-2003, including changes in legislation, planning and projects, as well as a "report card" identifying those transportation projects delivered in the second phase (2003-2006) of the Action Plan.

The MTIS Action Plan is structured to be responsive to future budgetary, political and economic changes affecting local, state and federal funding levels. The MTIS is modified and updated annually to accommodate changing priorities.

Regional Rural Transit Strategy

Implementation of the Destination 2030 RTP requires changes in the operating practices of transit agencies. In spring 2002, Kern COG initiated a process to evaluate alternatives to its current network of rural transit services. Two interim reports were produced identifying existing services and a variety of service, administration, and coordination alternatives. Through refinement of the alternatives, the final report outlined a series of recommended steps for Kern

County's transit providers, describing a process for enhanced coordination as well as the potential for eventual consolidation of services within the County.

Eastern Sierra Public Transportation Plan

In early 2004, Kern COG in partnership with Inyo and Mono Counties, hired a consultant to prepare an Eastern Sierra Public Transportation Plan. Key objectives of this study are to identify transportation alternatives and recommend solutions for: (1) enhancing the current lifeline intercity services available throughout the Eastern Sierra; (2) improving intercity connections and providing new services to expand the transportation alternatives in the Eastern Sierra; (3) coordinating transportation services by existing providers, social service agencies, and private operators; and (4) determining the feasibility of passenger rail service in the Eastern Sierra.

Some of the critical transportation challenges in the Eastern Sierra include finding solutions to address the needs of current and potential transit markets, such as: (1) senior citizens who live in remote locations and have difficulty accessing transit; (2) intercity transit that does not operate frequently enough to provide realistic transportation options; (3) Greyhound's departure in 2000 that left a void in public transportation options; (4) economic development opportunities; and (5) challenge of providing information and marketing for transit service.

Kern COG anticipates the Eastern Sierra Public Transportation Plan to be completed by November 2004.

Traffic Model Forecasting

Kern COG maintains and runs a regional travel demand forecast model for the Kern County region. The model is used to forecast the demand for future transportation infrastructure by predicting future travel patterns based on factors including locally approved general plan land use entitlements, input from local planning departments on socio-economic growth areas, and state and federal data sources. Some of the forecast input variables include populations, households, employment, school enrollment, income, traffic counts, speeds, intersection configuration, existing and planned transportation networks, etc. These variables are maintained for approximately 1000 transportation analysis zones covering the 8,200 square mile County. One of the primary purposes of the model is to demonstrate conformity with the Federal Clean Air Act goals requiring substantial reductions from all pollution sources, including air pollutants from the transportation sector called mobile source emissions. Travel Demand Forecast Modeling is also used in support of the RTP/TIP processes, Congestion Management System/Plan (CMP), and numerous environmental documents prepared for locally identified projects throughout the region. The Kern COG Regional Transportation Model provides a savings to its member agencies that

without the regional model, would be required to maintain duplicate, overlapping, and potentially conflicting transportation forecasts.

Oversight for the model is provided by the Kern Regional Transportation Modeling Committee. The committee operates under an MOU between the City of Bakersfield, Caltrans District 6, the County of Kern and Kern COG.

Kern COG and the Kern Regional Transportation Modeling Committee have adopted the following policies and procedures for maintaining the regional transportation model used in air quality and congestion management planning:

1. Model Base Year Validation – Network-based travel models must be validated against observed counts for a base year from which future projections will be made:
 - a. Observed counts used in base year validation shall not be more than 10 years prior to the date of a conformity determination.
 - b. Base year validation shall take place after the release of the decennial Federal Bureau of Transportation Statistics, Census Transportation Planning Package (CTPP), which is approximately 4 years after the date of the most recent decennial Census.
 - c. Revalidations prior to release of the next CTPP should be spaced a minimum of three years apart to allow conformity review agencies time to complete state and federal review processes and develop air quality budgets using the modeling results. A minimum of three years between revalidations is also needed to allow responsible state and federal agencies to complete their review of large environmental documents without major changes to transportation circulation modeling results.
2. Land Use Data – General Plan land use capacity data or “Build-out capacity” is used to distribute the forecasted County totals, and may be updated as new information becomes available, and is revised in regular consultation with local planning departments.
3. Socio-Economic Forecast Data – Countywide forecasts for households, employment and other socio-economic data shall be updated not less than 3 years from the time of the Socio-economic forecast. A minimum of three years between Countywide forecast revisions is needed to allow responsible state and federal agencies time to complete their review of large environmental documents without major changes to transportation circulation modeling results. Redistribution of forecasts for sub county areas may be made on an as needed basis to better reflect existing general plan land entitlements as long as Countywide forecast totals remain unchanged.
4. Highway Performance Monitoring System (HPMS) data collection and reporting shall be performed annually in the Spring and submitted to the California Department of Transportation prior to June 15.
5. Network Updates – Added as needed to model existing, planned and proposed future transportation facilities.
6. Transportation Analysis Zone Updates – Added as needed in response to additional network to allow appropriate loading of trips on the network.
7. Local Scenario Modeling – Due to the scale and complexity of a countywide model, not all network links can be validated and calibrated adequately. For links that are not calibrated, an adjustment factor may be applied to future years based on how far off the model assigns trips in comparison to the actual count. In addition, alternative models may be developed for community and site specific analysis on behalf of a member agency. Local scenario models may not be used for determining air quality conformity of a project, or FTIP/RTIP and RTP project rankings.

Chapter 9

REFERENCES

GLOSSARY

ADA - Americans with Disabilities Act - A federal act that prohibits discrimination against all individuals with disabilities. With certain statutory exceptions, public and private entities providing fixed route or demand responsive transportation services must acquire accessible vehicles or provide equivalent service to individuals with disabilities.

Air Pollution Control District (APCD) - Also referenced as the Air Quality Management District (AQMD), the APCD is responsible for emissions regulations and attainment of federal and state air quality standards in a predefined region. As an example, the APCD deals with issues such as the Employer Trip Reduction Program.

Air Quality Attainment Plan - Plan for attainment of the state air quality standards, as required by the California Clean Air Act of 1988. It is adopted by APCDs and subject to approval by the State Air Resources Board.

Appropriation - Legislation that allocates budgeted funds from general revenue to programs that have been previously authorized by other legislation. The amount of money appropriated may be less than the amount authorized.

Apportionment - At the federal level, approval by the Office of Management and Budget for an agency to spend funds appropriated by Congress. Public reporting of the OMB approved apportionment, detailing the amount of transit funding available to each urbanized area or designated recipient, is done by FTA.

Authorization - Federal legislation that creates the policy and structure of a program including formulas and guidelines for awarding funds. Authorizing legislation may set an upper limit on program spending or may be open ended. General revenue funds to be spent under an authorization must be appropriated by separate legislation.

California Alliance for Advanced Transportation Systems (CAATS) – public/private partnership formed to foster the development and deployment of Intelligent Transportation Systems (see definition of ITS)

California Air Resources Board (CARB) - Designated by EPA as having responsibility for the implementation of the federal Clean Air Act, State Implementation Plan, and approving air quality attainment plans as required by the State Clean Air Act of 1988. Under State law, CARB establishes state air quality standards and vehicle emissions requirements.

California Clean Air Act (AB 2595, Sher) - Enacted in 1988, the Act: (1) established a legal mandate to achieve California's ambient air quality standards by the earliest practicable date; (2) prescribes a number of emission reduction strategies and requires annual progress in cleaning up the air; and (3) grants authority to the state's local air pollution control districts to adopt and enforce transportation control measures (TCMs).

California Energy Commission (CEC) - Established by the State Legislature in 1974, the CEC is the State's principal energy planning and policy making organization. The CEC is charged with

ensuring a reliable and affordable energy supply for the State. CEC policies are consistent with protecting the State's environment and its public health, safety, and general welfare.

California Environmental Quality Act (CEQA) - Enacted in 1970, CEQA provides the State's environmental guidelines by which land use development and management decisions are premised. CEQA specifies the State's environmental review process and applicable environmental policies.

California Highway Patrol (CHP) - Agency responsible for enforcing the state's traffic and safety laws on state highways and by contract, county roads. The CHP also jointly operates Traffic Operation Centers with Caltrans.

California Public Utilities Commission (CPUC) - Regulator of utility and transportation companies in the state that are privately owned and operated. The CPUC sets rates, regulates service standards, and monitors utility operations for safety; it does not regulate municipal or district-owned utilities. The CPUC also develops policies promoting competition among utilities and acts as an intermediary between the public and private utilities.

California State Department of Transportation (Caltrans) - As owner/operator of the state highway system, responsible for its safe operation and maintenance. Proposes projects for Intercity Rail, Interregional Roads, and soundwalls in the PSTIP. Caltrans is also responsible for the HSOPP, Toll Bridge, and Aeronautics programs. The TSM and State/Local Partnership Programs are administered by Caltrans. Caltrans is the implementing agency for most state highway projects regardless of program, and for the Intercity Rail program.

California Transportation Commission (CTC) - Nine-member board appointed by the Governor and confirmed by the Legislature that reviews Regional Transportation Improvement Programs (RTIPs) and the PSTIP, and forwards some transportation projects from these programs into the State Transportation Improvement Program (STIP); this qualifies the projects for state funding. The CTC also has financial oversight of the major programs authorized by Propositions 111 and 108.

Capital Improvement Program (CIP) - An element of the Congestion Management Program (CMP), the CIP is a seven year program of projects to maintain or improve traffic level of service and transit performance standards developed by the CMP, as well as the regional transportation impacts identified by the CMP Land Use Analysis Program, which conforms to transportation-related vehicle emissions air quality mitigation measures.

Clockface headway – Any headway that is ten minutes or more and divides evenly into sixty minutes.

Commuter Rail - Form of passenger transportation characterized by medium distance home-to-work passenger travel, multiple ride ticketing, recurring peak-hour travel and use of high-density seating. Commuter rail uses diesel electric or overhead electrically powered locomotives. Examples are the Caltrains operated by Caltrans from San Jose to San Francisco, and GO Transit in Toronto.

Comprehensive Transportation Plan (CTP) - Long-range framework for the planning, development, operation, and maintenance of California's transportation system that proposes an intermodal system that is integrated, both in form and function, and that offers mobility while supporting economic and environmental goals. The plan is multimodal, addressing all transportation modes. It outlines a series of goals, policies, strategies and recommendations drawn from State and federal transportation law.

Conformity - The Federal Clean Air Act requires transportation plans, programs, and projects to conform to applicable state implementation plans. Metropolitan Planning Organizations (MPOs) and the U.S. Department of Transportation must make a determination of conformity for transportation plans and programs. The conformity determination must be based on recent estimates of emissions, and such estimates must be based on the most recent population, employment, travel and congestion estimates as determined by the MPO.

Congestion Management Program (CMP) - A multi-jurisdictional program with the goals of reducing traffic congestion, researching land use decision impacts, and improving air quality. State law of every county in California requires this program with an urbanized area as defined by the U.S. Census Bureau (at least 50,000 people).

Congestion Mitigation and Air Quality Improvement Program - A new funding program established by ISTEA specifically for projects and programs that will contribute to the attainment of a national ambient air quality standard. Funds are available to non-attainment areas for ozone and carbon monoxide based on population and pollution severity. The approved State Implementation Program (SIP) defines eligible projects.

Corridor - Any major transportation route including various modes such as parallel limited access highways, major arterials, or transit lines that, while not necessarily adjacent to each other connect significant activity centers. With regard to traffic incident management, a corridor may include more distant transportation routes that can serve as viable alternatives in the event of traffic incidents.

County Minimums - Instituted in 1983 by SB 215 (Foran), it represents the minimum share of programming each county should receive. Under this statute (Section 188.8, Streets and Highways Code), 70 percent of the capital outlay funds must be expended in each county according to a formula based 75 percent on county population and 25 percent on centerline state highway miles in the county. The county minimum is accounted for over a fixed five-year period called a quinquennium.

Department of Transportation (DOT) - A federal department that includes the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). DOT is headed by the Secretary of Transportation, a cabinet-level post.

Environmental Protection Agency (EPA) - Federal agency charged with protecting the environment.

Federal Aid Secondary (FAS) - A federal system of roads eligible for CRP funds under previous federal highway acts. ISTEA eliminates this category in favor of the STP and the NHS.

Federal Aid Urban (FAU) - A federal system of roads eligible for CRP funds under previous federal highway acts. ISTEA eliminates this category in favor of the STP and NHS.

Federal Clean Air Act Amendments of 1990 (FCAAA) - Legislation that renews the Federal Clean Air Act and makes significant program changes. For the transportation sector, significant changes included a definition of conformity and requirement for the formulation by EPA and DOT of regulations regarding conformity, and requirements for the use and development of alternative fuels and vehicles.

Federal Highway Administration (FHWA) - Agency responsible for the approval of transportation projects that affect the federal highway system. Administratively, it is under DOT and is the sister agency of FTA.

Federal Transit Administration (FTA) - The federal Department of Mass Transportation (formerly UMTA), which is under DOT, and sister agency of FHWA.

Flexible Congestion Relief (FCR) - One of the State's funding programs for local or regional transportation projects to reduce congestion. State highway projects, local roads, and rail guideway projects are all eligible.

Fund Estimate - The STIP cycle begins with the development of a State Fund Estimate by Caltrans, which compares existing commitments against total estimated revenue expected from state and federal sources. Caltrans estimates state and federal funds "reasonably expected" in annual increments for seven years (the STIP period). The calculation of existing capital program commitments is based on Caltrans' Project Delivery Report, while non-capital expenditures of operation and administration costs are estimated based on current spending and projected needs. This comparison of revenues to commitments results in an estimate of total uncommitted funds that are available for programming and prorated to each program category. The Fund Estimate is required by law to be submitted by July 15 of odd-numbered years, and to be adopted by the CTC by August 15 of odd-numbered years. CTC adopts a "Fund Estimate Methodology" to guide Caltrans in formulating the Fund Estimate.

Headway – Time interval between transit vehicles moving in the same direction on a particular route.

Heavy Rail - Heavy rail vehicles cannot operate on surface streets but must have exclusive grade protected guideways, such as subway, at surface or aerial configuration. Heavy rail vehicles can operate in pairs or trains up to ten cars and powered by third rail or overhead catenary. Heavy rail systems must have platforms for boarding passengers. A heavy rail system can carry up to 40,000 passengers per hour in each direction.

Highway System Operations and Protection Plan (HSOPP) - A program created by state legislation that includes state highway safety and rehabilitation projects, seismic retrofit projects, land and buildings projects, landscaping, some operational improvements, and bridge replacement. Unlike STIP projects, HSOPP projects may not increase roadway capacity. HSOPP is a four-year program of projects, adopted separately from the STIP cycle. The recent State gas tax increase partially funds the program, but it is primarily funded through the "old" nine-cent State gas tax and from federal funds. To be compatible with the Fund Estimate, a formula based on pavement condition and safety concerns is used to estimate an additional three years of the HSOPP program.

Intelligent Vehicle and Highway System (IVHS) - ISTEA establishes an IVHS Program to enhance the capacity, efficiency, and safety of the federal-aid highway system and to serve as an alternative to additional physical capacity. Automated highways and vehicles are one component of this approach. IVHS includes development of application of electronics, communications or information processing (including advanced traffic management systems, commercial vehicle operations, advanced traveler information systems, commercial and advanced vehicle control systems, advanced public transportation systems, satellite vehicle tracking systems, and advanced vehicle communications systems) used singly or in combination to improve the efficiency and safety of surface transportation systems.

Intercity Rail - Operated by common carriers and uses fixed guideways. The service is characterized by inter-regional passenger travel provision for personal carry-on baggage, and possible use of specialized cars for food service, sleeping accommodations, checked baggage, and package express.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) - Enacted in 1991, this Act provides authorization for highways, highway safety and mass transportation through 1997, with

total funding of \$155 billion. The purpose of ISTEA is "to develop a National Intermodal Transportation System that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner." A few examples of provisions under the Act include: a National Highway System (NHS), new technologies, such as intelligent vehicle highway systems and prototype magnetic levitation systems, as well as the requirement of state uniformity in vehicle registration and fuel tax reporting.

Intermodal - A unifying, integrated national network of travel modes emphasizing connections between modes, choices among them, and coordination and cooperation among transportation interests.

Interregional Road System (IRRS) - In February 1990, Caltrans submitted a plan to the State legislature that identified a set of projects to provide the most adequate interregional road system to all economic centers in the State. Statute defined eligible routes that were included, and specified that these be located outside the boundaries of urbanized areas with over 50,000 population, except as necessary to provide connection of the routes within urban areas. From this plan, Caltrans included projects, consistent with the Fund Estimate, in its PSTIP to the CTC for programming in the STIP.

Interstate Completion – TEA-21 declares the 42,500-mile Federal Interstate Highway System launched in 1956 by the Eisenhower Administration to be completed with the final authorizations contained in the bill. Based on the Interstate Cost Estimate (ICE), specific segments of the Interstate System are still to be completed, and funds are included in TEA-21 to do so.

Interstate Maintenance – TEA-21 establishes a funding category for maintenance of the Interstate system that specifically limits use of these funds for capacity increasing projects that are not high occupancy vehicle lanes or auxiliary (merging) lanes. Eligible activities include reconstruction of bridges, interchanges and overcrossings along existing interstate routes, including the acquisition of right-of-way where necessary and preventive maintenance.

Level of Service (LOS) - A measure of congestion that compares actual or projected traffic volume with the maximum capacity of the intersection or road in question.

Light Rail - Light rail vehicles can operate as single vehicles or can be trained and frequently do operate on surface streets as well as on exclusive rights-of-way, and draw electric power from an overhead catenary system. Light rail systems can have passenger boarding at surface as in San Diego and Sacramento or from elevated platforms as in Los Angeles. Maximum capacity of a light rail system is generally regarded as 10,000 passengers in each direction.

Long-Range Transit Plan - This plan represents a long-range evaluation of transit needs and proposes recommendations for implementing long-range objective over a 20-year timeframe. Further, the Plan provides direction for coordinating implementation of goals and policies identified in the Plan.

Management Systems in TEA-21- The Act requires each state to develop and implement the following management systems: (a) highway pavement of federal-aid highways; (b) bridges on and off federal-aid highways; (c) highway safety; (d) traffic congestion; (e) public transportation facilities and equipment; (f) intermodal transportation facilities and systems. In metropolitan areas, these systems are to be developed and implemented in cooperation with the MPO. Management system products are to be considered by the State and MPOs in their planning processes. The U.S. Department of Transportation has issued guidelines for these systems.

Metropolitan Planning Organizations (MPOs) - Federally designated organizations for urbanized areas of greater than 50,000 population mandated to carry out transportation planning as required by ISTEA.

Maglev - Magnetic levitation (maglev) trains carry passengers in a manner similar to that of intercity rail (Amtrak). Maglev prototypes in Germany and Japan have logged thousands of miles at speeds of up to 260 miles per hour. Maglev technology has several possible benefits, including: (a) environmentally acceptable; (b) fuel efficiency (electric power); (c) possibility of relieving highway and airport congestion; (d) ability to cover short distances in roughly the same amount of time as airplane travel;

(e) considered safer than other kinds of trains because the train wraps around the rail and is difficult to derail; (f) non-contact levitation system (no friction and less wear); (g) offers high sustained maximum speeds, capable of speeds over 300 mph; and (h) elevated guideway uses less space.

Metropolitan Transportation Investment (MTS) Studies - Considered an important provision under the Metropolitan Planning regulations, MMTI is defined as "a high-type highway or transit improvement of substantial cost that is expected to have a significant effect on capacity, traffic flow, LOS, or mode share at the transportation corridor or subarea scale." The primary purpose of an MMTI study is to create a decision-making process for determining transportation investment strategies.

Projects funded or approved by the Federal Highway Administration and/or Federal Transportation Administration are subject to the Metropolitan Planning regulations and requirements under MMTI.

National Environmental Protection Act (NEPA) - Passed by Congress in 1969, NEPA established the Council on Environmental Quality and required the preparation of environmental impact statements for federal projects. NEPA requires that an Environmental Impact Assessment (EIA) describe current conditions, identify alternative means of accomplishing the objective, enumerate the likely impacts of each alternative, identify the preferred alternative and the method used to select it, describe the impact of the selected alternative in detail, and list possible actions to minimize negative impacts of the selected alternative.

National Highway System (NHS) - ISTEA established a 155,000-mile NHS to provide an interconnected system of principal arterial routes to serve major travel destinations and population centers, international border crossings, as well as ports, airports, public transportation facilities, and other intermodal transportation facilities. The NHS must also meet national defense requirements and serve interstate and interregional travel. Eligible projects include new construction, reconstruction, and rehabilitation of highways, operational improvements, mass transit projects in an NHS corridor, safety improvements, transportation planning, traffic management and control, parking facilities, carpool projects, and bicycle and pedestrian projects. In areas not meeting federal clean air standards, up to 100 percent of NHS funding is transferable to the STP upon request of the State.

North/South Split - California law (Section 188, Streets and Highways Code) requires programming to be balanced so that 60 percent of the capital outlay is spent in the 11 southern counties, and 40 percent is spent in the 45 northern counties. This balance must occur for the period July 1, 1989 to June 30, 1993, and for each subsequent five-year period. This rule has a serious impact on the type of projects programmed for the all counties. Rehabilitation and safety funds tend to be spent roughly 60 percent in northern counties, and only 40 percent in southern counties, because of worse weather conditions and more mountainous roads in northern counties. In addition, engineering costs are relatively higher in northern than in southern counties, and further, Caltrans' project support costs for locally funded projects, of which the North has a disproportionate share, is also included. Thus, funds for capacity-increasing projects need to be weighted toward southern counties, so that the overall balance remains 60/40. This results in fewer congestion relief projects being funded in the urban areas in northern California.

Operational Improvement - A capital improvement for installation of traffic surveillance and control equipment, computerized signal systems, motorist information systems, integrated traffic control systems, incident management programs, and transportation demand management facilities, strategies, and programs and such other capital improvements to public roads as the Secretary may designate, by regulation. The term does not include resurfacing, restoring, or rehabilitating improvements, construction of additional lanes, interchanges, grade separation, or the construction of a new facility at a new location.

Pavement Management System (PMS) - Required by Section 2108.1 of the Streets and Highways Code, any jurisdiction that wishes to qualify for funding under the STIP must have a PMS that is in conformance with the criteria adopted by the Joint City/County/State Cooperation Committee. At a minimum, the PMS must contain: (1) An inventory of the arterial and collector routes in the jurisdiction that is reviewed and updated at least biennially; (2) An assessment of pavement condition for all routes in the system, updated biennially; (3) An identification of all sections of pavement needing rehabilitation or replacement; and (4) A determination of budget needs for rehabilitation or replacement of deficient pavement sections for the current and upcoming biennial periods.

Principal Arterial - The functional classification system at the federal level defines principal arterials for rural areas, urbanized areas, and small urban areas. In urbanized areas, the principal arterial system can be identified as unusually significant to the area in which it lies in terms of the nature and composition of travel. Principal arterials derive their importance from service to rural oriented traffic, but equally or even more importantly, from service for major movements within the urbanized area. The principal arterial system should carry the major portion of trips entering and leaving the urban area, as well as the majority of through movements desiring to bypass the central city. In addition, significant intra-area travel, such as between major business districts and outlying residential areas, between major inner city communities, or between major suburban centers should be served by this system. Frequently, the principal arterial system will carry important intra-urban as well as intercity bus routes. Finally, this system in small urban and urbanized area should provide continuity for all rural arterials which intercept the urban boundary. Because of the nature of the travel served by the principal arterial system, almost all fully and partially controlled access facilities will be part of this functional system. However, this system is not restricted to controlled access routes. The spacing of urban principal arterials will be closely related to the trip-end density characteristics of particular portions of the urban areas. The US Department of Transportation provides 40 to 65 percent of VMT accounted for on the principal arterial system.

Project Study Report (PSR) - Chapter 878 of 1987 Statutes requires that any capacity-increasing project on the state highway system have a completed PSR prior to programming the STIP. The PSR must include a detailed description of the project scope and estimated costs. This legislation's intent is to improve the accuracy of the schedule and costs shown in the STIP, and thus improve the overall accuracy of the STIP delivery and cost estimates.

Proposed State Transportation Improvement Program (PSTIP) - This seven-year program is based on the current adopted STIP and the most recent Project Delivery Report. It may include additional schedule changes and/or cost changes, plus new projects that Caltrans proposed for the interregional road system, retrofit soundwalls, and toll bridge and aeronautics programs, as well as the intercity rail program. Caltrans may also propose alternative FCR projects to those proposed in the RTIPs; this is the only overlap with the RTIPs. The PSTIP is due to the CTC on December 1 of odd numbered years.

Rate Of Progress Plan (ROP Plan) - This Plan identifies progress toward attainment of state and local air quality standards, and is incorporated in the State Implementation Plan (SIP). The Plans have been prepared by the Air Districts and reflect expected improvements and emissions reductions between 1990 and 1996, and between 1996 and 1999.

Regional Transportation Improvement Program (RTIP) - A list of proposed transportation projects submitted to the CTC by the regional transportation planning agency as a request for state funding. Individual projects are first proposed by local jurisdictions, then evaluated and prioritized by the regional agency for submission to the CTC. The RTIP has a seven-year planning horizon, and is updated every two years.

Regional Transportation Plan (RTP) - A comprehensive 20-plus year plan for the region, updated every two years by the regional transportation planning agency. The RTP includes goals, objectives, and policies, and recommends specific transportation improvements.

Regional Transportation Planning Agency (RTPA) - The agency responsible for the preparation of RTPs and RTIPs and designated by the State Business, Transportation and Housing Agency to allocate transit funds. RTPAs can be local transportation commissions, COGs, MPOs, or statutorily created agencies.

Safety Programs - ISTEA sets aside 10 percent of the Surface Transportation Funds and 5 percent of the reimbursement funds for programs related to railway-highway crossings and hazard elimination as defined by Sections 130 and 152 of the Act.

Short-Range Transit Plans (SRTP) - A nine-year comprehensive plan required of all transit operators by federal and regional transportation funding agencies. The plans must define the operator's mission, analyze past and current performance, and plan specific operational and capital improvements to realize short-term objectives.

State Highway Terminal Access Routes (SHTAR) - Any route meeting minimum guidelines as set forth in Section 3401.5 of the California Vehicle Code for specific truck combinations requiring access to facilities for fuel, food, lodging and repairs. These truck sites must be within one road mile to and from specified highways at identified points of ingress and egress. Roads and ramps from highways to terminals or services must be evaluated for safety by Caltrans and incorporated into the existing Terminal Access Route system.

State Implementation Plan (SIP) - State plan required by the Federal Clean Air Act to attain and maintain national ambient air quality standards. It is adopted by local air quality districts and the State Air Resources Board.

State/Local Partnership - Originally created by SB 140, and subsequently funded by the passage of Proposition 111 in June 1990, the State/Local Partnership program provides state matching funds for locally funded and constructed highway and exclusive public mass transit guideway projects. Some \$2 billion has been designated for this program over 10 years. Eligible projects are defined by the legislation and clarified by guidelines published by the Caltrans Division of Local Streets and Roads. Applications are submitted annually to Caltrans by June 30 for the following fiscal year. The amount of State match available in a given year is dependent on the number of eligible applicants and the size of the appropriation to the program by the legislature during the budget process. The state match cannot exceed 50 percent. For the first three years of the program, the match ratio has been 21 percent, 18 percent, and 15 percent, respectively.

State Transit Assistance (STA) - This program provides funding for mass transit and transportation planning. With half of the revenues transferred to the TP&D Account and appropriated to STA. STA apportionments to regional transportation planning agencies are determined by two formulas: 50 percent by populations and 50 percent by the amount of operator revenues (fares, sales tax, etc.) for the prior year. STA funds may be used for transit capital or operating expenditures. Passage of Proposition 116 disallows use of STA funds for streets and roads in non-urban counties.

State Transportation Improvement Program (STIP) - A list of transportation projects, proposed in RTIPs and the PSTIP, which are approved for funding by the CTC.

Surface Transportation Program (STP) - A new funding program established by ISTEA that is very flexible. Many types of mass transit and highway projects are eligible for funding under this program. Ten percent of the projects funded under this program must be transportation enhancement activities and 10 percent for safety projects.

Traffic Systems Management Program (TSM Program) - A new state-funded program that funds those projects which "increase the number of person trips on the highway system in a peak period, without significantly increasing the design capacity of the system, measured by vehicle trips, and without increasing the number of through traffic lanes" (TSM Guidelines adopted by the CTC in October 1989). This program is funded outside of the STIP process, through direct application to Caltrans. The CTC allocates funds to the projects from a prioritized list submitted by Caltrans. Statute requires that priority be given to projects from counties with adopted CMPs.

Transit Capital Improvement Program (TCI) - An annual State program, funded primarily from the TP&D account for transit capital projects. All State funds must be matched by 50 percent local funds.

Transportation Control Measures (TCMs) - Measures intended to reduce pollutant emissions from motor vehicles. Examples of TCMs include programs to encourage ridesharing or public transit usage, and city or county trip reduction ordinances.

Transportation Demand Management (TDM) - "Demand-based" techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules, that enable employees to commute to and from work outside of peak hours.

Transportation Enhancement Activities – TEA-21 defines transportation enhancement activities for the purpose of funding under the STP as "the provision of facilities for pedestrians and bicycles, acquisition of scenic easements and scenic or historic sites, scenic or historic highway programs, landscaping and other scenic beautification, historic preservation, rehabilitation and operation of historic transportation buildings, structures, facilities and canals, preservation of abandoned railway corridors including the conversion and use thereof for pedestrian or bicycle trails, control and removal of outdoor advertising, archaeological planning and research, and mitigation of water pollution due to highway runoff."

Transportation Improvement Program (TIP) - A federally required document produced by the regional transportation planning agency that states the investment priorities for transit and transit-related improvements, mass transit guideways, general aviation and highways. The State is also required to produce a federal TIP which includes all projects proposed for federal funding.

Urbanized Area - An area with a population of 50,000 or more designated by the U.S. Census Bureau, within boundaries to be fixed by responsible state and local officials, subject to approval by the Secretary of Transportation.

Vehicle Miles Traveled (VMT) - Travel demand forecasting (modeling) is used to generate the average trip lengths for a region. The average trip length measure can then be used in estimating vehicle miles of travel, which in turn is used in estimating gasoline usage or mobile source emissions of air pollutants.

ACRONYMS

AA - Alternatives Analysis

AASHTO - American Association of State Highway & Transportation Officials

ADA - Americans with Disabilities Act

AIP - Airport Improvement Program (federal)

APCD - Air Pollution Control District

AQAP - Air Quality Attainment Plan

ASR - Airport Surveillance Radar

AVR - Average Vehicle Ridership

AVTTAC - Aviation Transportation Technical Advisory Committee

BARCT - Best Available Retrofit Control Technology

BSC - Bakersfield Senior Center
CALTRANS - California Department of Transportation
CARB - California Air Resources Board
CCAA - California Clean Air Act
CEQA - California Environmental Quality Act
CIP - Capital Improvement Program
CMAQ - Congestion Management Air Quality (funding program)
CMP - Congestion Management Program
CRP - Combined Road Program
CTC - California Transportation Commission
CTSA - Consolidated Transportation Service Agency
DOE - Department of Energy (federal)
DOT - Department of Transportation (federal)
DTIM - Demand Travel Impact Model
EAFB - Edward Air Force Base
EMM - Environmental Enhancement and Mitigation Program
EPA - Environmental Protection Agency
ER - Emergency Relief Program
FAA - Federal Aviation Administration
FCAAA - Federal Clean Air Act Amendments of 1990
FCR - Flexible Congestion Relief Program
FHWA - Federal Highway Administration
FIP - Federal Implementation Plan
FSTIP - Federal Statewide Transportation Improvement Program
FTA - Federal Transit Administration
FTIP - Federal Transportation Improvement Program
FTZ - Foreign Trade Zone
FY - Fiscal Year
GET - Golden Empire Transit District
GPA - General Plan Amendment
HPMS - Highway Performance Monitoring Systems
HSR - High Speed Rail
HOV - High Occupancy Vehicle
ILS - Instrument Landing System
I/M - Inspection and Maintenance
ISR - Indirect Source Review

ITS - Intelligent Transportation Systems
Kern COG - Kern Council of Governments
KRT - Kern Regional Transit
LOS - Level of Service
LRT - Light Rail Transit
LTF - Local Transportation Fund
MMTI - Major Metropolitan Transportation Investments
MPO - Metropolitan Planning Organization
NAHC - Native American Heritage Commission
NAWS - (China Lake) Naval Air Weapons Station
NEPA - National Environmental Policy Act
NHS - National Highway System
NO - nitric oxide
NO₂ - nitrogen dioxide
NOP - Notice of Preparation
OAo - Older Americans Act
O₃ - ozone
PAC - Project Advisory Committee
PAPI - Precision Approach Path Indicator
PLH - Public Lands Highway Program
PM₁₀ - Particulate Matter (less than 10 microns in size)
pphm - parts per hundred million
PSTIP - Proposed State Transportation Improvement Program
PUC - Public Utilities Commission
PVEA - Petroleum Violation Escrow Account (PVEA)
RFP - Request for Proposal
ROC - Reactive Organic Compounds
ROP - Rate of Progress Plan
RSTP - Regional Surface Transportation Program
RTIP - Regional Transportation Improvement Program
RTP - Regional Transportation Plan
RTPA - Regional Transportation Planning Agency
SB - Senate Bill
SHA - State Highway Account
SHL - State Historic Landmark

SHPO - State Historic Preservation Office
SHRP - Strategic Highway Research Program
SHTAR - State Highway Terminal Access Routes
SIC - Standard Industrial Classification
SIP - State Implementation Plan
SLTPP - State and Local Transportation Partnership Program
SJVAB - San Joaquin Valley Air Basin
SJVAPCD - San Joaquin Valley Air Pollution Control District
SR - State Route
STAA - Surface Transportation Assistance Act
STAF - State Transit Assistance Fund
STIP - State Transportation Improvement Program
STP - Surface Transportation Program
TAC - Technical Advisory Committee
TAZ - Traffic Analysis Zone
TCM - Transportation Control Measure
TDA - Transportation Development Act
TDM - Transportation Demand Management
TEA - Transportation Enhancement
TEA-21 – Transportation Enhancement Act for the 21st Century
TMA - Transportation Management Area and/or Association
TOG - Total Organic Gases
TPPC - Transportation Planning Policy Committee
TSM - Transportation System Management
TTAC - Transportation Technical Advisory Committee
US DOT - Department of Transportation (federal)
USTIP - Updated State Transportation Improvement Program
VMT - Vehicle Miles Traveled
VT - Vehicle Trips

Appendix 1

San Joaquin Valley Regional Transportation Overview

1.1 Introduction

In this chapter of the RTP, a coalition of all San Joaquin Valley Councils of Governments provide an interregional perspective to transportation planning within the region, consisting of the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, Kings, and the San Joaquin Valley portion of Kern County. It addresses several issues of regional importance, such as air quality, highways, streets and roads, aviation, rail, goods movement, and transportation demand efforts. The purpose of this chapter is to provide a broad, general overview of issues that cross-jurisdictional boundaries and affect not only Fresno County, but the rest of the San Joaquin Valley, as well.

1.1.1 Valleywide Planning

Under federal legislation described in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and its extending legislation, the Transportation Equity Act for the 21st Century (TEA-21), transportation planning efforts are directed to be coordinated in geographically defined air basins. The eight counties mentioned above do share an air basin and have many attributes in common. There are also differences that are significant in the context of transportation planning. The eight San Joaquin Valley counties have already implemented an aggressive program of coordinated Valleywide planning. In September of 1992, the eight Valley Regional Transportation Planning Agencies (RTPAs) entered into a memorandum of understanding (MOU) to ensure a coordinated regional approach to transportation and air quality planning efforts. The MOU goes well beyond the requirements of state and federal transportation planning acts by establishing a system of coordination for plans, programs, traffic and emissions modeling, transportation planning, air quality planning, and consistency in data analysis/forecasting. Development of the MOU and the ongoing process of coordinated planning has improved upon an already close working relationship between the eight Valley RTPAs and the representatives of the California Department of Transportation (Caltrans), California Air Resources Board (CARB), State Office of Planning and Research, San Joaquin Valley Air Pollution Control District (SJVAPCD), and the Federal Highway Administration (FHWA).

Each of the areas addressed in the Valleywide MOU have been assigned to a specific RTPA to serve as a lead in the coordination of planning activities. Representatives of each of the eight agencies have been meeting regularly to coordinate the preparation of Regional Transportation Plans (RTPs), Regional Transportation Improvement Programs (RTIPs), and an aviation systems plan that involves not only the eight Valley counties but the Sacramento region as well. These cooperative efforts include both staff and financial assistance from Caltrans, CARB, the Environmental Protection Agency (EPA), and the SJVAPCD. These efforts have taken place as a voluntary response to the new issues, challenges and requirements facing the transportation planning community. The San Joaquin Valley Regional Transportation Overview represents the cooperative effort between the eight counties and their coordination in the Regional Transportation Plans.

1.1.2 The Eight County Setting

One issue that the eight counties have in common is a rapidly expanding population. In fact, all of the San Joaquin Valley counties exceeded the growth rate for California during the past ten years (1993 to 2003) and all Valley counties are in the top twenty-two with the highest growth percentage of all fifty-eight California counties. Population growth is anticipated to continue.

Geographically, the San Joaquin Valley is long and relatively narrow. Stretching about 300 miles from north to south and about 100 miles from east to west, it occupies an area between the two largest metropolitan areas in California, San Francisco and Los Angeles. The major transportation facilities are Interstate 5, State Route 99, Union Pacific Railroad, Burlington Northern Santa Fe Railroad, numerous oil and natural gas pipelines, a myriad of telecommunication facilities, and air travel corridors. East to west transportation facilities are less numerous but critical to the Interregional transportation network of the West Coast and the western United States. Numerous highways and rail lines cross the Valley, including State Routes 58, 46, 152, 198, and 120 among others.

Air quality is a major issue in the region. Many sections of the Valley are non-attainment areas for a number of pollutants. Geographical situation, economic activity and population pressures tend to exacerbate air pollution within the region.

Both ends of the Valley are under growth pressures from huge metropolitan areas. Kern County population growth is being influenced by the Los Angeles area, while growth in Stanislaus, San Joaquin, and Merced counties is partially due to overflow growth from the San Francisco Bay Area. Much of the residential growth observed has been caused by people searching for affordable owner-occupied housing within automobile commuting range of the large metropolitan areas.

A great deal of land in the San Joaquin Valley is used for agricultural production. Urban areas tend to be widely separated from each other and are developed at low densities. A majority of the locally developed road and rail network serves farm-to-market activity. Major transportation facilities serve as conduits between major metropolitan areas, and national recreation areas.

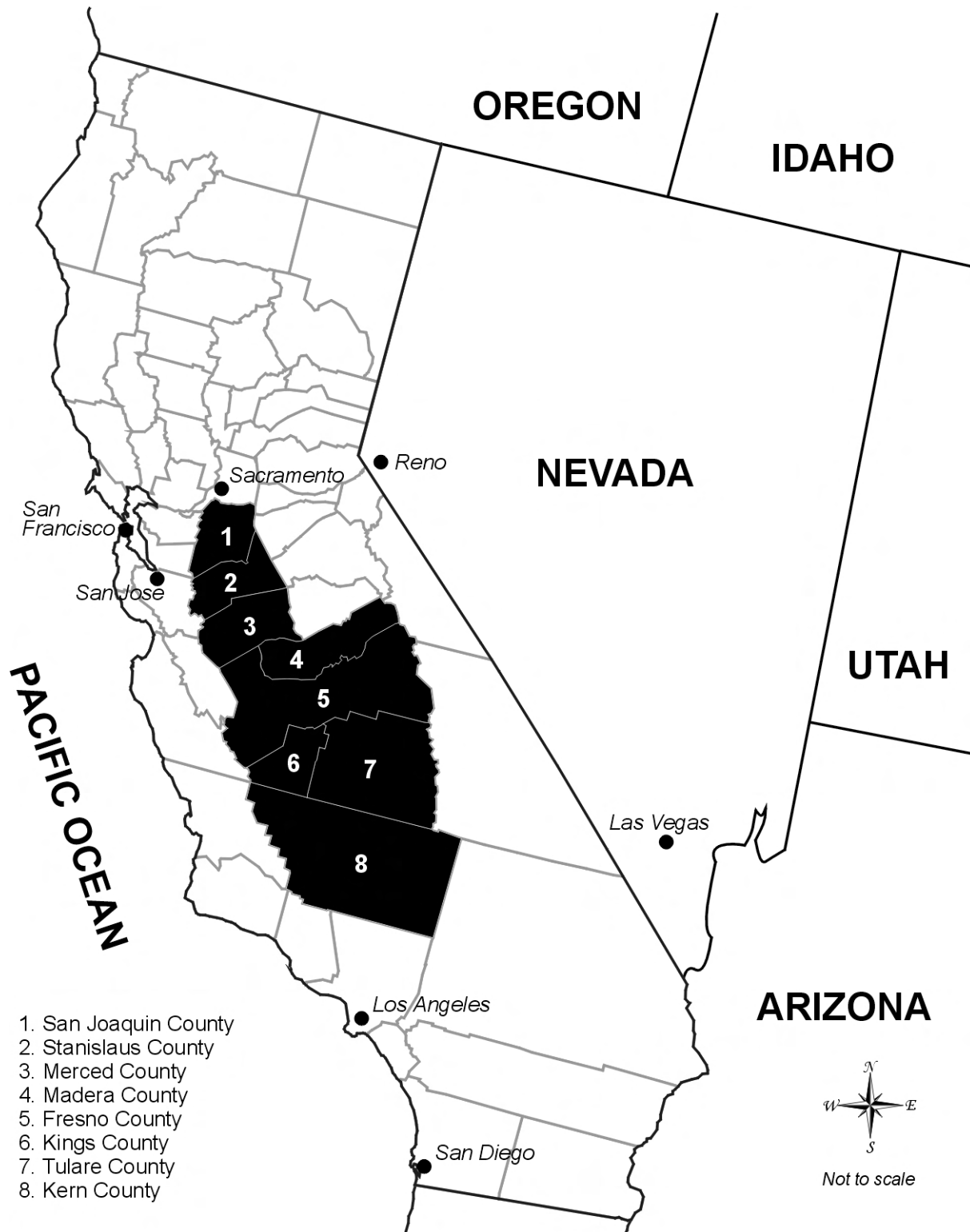
Economically, the region is tied to primary production. Agriculture production will always be a major industry because of the physical characteristics of the Valley. These characteristics include a nearly frost-free growing climate, long summers, reservoirs, and water distribution projects such as the Central Valley Project and the California State Water Project. However, direct employment in agriculture and other primary production (such as oil production) will continue to drop as production becomes more automated.

The San Joaquin Valley of California will continue to develop and become more populated. Many of the issues that are faced by individual county jurisdictions are of a regional nature and could benefit from regional coordination. Transportation is one of these issues and a continuing effort to plan, fund and construct transportation facilities on a regional basis will benefit both the residents of the San Joaquin Valley and the State of California.

1.2 San Joaquin Valley Profile

The San Joaquin Valley is the southern portion of the Great Central Valley of California. The San Joaquin Valley stretches from the Tehachapi Mountains in the south to the San Joaquin Delta in the north, a distance of nearly 300 miles. The eastern boundary is the Sierra Nevada Mountains, which reach elevations of over 14,000 feet, while the western boundary is the lower coastal ranges. Total land area is approximately 23,720 square miles. The topography is generally flat to rolling, and the climate is characterized by long, very warm summers, and short, cool winters. Precipitation is related to latitude and elevation, with the northern portions of the valley receiving approximately 12-14 inches of rain a year, while the southern portion has an annual average of less than six inches. Snow rarely falls on the Valley floor, but heavy winter accumulations are common in the Sierra Nevada Mountains.

Exhibit 1-1
The San Joaquin Valley Counties Within the Western US



For the purposes of this report, the San Joaquin Valley is considered to include the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and Kern. Kern County straddles the Sierra Nevada Mountains and occupies a portion of the Mojave Desert. The desert portion of Kern County is within the Southeastern Desert Air Basin. This report addresses only that portion of Kern County that falls within the San Joaquin Valley Air Basin. See Exhibit 1-1.

Population growth has been sustained and significant. In 1960, the eight San Joaquin Valley counties had a population of just over 1.4 million. By 1991, their population had doubled to over 2.8 million (excluding the eastern portion of Kern County). The region experienced a 33.9 percent increase in population over the 1980s and grew at 20.5 percent in the 1990-2000 period. The San Joaquin Valley has grown faster than the state of California in each calculation period since 1960 and accounted for about 9.9 percent of the population of California in 2003. See Exhibit 1-2.

Future population growth is also expected to be sustained and significant. Population in the eight Valley counties is projected to exceed 5.9 million by the year 2030, using recently released growth projections from the California State Department of Finance and other sources. See Exhibit 1-3 and Exhibit 1-4.

The San Joaquin Valley is famous for agricultural production. Nearly ideal growing conditions, reservoirs, and water distribution projects, such as the federal Central Valley Project and the State Water Project have resulted in the top three agricultural counties in the nation being in the San Joaquin Valley (Fresno, Tulare, and Kern). Kern County oil fields produce two-thirds of the on-shore oil recovered in California. According to the State of California Employment Development Department, the 2002 work force is structured as displayed in Exhibit 1-5. Agricultural activities, service occupations, and retail trade occupations account for over half of the employment in the San Joaquin Valley.

Educational attainment for San Joaquin Valley residents is outlined in Exhibit 1-6. San Joaquin Valley household income distribution is described in Exhibit 1-7 and 1-8. San Joaquin Valley age structure is outlined in Exhibit 1-9 and Exhibit 1-10.

1.2.1 Trends And Assumptions

Changes in population, housing and employment alter travel demand and patterns that affect transportation facilities and services. By anticipating the magnitude and distribution of growth and change within the San Joaquin Valley, present-day decisions can be made to capitalize on the positive aspects of the anticipated growth while minimizing the adverse consequences.

Population

Population growth within the San Joaquin Valley will continue into the foreseeable future. The driving force for the increasing population is the availability of land, the availability of water, the proximity of the urban centers of Stockton, Modesto, Fresno and Bakersfield to the large urban areas of Los Angeles and San Francisco, and the relatively low cost of land in the San Joaquin Valley.

Housing

Housing growth is generally a function of population growth. Housing is anticipated to grow at a rate similar to population growth.

Employment

Employment opportunities within the Valley will change over the time span of this plan. Agricultural employment will drop as a percentage of total employment as agricultural activities become more and more automated, requiring less human labor to accomplish more production. Services, wholesale trade and retail trade activities are anticipated to increase in importance in the future employment pattern of the Valley.

Exhibit 1-2

San Joaquin Valley Counties Population Growth

COUNTY	COUNTY SEAT	1970 POPULATION ¹	1980 POPULATION ¹	1990 POPULATION ¹	2003 POPULATION ²
FRESNO	FRESNO	413,053	514,621	667,490	836,100
KERN	BAKERSFIELD	329,162	402,089	543,477	698,000
KINGS	HANFORD	64,610	73,738	101,469	135,100
MADERA	MADERA	41,519	63,116	88,090	129,500
MERCED	MERCED	104,629	134,560	178,403	223,800
SAN JOAQUIN	STOCKTON	290,208	347,560	480,628	607,800
STANISLAUS	MODESTO	194,506	265,900	370,522	477,900
TULARE	VISALIA	188,322	245,738	311,921	383,100
SAN JOAQUIN VALLEY TOTAL		1,626,009	2,047,322	2,742,000	3,491,300
CALIFORNIA TOTAL		19,053,134	23,667,902	29,760,021	35,336,000
S.J. VALLEY % CALIFORNIA		8.53%	8.65%	9.21%	9.88%

COUNTY	% GROWTH 1970-2003	ANNUAL % GROWTH 1970-2003	% GROWTH 1980-2003	ANNUAL % GROWTH 1980-2003
FRESNO	102.42%	2.14%	62.47%	2.11%
KERN	112.05%	2.29%	73.59%	2.40%
KINGS	109.10%	2.24%	83.22%	2.64%
MADERA	211.91%	3.48%	105.18%	3.14%
MERCED	113.90%	2.31%	66.32%	2.21%
SAN JOAQUIN	109.44%	2.25%	74.88%	2.43%
STANISLAUS	145.70%	2.74%	79.73%	2.55%
TULARE	103.43%	2.16%	55.90%	1.93%
SAN JOAQUIN VALLEY TOTAL		114.72%	70.53%	2.32%
CALIFORNIA TOTAL		85.46%	49.30%	1.74%

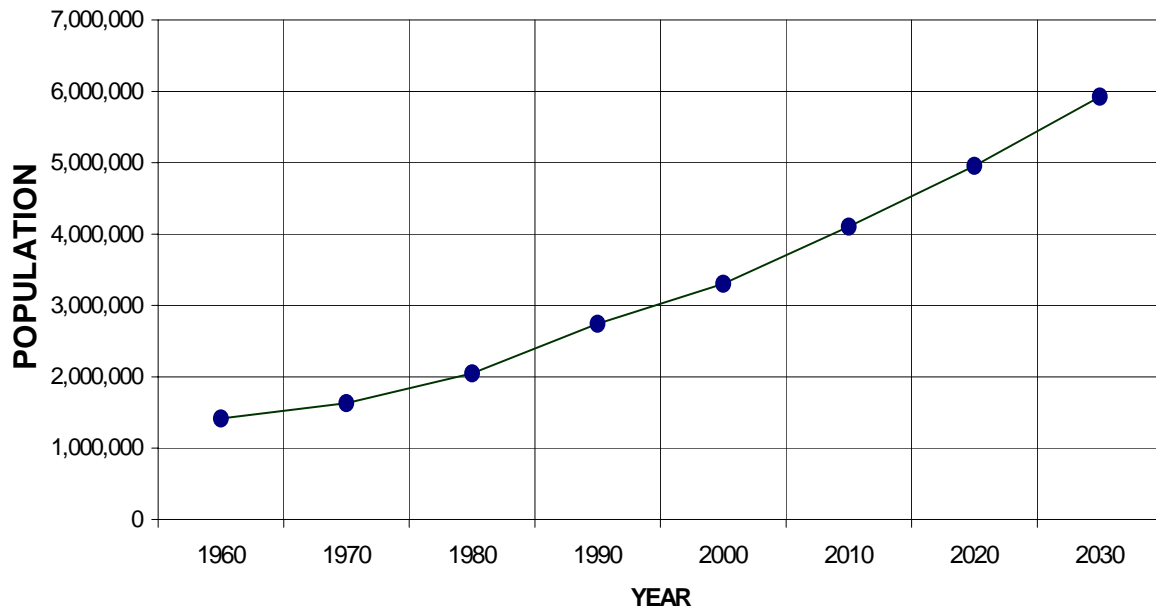
COUNTY	2003 LAND USE ³ (Sq.Miles)	2003 POPULATION DENSITY (Pop./Sq.Mile)
FRESNO	5,963	140.21
KERN	8,073	86.46
KINGS	1,392	97.05
MADERA	2,147	60.32
MERCED	1,984	112.80
SAN JOAQUIN	1,440	422.08
STANISLAUS	1,521	314.20
TULARE	4,863	78.78
SAN JOAQUIN VALLEY TOTAL		27,383
CALIFORNIA TOTAL		155,973

Sources: ¹ U.S. Bureau of the Census, April 1

² State of California Department of Finance, July 1, 2003

³ State of California Governor's Office of Planning and Research, Book of Lists, 2003

Exhibit 1-3 San Joaquin Valley Counties Population Growth



Sources: Aggregation of data for eight counties in the San Joaquin Valley.
Source of individual counties listed under Sources for Exhibit 1-4 below.

Exhibit 1-4 San Joaquin Valley Counties Population Growth Projection

COUNTY	Population April 1, 1960 ¹	Population April 1, 1970 ¹	Population April 1, 1980 ¹	Population April 1, 1990 ¹	Population April 1, 2000 ¹	Population July 1, 2010	Population July 1, 2020	Population July 1, 2030
Fresno County	365,945	413,329	514,621	667,490	799,407	992,351 ²	1,185,150 ²	1,402,349 ²
Kern County	291,984	330,234	403,089	544,981	661,645	800,700 ³	957,000 ³	1,143,900 ³
Kings County	49,954	66,717	73,738	101,469	129,461	165,300 ⁴	198,700 ⁴	223,914 ⁴
Madera County	40,468	41,519	63,116	88,090	123,109	175,132 ⁵	224,567 ⁵	281,300 ⁵
Merced County	90,446	104,629	134,560	178,403	210,554	276,200 ⁶	340,800 ⁶	417,200 ⁶
San Joaquin County	249,989	291,073	347,342	480,628	563,598	708,364 ⁷	888,536 ⁷	1,117,006 ⁷
Stanislaus County	157,294	194,506	265,900	370,522	446,997	567,645 ⁸	693,600 ⁸	821,963 ⁸
Tulare County	168,403	188,322	245,738	311,921	368,021	416,652 ⁹	465,675 ⁹	516,186 ⁹
San Joaquin Valley Counties	1,414,483	1,630,329	2,048,104	2,743,504	3,302,792	4,102,344	4,954,028	5,923,818

Sources: ¹ U.S. Bureau of the Census

² Central California Futures Institute

³ Kern Council of Governments based on historical trend of 1.8% annually

⁴ State of California Department of Finance, Interim projection released June 2001

⁵ State of California Department of Finance, Final projection released November 1998, and MCTC interpolation

⁶ State of California Department of Finance, Interim projection released June 2001, and addition for UC Merced-related growth

⁷ San Joaquin Association of Governments

⁸ Association of Bay Area Governments (ABAG)

⁹ Tulare County Association of Governments

Exhibit 1-5

San Joaquin Valley Counties Employment by Industry, 2002

Industry	Fresno County		Kern County		Kings County		Madera County		Merced County	
Farming	47,300	14%	40,400	16%	6,700	17%	8,400	23%	10,800	17%
Construction and Mining	17,100	5%	21,200	9%	1,200	3%	1,800	5%	2,400	4%
Durable Goods Manufacturing	10,700	3%	5,400	2%	500	1%	1,800	5%	1,800	3%
Nondurable Goods Manufacturing	16,000	5%	6,100	2%	3,100	8%	1,300	3%	8,900	14%
Transportation, Warehousing and Utilities	9,400	3%	8,300	3%	600	2%	800	2%	2,300	4%
Wholesale Trade	12,200	4%	6,100	2%	700	2%	600	2%	1,500	2%
Retail Trade	32,800	10%	24,600	10%	3,300	9%	3,100	8%	7,100	11%
Finance, Insurance, and Real Estate	18,800	6%	10,500	4%	1,600	4%	1,400	4%	2,200	3%
Services	95,600	29%	67,600	28%	7,500	20%	10,400	28%	14,900	23%
Federal Government	12,400	4%	9,600	4%	1,000	3%	400	1%	800	1%
State Government	9,600	3%	7,100	3%	5,200	14%	2,000	5%	600	1%
Local Government	47,900	15%	38,500	16%	7,200	19%	5,500	15%	12,000	18%
Total, All Industries	329,500	100%	245,500	100%	38,400	100%	37,300	100%	65,300	100%
Civilian Labor Force	394,300		296,200		47,300		56,300		87,500	
Civilian Employment	337,700		261,400		40,400		49,200		74,800	
Civilian Unemployment	56,600		34,800		6,900		7,100		12,700	
Civilian Unemployment Rate	14.4%		11.7%		14.6%		12.6%		14.5%	

Industry	San Joaquin County		Stanislaus County		Tulare County		San Joaquin Valley Total		California Total	
Farming	15,900	8%	13,900	8%	33,500	25%	176,900	14%	372,700	3%
Construction and Mining	13,700	7%	10,700	7%	5,600	4%	73,700	6%	796,600	5%
Durable Goods Manufacturing	11,100	5%	7,700	5%	3,800	3%	42,800	3%	1,053,300	7%
Nondurable Goods Manufacturing	9,700	5%	14,800	9%	7,400	5%	67,300	5%	584,800	4%
Transportation, Warehousing and Utilities	12,700	6%	4,500	3%	5,200	4%	43,800	4%	988,300	7%
Wholesale Trade	7,200	3%	5,600	3%	3,400	3%	37,300	3%	652,100	4%
Retail Trade	24,800	12%	21,700	13%	13,200	10%	130,600	11%	1,581,700	11%
Finance, Insurance, and Real Estate	12,500	6%	7,700	5%	5,500	4%	60,200	5%	1,121,000	8%
Services	62,700	30%	52,900	32%	28,900	21%	340,500	28%	5,501,200	37%
Federal Government	4,100	2%	1,200	1%	1,400	1%	30,900	3%	253,800	2%
State Government	4,500	2%	1,900	1%	2,800	2%	33,700	3%	472,100	3%
Local Government	31,500	15%	22,200	13%	25,400	19%	190,200	16%	1,721,200	12%
Total, All Industries	210,400	100%	164,600	100%	136,000	100%	1,227,000	100%	14,830,500	100%
Civilian Labor Force	272,300		213,800		173,400		1,541,100		17,375,800	
Civilian Employment	245,000		189,200		146,500		1,344,200		16,214,900	
Civilian Unemployment	27,300		24,600		26,900		196,900		1,160,900	
Civilian Unemployment Rate	10.0%		11.5%		15.5%		12.8%		6.7%	

Source: State of California Employment Development Department

Exhibit 1-6

San Joaquin Valley Counties Educational Attainment, 2000

Educational Level	San Joaquin Valley Counties Total	San Joaquin Valley Counties Percentage	California Percentage
Less than 9th grade	319,940	16.74%	11.49%
9th to 12th grade, no diploma	294,051	15.39%	11.72%
High school graduate	462,667	24.21%	20.13%
Some college, no degree	434,908	22.76%	22.91%
Associates's degree	128,454	6.72%	7.13%
Bachelor's degree	185,587	9.71%	17.09%
Graduate or professional degree	85,288	4.46%	9.53%
Total persons 25 years and over	1,910,895	100.00%	100.00%

Source: 2000 U.S. Census

Exhibit 1-7
San Joaquin Valley Counties Median Household Income, 1989 and 1999

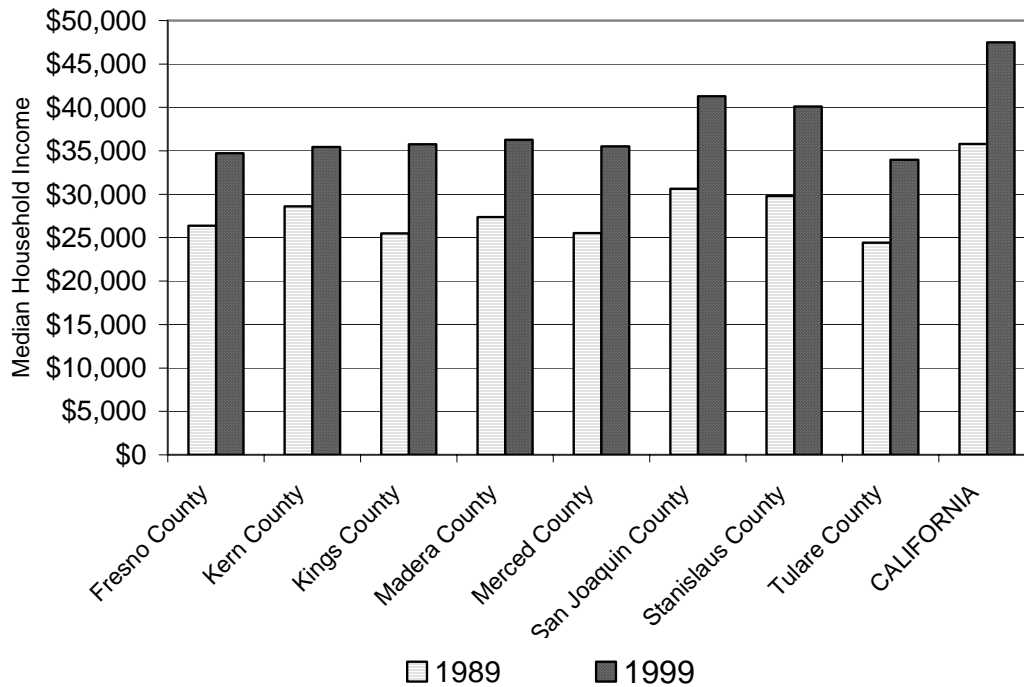


Exhibit 1-8
San Joaquin Valley Counties Median Household Income, 1989 and 1999

	1989	1999
Fresno County	\$26,377	\$34,725
Kern County	\$28,634	\$35,446
Kings County	\$25,507	\$35,749
Madera County	\$27,370	\$36,286
Merced County	\$25,548	\$35,532
San Joaquin County	\$30,635	\$41,282
Stanislaus County	\$29,793	\$40,101
Tulare County	\$24,450	\$33,983
CALIFORNIA	\$35,798	\$47,493

Source: U.S. Bureau of the Census

Exhibit 1-9
San Joaquin Valley Counties Age Structure, 2000

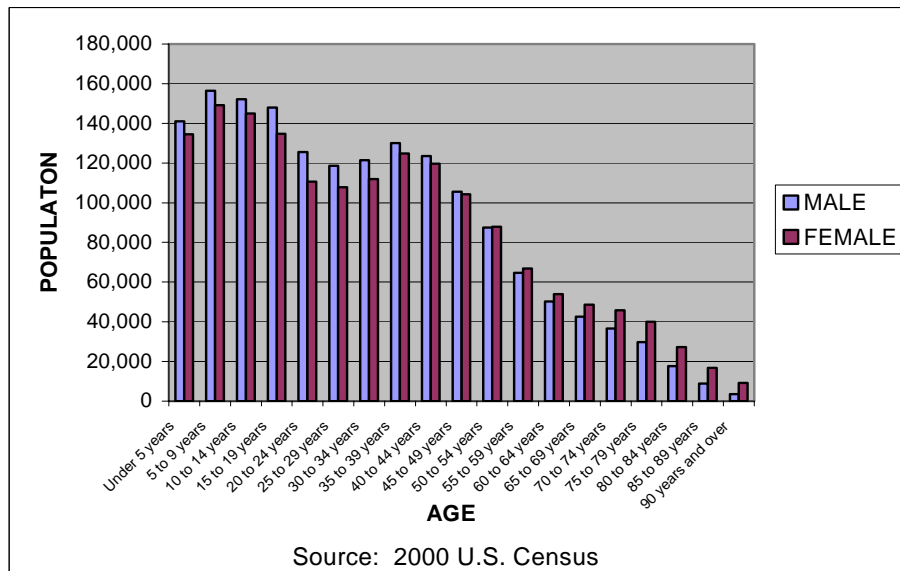


Exhibit 1-10
San Joaquin Valley Counties Age Structure, 2000

Age Group	Male	Female	Both Sexes
Under 5 years	140,964	134,511	275,475
5 to 9 years	156,372	149,174	305,546
10 to 14 years	152,147	145,079	297,226
15 to 19 years	147,901	134,836	282,737
20 to 24 years	125,616	110,623	236,239
25 to 29 years	118,615	107,743	226,358
30 to 34 years	121,401	111,928	233,329
35 to 39 years	129,994	124,883	254,877
40 to 44 years	123,543	119,704	243,247
45 to 49 years	105,537	104,283	209,820
50 to 54 years	87,490	87,880	175,370
55 to 59 years	64,668	66,850	131,518
60 to 64 years	50,240	53,977	104,217
65 to 69 years	42,506	48,573	91,079
70 to 74 years	36,689	45,823	82,512
75 to 79 years	29,827	40,063	69,890
80 to 84 years	17,619	27,330	44,949
85 to 89 years	8,844	16,790	25,634
90 years and over	3,608	9,161	12,769
Total population	1,663,581	1,639,211	3,302,792

Source: 2000 U.S. Census

Other Trends and Assumptions

Cost of Travel

The cost of travel will increase for all modes as the price of fuel, equipment, labor, and service continue to rise.

Automobile Use

The private automobile will continue to be the dominant and preferred method of travel within the region. Travel demand management programs may lessen the percent of trips made by private automobile.

Transit Use

Public transit use, including passenger rail, will keep pace with the rise in population and additional incentives, such as voluntary employer trip reduction programs, will be initiated to encourage additional transit use.

Aviation Activity

General and commercial aviation activity will increase as the regional population and economy expand.

Air Quality

Increases in hydrocarbons, oxides of nitrogen, carbon monoxide, and particulate matter may result as population increases. Efforts will be made to reduce the number of vehicle miles traveled (VMT). VMT reduction efforts will take several forms, including compensatory and possible compulsory ridesharing, flex time work scheduling, and non-motorized commuting. Jobs-to-housing balance in local land use decision-making will become more important. Introduction of newer, cleaner fuels and more efficient internal combustion engines are also anticipated.

Railroad Activity

The California High-Speed Rail Authority is working toward the development and implementation of an inter-city high-speed rail system. Current activity focuses on evaluating alternative Central Valley alignments connecting the Los Angeles Basin with the San Francisco Bay Area and Sacramento. Amtrak will continue its successful San Joaquin trains between Bakersfield and Oakland/Sacramento, with bus feeder lines to southern California and other areas.

Land Use

It is anticipated that agricultural land will continue to be converted at an increasingly rapid pace to residential, commercial, and industrial uses.

1.3 San Joaquin Valley Policy Element

This Policy Element has been developed to set forth the common transportation goals, objectives, and policies as expressed in the existing eight Regional Transportation Plans of the San Joaquin Valley counties. To move toward effective cooperation, it is first advantageous to define the areas of commonality, which when accepted by the eight agencies will enable the next step of defining more specific objectives and policies to be pursued. This version of the Policy Element is only designed to achieve the first objective, noting the areas of commonality. Staff members of the eight agencies will then work progressively toward developing their individual RTP updates to deal more effectively with specific objectives and issues within their individual counties. Also included in the updates will be a full discussion of financial resources to meet the individual county needs; this subject is not well enough defined as yet to be undertaken as a separate element within this overview.

The Regional Transportation Plans of the following eight counties were used as input into this overview: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare.

This cooperative effort, as mandated by two separate memorandums of understanding between the eight agencies, demonstrates that the eight counties are coordinating their programs and plans in a two-fold effort:

1. To meet the requirements of federal legislation, specifically ISTEA and its extending legislation, TEA-21, as well as the Federal Clean Air Act Amendments; and more importantly,
2. To address those issues that have a Valleywide impact and, therefore, a direct impact on each of the eight counties.

Before listing the goals, objectives, and policies, it is important to have a broad understanding of the intent behind each of the terms. These terms are defined in the adopted California Regional Transportation Plan Guidelines.

A **"goal"** is the end toward which effort is directed; it is general in application and timeless.

An **"objective"** provides clear, concise guidance to attaining the goal. Objectives are successive levels of achievement in movement toward a goal. They are results to be achieved by a stated point in time. Individual objectives are capable of being quantified and realistically attained.

A **"policy"** is a direction statement that guides present and future decisions on specific actions. Policies should support the attainment of objectives.

1.3.1 Transportation Goals, Objectives, and Policies

GOAL: Design, develop and maintain a multimodal transportation system that efficiently and safely moves people and goods, and also serves the social, economic, and physical needs of Valley residents while enhancing their quality of life.

Objectives:

1. A multimodal circulation network that is convenient, safe and efficient.
2. A multimodal circulation network that is both cost effective and environmentally sound.
3. A transportation system that meets the travel demands of both citizens and businesses. .

Policies:

- Facilitate a cooperative effort between the public and private sectors to integrate transportation modes through a coordinated transportation planning process, carried out by the eight regional transportation planning agencies.
- Work with public transit and social service agencies to assist in implementing "welfare-to-work" programs.
- Involve citizens and businesses in planning transportation facilities and services. Special efforts will be made to include those individuals and groups who may not have been included in the past. These groups may include the elderly, infirm, and racial/ethnic minorities, including Native Americans. Working with these and other groups, strategies that address transportation issues of importance to under-served groups will be developed. Direct involvement by under-represented groups will be promoted in transportation planning, project selection, and other transportation issues that affect them.
- Support transportation planning and programming efforts.
- Minimize conflicts between modes.

- Assure that the existing transportation facilities are maintained and repaired as necessary to continue serviceability.
- Emphasize improvement of existing facilities, thereby increasing capacity and flow.
- Cooperatively work toward a transportation system that will widen the mode choice available to travelers and shippers.
- Support the implementation of Transportation System Management, Transportation Demand Management, and Transportation Control Measures that reduce emissions from the circulation system. This support shall include consultation with the San Joaquin Valley Air Pollution Control District.
- Support transportation systems that have the lowest feasible levels of energy consumption while meeting reasonable mobility needs.
- Support alternative land use patterns that will allow walking, biking, and transit to become more viable transportation options.

GOAL: **Develop and finance multimodal transportation facilities and services that are consistent with regional and local growth policies and are consistent with state and federal air quality plans.**

Objectives: 1. Prepare Regional Transportation Improvement Programs that list multimodal transportation facility improvements/operations in a financially constrained manner and are in conformance with adopted California State Implementation Plans for air quality purposes.

 2. Work to attain and maintain National Air Quality Standards in the San Joaquin Valley.

Policies:

- Use the Public Utilities Commission notification of any rail line abandonment proposals to facilitate the evaluation of possible impacts on the transportation system and encourage the development of alternative uses for the facilities.
- Analyze the impact of all transportation proposals to ensure they are cost effective.
- Make maximum use of state and federal funds available for transportation.
- Make new system enhancements when warranted and brought about by growth/development when it is economically feasible and environmentally sound.
- Maximize the use of Interregional Improvement Program (IIP) funds through partnerships within the San Joaquin Valley counties and with Caltrans.
- Work directly with the San Joaquin Valley Air Pollution Control District in the development phases of both air quality plans and transportation plan and programs.
- Improve air quality through a cooperative effort of stationary, mobile, and transportation source controls.
- Improve air quality by supporting jurisdictions that take steps to reduce VMT through compact, mixed-use land use patterns.

GOAL: **Define, preserve and enhance Valley transportation corridors.**

- Objectives:** 1. Ensure that Valley-Wide multimodal circulation is maintained and improved; thereby serving the social, economic, and physical needs of Valley residents.

Policies:

- Coordinate planning efforts to define a system of corridors of Valleywide importance
- Cooperatively determine appropriate measures to pursue preservation and improvement of the defined corridor system
- Promote the recognition of strategic and significant Valley routes as Focus Routes and Gateways defined in the *Interregional Transportation Strategic Plan*.

GOAL: Promote the maintenance of the existing transportation system.

- Objective:** 1. Preserve existing transportation facilities and where practical, develop ways to meet transportation needs by using existing transportation facilities more efficiently.

Policies:

- Allocate sufficient resources to maintain current system at the current level of repair.
- Pursue additional funding to increase level of maintenance to correct deficiency.
- Encourage creative transportation demand management policies to utilize existing facilities more efficiently.

GOAL: Encourage land use design which is more efficient and more conducive to the use of transit, non-motorized transportation, and rail alternatives.

- Objective:** 1. Support land uses that are in the interest of the general community by encouraging population densities and patterns that are conducive to transit and non-motorized transportation options.

Policies:

- Advise decision-makers on land use issues to favor compact development.
- Discourage non-contiguous development that is widely separated from existing urban services.
- Promote the concept of jobs-housing balance in new and existing development.
- Encourage infill development to raise population density in existing settings.
- Support walkable subdivision design that is based on an interconnected grid of neighborhood streets and small blocks.
- Support the development of high density, mixed use neighborhood centers at transit stops.

1.3.2 Air Quality

Introduction

The San Joaquin Valley faces a serious environmental problem: air quality. Both the state and federal governments set standards and monitor air quality based on the need to protect public health. Despite

twenty years of legislation and regulation, many regional areas in the state of California, including the San Joaquin Valley, still do not meet all air quality standards. The three major pollutants of concern in the San Joaquin Valley are:

- Ozone
- Carbon Monoxide
- Suspended Particulate Matter (PM10 & PM2.5)

The severity of the problem is related to Valley topography and climate. The Valley has a warm, sunny climate, a relatively flat valley floor, and is surrounded by mountain ranges. Air pollutants generated from other air basins as well as activity in the Valley floor become trapped by an inversion layer caused by cool air masses, held captive by the Coastal and Sierra Nevada Mountain Ranges, and held down by the sun-warmed air expanding above the Valley.

Pursuant to Federal law, the EPA has designated the entire Valley a non-attainment area for ozone and particulate matter. The metropolitan areas of Fresno, Modesto, Stockton and Bakersfield were recently upgraded to maintenance areas for carbon monoxide. The Valley is unique within the nation and is not typical of most air basins. The ozone attainment area encompasses eight counties and contains six separate and distinct metropolitan areas amidst millions of acres of farmland. The travel patterns also vary between each metropolitan area.

Problem Causes

Traditionally recognized sources of air pollution are divided into two categories as follows:

Stationary/Area Sources - examples are:

- Fuel combustion (oil and gas production, other manufacturing/industrial/agricultural)
- Solvent use (dry cleaning, printing, de-greasing, asphalt paving)
- Industrial processes (food and agriculture, mineral processes)
- Waste burning (agricultural debris, range management)
- Petroleum processes (oil and gas extraction, petroleum refining and marketing)
- Miscellaneous processes (landfills, unplanned fires, pesticide application)

Mobile Sources - examples are:

- On-road vehicles (automobiles, trucks, motorcycles)
- Other mobile (off-road vehicles, trains, aircraft, utility equipment)

In addition to the sources listed above, the California Clean Air Act requires that emissions from "indirect" sources be examined and, where feasible, control measures be proposed to reduce or mitigate their impacts. The Federal Clean Air Act defines an "indirect" source as a facility, building, structure, installation, real property, road, or highway that attracts mobile sources of pollution.

Transportation Control Measures

Both the California Clean Air Act and the Federal Clean Air Act require the implementation of all feasible

Transportation Control Measures (TCMs). TCMs are measures designed to decrease pollution from mobile sources by reducing the number of vehicle trips, VMT, idling, and traffic congestion. Implementation of TCMs is a major challenge as several of these measures are intended to affect public behavior--specifically driving habits. Both state and federal laws recognize that traditional control programs on stationary and mobile sources are reaching their limits of effectiveness and that further progress in achieving reductions will increasingly rely on modification of personal travel activity. Commitments for TCM implementation must be made by each jurisdiction and included in the State Implementation Plan (SIP) for air quality. Transportation plans adopted within the Valley must provide for timely implementation of these measures and must provide further assurance to federal funding agencies that the transportation plans "conform" to the adopted SIP.

Existing Efforts

EPA and the United States Department of Transportation, through the mechanism of transportation conformity, require a cooperative effort between themselves, Caltrans, the eight Valley RTPAs, and the San Joaquin Valley Air Pollution Control District. Currently, the eight Valley RTPAs and the SJVAPCD have entered into an MOU to ensure a coordinated transportation/air quality planning approach. The MOU defines a cooperative process aimed at maximum effectiveness and compatibility of both air quality and transportation plans. The MOU establishes a strong working relationship between the eight RTPAs and satisfies ISTEPA and TEA-21 requirements by having a cooperative agreement between agencies located in the same non-attainment boundary.

A more specific MOU provision is the participation by the RTPAs in the development of Transportation Control Measures required pursuant to state and federal law. The eight agencies committed staff and analytical support necessary to develop motor vehicle emission inventories, emission budgets, draft ozone SIP revisions, a work plan and TCMs. These were submitted for consideration by the SJVAPCD and for inclusion in its air quality attainment plans, which are ultimately incorporated into the SIP for the San Joaquin Valley. As part of this effort, a consultant was retained to develop a "San Joaquin Valley Transportation Control Measure Coordination, Implementation/Monitoring and Enforcement Program." This contract resulted in the publication of the "San Joaquin Valley Transportation Control Measure Program." The publication presented levels of commitment to TCMs to be implemented by 1999 and a method of evaluating costs and benefits of suggested measures. All eight transportation planning agencies participated in providing technical and policy input on the work done by the consultant. Agencies continue to monitor progress and update TCMs through the transportation planning process.

Transportation modeling for air-quality conformity purposes is yet another area of cooperative effort between the eight agencies. Discretionary grants, to a maximum of \$200,000, were obtained for development of a Valleywide modeling strategy. The funds were used to hire a consultant to help determine the most appropriate direction of model development, data collection and required analytical capabilities that should be undertaken either jointly or individually by the Valley RTPAs. The objective was to satisfy air quality conformity requirements with product(s) that would withstand review by the US Department of Transportation and EPA.

The consulting firm Dowling and Associates was hired to develop a Valleywide modeling strategy in response to the conformity requirements of the SIP. The strategy included recommendations on the appropriate model development, data collection and required analytic capability. To complete this task another firm, Systems Application International, was hired to assist the transportation planning agencies develop interagency consultation procedures and delineate the roles and responsibilities of those agencies. The products of those consultant contacts were ultimately incorporated into the transportation conformity SIP that was submitted to the EPA.

Given the wide diversity of planning issues facing the staffs of the individual RTPAs and the logistics of Valleywide coordination, the Valley RTPAs have hired an "Air Quality Coordinator". This position is funded by the eight RTPAs. The goals of the position are to:

- Monitor Valley RTPAs compliance with federal and state clean air act requirements;

- Coordinate and provide on-going communications between Valley RTPAs and the SJVAPCD, as well as other involved agencies: Caltrans, EPA, FHWA, CARB, Federal Transit Administration (FTA), etc.;
- Document the RTPA air quality transportation planning process and the RTPAs' role in regulatory compliance;
- Facilitate development of improved modeling data;
- Provide technical air quality transportation planning assistance to individual RTPAs;
- Provide unified RTPA representation at meetings, workshops and public hearings; and
- Achieve consistent RTPA communication.

In addition, San Joaquin Valley RTPAs are collaborating in the area of goods movement and have commissioned a study of truck transportation within and through the region. The aim and purpose of the study is to identify strategies that will improve traffic safety, operational efficiency and air quality in the San Joaquin Valley. The first phase of the *San Joaquin Valley Goods Movement Study*, completed in June 2000, obtained data on current goods movement patterns and issues. Key issues identified in the study included general air quality concerns, congestion on major truck routes, and anticipated conflicts between residential or commercial developments and truck intensive land uses. Phase I also outlined the need for a Valley-wide computerized truck model to help analyze alternative strategies for addressing key issues. Phase II of the study was initiated in January 2002 to develop a computerized truck model and associated analytical tools for Valley transportation planners to use in forecasting truck traffic and evaluating alternative goods movement strategies as identified in the first phase. Another component of the second phase of the study is the development of alternative goods movement strategies that address critical issues cited in Phase I such as truck bypass routes, intermodal services, improved truck access routes, in addition to capacity enhancements. Phase II of the study will be completed in June of 2004.

Assumptions/Future Needs and Issues

Many of the most effective tools for reducing the impact of motor vehicle emissions are not within the control of local government agencies or regional transportation planning agencies. Local agencies do not have the authority to set vehicle exhaust standards or to determine the number of vehicles registered for use. In addition, their ability to influence the national or state production standards that would accelerate alternative fuels usage is limited. This type of authority rests at the state and federal levels. Moreover, effective economic tools such as tax incentives for low emissions vehicles, registration surcharges for high pollution vehicles, and general gasoline tax rates lie with the state and federal regulatory and legislative arenas. Local agencies, therefore, cannot be expected to bear the sole responsibility for attaining air quality standards. Improving air quality will take a cooperative effort on the part of federal, state and local agencies with continued emphasis on aggressive on-board emission control measures at the state and national levels. Local agencies can be expected to complement those measures through adoption of transportation control programs.

Local land use decisions do affect air quality and decision-makers need to consider the land use/transportation/air quality link. Local agencies can be effective in their land use decisions by giving consideration to development impact with respect to mode availability, i.e., pedestrian, bicycle, automobile, and transit. Consideration of the local jobs-housing balance is also important. Other examples of local regulatory authority that can affect individual mode choice include subdivision design requirements, parking requirements, and property development standards.

The relationship of individual activities to pollution has long been understood, but the control of individual actions has not been viewed as the most effective approach to air pollution control. Implementation of transportation control measures, however, addresses the issue of what is generally referred to as "basic life style" changes. Public reaction to these measures will be closely monitored and careful consideration must be given to how new programs will affect individuals in their choice of transportation modes.

Demand for transportation services is affected by a variety of factors:

- Per capita vehicle ownership and use (both increasing at higher rates than population);
- Regional center and facility siting decisions;
- Residential proximity to employment and commercial centers;
- Convenience and efficiency of local transportation systems, in particular those related to automobile traffic; and
- Comparative cost of each transportation alternative.

The challenge is to establish a reasonable balance between the legitimate demand for a safe and convenient transportation system with individual access to a broad range of services and equally legitimate environmental and conservation concerns. Implied is a heightened awareness of the impacts of growth and development on local conditions. The relationship of land use patterns to regional scale traffic flow must be emphasized and considered as an integral part of the process to improve air quality.

A safe and convenient transportation system must be maintained. It is important that reasonable alternatives to daily use of single-occupant vehicles be developed and made available to the public. The combination of public acceptance of the need for change and the availability of reasonable alternatives to encourage that change should lead to long-term changes in individual travel behavior.

Short-Range Strategy

The following are areas of focus with respect to the Valley's short-range strategy:

- Support maintenance of aggressive state programs to control hydrocarbon, nitrogen oxide, and carbon monoxide emissions through on-board controls;
- Support SJVAPCD activities to ensure compliance with EPA regulations for motor vehicle inspection and maintenance programs;
- Support state and federal programs to promote development of alternative fuel sources;
- Continue the cooperative effort between the eight RTPAs and the SJVAPCD in providing coordinated transportation/air quality planning;
- Continue to cooperate/consult with the SJVAPCD in its activities aimed at achieving air quality standards; and
- Achieve maximum air quality benefits from funding sources that target motor vehicle emission reductions.

Air Quality Conformity

The November 15, 1990 Federal Clean Air Act Amendments (FCAAA) placed tough new requirements on the sources and causes of air pollution in areas that fail to meet federal standards, including the San Joaquin Valley. The FCAAA require substantial reductions from all pollution sources, including the transportation sector, and establishes a conformity requirement to ensure that those reductions are achieved. Conformity has been a requirement of the 1977 Clean Air Act and was primarily a qualitative procedure. Under the FCAAA, quantification of emission sources from the transportation sector is also required.

Overall, the term "air quality conformity" refers to the process whereby transportation plans, programs and

projects are shown to conform to the requirements of the FCAA and the applicable SIP. It ensures that transportation projects contribute to improvements in air quality and not make it worse. Conformity applies to federal non-attainment areas for any air pollutant and to all RTPAs within non-attainment areas. The process is performed by designated MPOs and Caltrans on behalf of rural TPAs and some MPOs. Only the FHWA has the authority to approve conformity with EPA, CARB, Caltrans and local agencies providing comment, technical resources and assumptions. Any adverse comments (public or private) can lead to disapproval by FHWA.

Specific regulations and requirements are contained in the EPA's Transportation Conformity Rule (40 CFR Parts 51 and 93), dated August 15, 1997. The rule gives state and local jurisdictions more authority in selecting the performance measures used as tests of conformity and more discretion when a transportation plan does not conform to a SIP. For instance, the rule allows motor vehicle emissions budgets in a submitted SIP to be used to determine conformity instead of the "build/no-build" test and rural areas can choose among several conformity tests to address the time period after that covered by the SIP. In essence, EPA presented a clarified and more flexible transportation conformity rule. Conformity to a SIP means that transportation activities will not produce new air quality violations, worsen existing conditions, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS).

On March 2, 1999, the United States Court of Appeals for the District of Columbia Circuit issued a decision on EPA's 1997 conformity rule in response to the suit brought by the Environmental Defense Fund against EPA. The decision holds that projects that had been previously been found to conform and had completed the National Environmental Policy Act (NEPA) process may not be advanced in non-attainment and maintenance areas which do not have a currently conforming plan and transportation improvement program (TIP). In addition, the decision held that conformity determinations can no longer be based on submitted SIP emissions budgets, prior to a positive adequacy determination by EPA. In April 1999, the Department of Justice (DOJ), DOT and EPA decided not to appeal the Court's decision and decided to work within the ruling. FHWA and FTA, in consultation with EPA, have developed guidance to implement the Court ruling.

Conformity determinations must be performed at least every three years for TIPs and Regional Transportation Plans (RTPs), even if these plans have not been changed. For projects, conformity re-determinations must be made if none of the following has occurred within the past three years:

1. Completion of the NEPA process;
2. Start of final design;
3. Acquisition of a significant portion of right-of-way;
4. Approval of the plans, specifications, and estimates.

Projects must be found to conform before they are adopted, accepted, approved or funded. A new, revised or amended RTP or TIP must be found to conform before it is approved by the MPO or accepted by DOT, unless it merely adds or deletes exempt projects which have been consulted on as per 40 CFR, section 93.105 (c)(i)(iii). If an RTP is revised, a conformity assessment for the TIP must be performed within six months of the date of adoption. A TIP amendment requires a new conformity determination for the entire TIP before the amendment can be approved (unless the amendment only involves exempt projects or 40 CFR, section 51.430(b) is met).

Conformity of existing plans must be re-determined within 18 months of submission of a SIP revision establishing a motor vehicle emissions budget. These budgets also may not be used for 90 days or until found adequate, whichever is sooner. The conformity status of the plan and TIP will lapse and no new project-level determinations can be made if conformity is not demonstrated within 18 months (except for exempt projects).

Ozone Attainment Demonstration Plan

The San Joaquin Valley Air Basin has seen noteworthy air quality improvements over the past decade. However, despite a 45 percent reduction since 1989 in the number of days the Valley's air exceeded health-based levels for ground-level ozone, also known as smog, the region still does not have attained standards established by the federal EPA. The Valley's long, hot summers; stagnant weather conditions; frequent inversions; and bowl shaped topography characterized by surrounding mountain ranges create the perfect conditions to form and trap ground-level ozone.

The San Joaquin Valley was classified as a Serious non-attainment area for the 1-hour Ozone standard under the Clean Air Act in 1990 and was given an attainment date of November 15, 1999. When the SJVAPCD failed to attain that standard, EPA reclassified the District from Serious to Severe status effective December 10, 2001. In accordance with the Clean Air Act, a new Severe Area Ozone Attainment Demonstration Plan was required to be submitted to EPA by the end of May 2002. The plan had to include all Reasonably Available Control Measures (RACM), many of which are local measures best identified and evaluated by local jurisdictions.

The RACM process consists of local agencies developing lists of all measures that might be reasonable to implement and then involves evaluating measures to determine whether any should be committed to. In considering new measures, the RACM analysis must show that the measure:

- Is economically and technically feasible.
- Advances attainment. That is, if implemented, the measure could help achieve emissions reductions sooner.
- Have measurable emission reductions.
- Is available and within the jurisdiction's authority to implement and enforce.

Implementing agencies must either commit to implement the measures or provide reasoned justification for not implementing RACM. The commitments are critical to the success of the plan in demonstrating that RACM are being considered properly and implemented where appropriate. Once the commitments are included in the air quality plan, they become legal, binding commitments to implement measures. Failure to implement a committed measure may result in a lawsuit. Each jurisdiction decides that a new measure is not feasible for implementation. If a jurisdiction decides that a new measure is not feasible for implementation or an existing measure is not feasible for strengthening, the jurisdiction needs to justify why the measure is not feasible by citing technological and economic infeasibility. These reasons are important and may be subject to a legal challenge.

Unfortunately under the Severe Area Plan, improvements have not come quickly enough to meet clean air deadlines. The SJVAPCD and local jurisdictions responsible for emissions sources in the Valley were unable to identify control measures that would achieve the necessary reductions by November 2005. With the SJVAPCD's existing and future efforts to control industrial emissions and aggressive new measures for mobile sources by state and federal agencies, only control measures eliminating 63 tons per day could be adopted and implemented by 2005. To meet the standard, the Valley must reduce the total emissions inventory by an additional 30 percent or 300 tons per day. Failure to meet the deadline could trigger Federal highway funding sanctions that could halt over \$3 billion in transportation projects valley-wide.

In December 2003, the SJVAPCD authorized a voluntary bump-up to Extreme non-attainment for Ozone. In concert with the reclassification to Extreme, the District has scheduled the adoption of an Extreme Ozone Attainment Demonstration Plan in May 2004. San Joaquin Valley RTPAs and their member jurisdictions were required to complete a RACM process for the Extreme plan. The reclassification to Extreme non-attainment would set a new attainment deadline of November 15, 2010. A new Rate of Progress Plan (ROP) is also required that demonstrates that the SJVAPCD met the additional 3% per

year reductions for the years 2006 – 2010. Moreover, the FCAAA requires Extreme-designated areas to change the major source definition from 25 tons per year of ozone precursors to 10 tons per year.

State and federal agencies have committed to controls on primarily mobile sources between 2005 and 2010 that will reduce emissions by 105 tons per day. Additionally, the expanded timeframe allows the SJVAPCD's incentive-based programs to take effect. These programs provide financial incentives for users of heavy-duty engines to implement cleaner alternatives and for Valley residents to purchase hybrid electric-gasoline automobiles, electric lawnmowers and other air-friendly consumer products that reduce ozone-forming emissions.

PM-10 Attainment Demonstration Plan

The EPA classified the San Joaquin Valley as a Moderate non-attainment area for PM-10 in 1991 under the FCAAA. The region was reclassified as a Serious non-attainment area for PM-10 in January 1993. The Clean Air Act requires that the Moderate Area Plan include Reasonably Available Control Measures (RACM) and the Serious Area Plan include Best Available Control Measures (BACM). A plan was submitted in 1997, but it did not provide for attainment. On March 15, 2002, the EPA proposed to find that the San Joaquin Valley did not attain the 24-hour and annual PM-10 NAAQS by its December 31, 2001 attainment deadline. The finding has its basis in the fact ten (10) monitoring sites exceeded the 24-hour standard for PM-10 from 1999 to 2001. The 24-hour standard is 150 micrograms per cubic meter. In addition, three monitoring sites exceeded the annual standard from 1999 to 2001, whereas the annual standard is 50 micrograms per cubic meter.

The EPA issued a "finding of failure" to attain standards in July 2002. In accordance with the Clean Air Act and the EPA finding, a new Serious PM-10 plan was required to be submitted to EPA by December 31, 2002. The plan had to provide for annual reductions in PM-10 or PM-10 precursor emissions of 5% per year until attainment of the standards could be demonstrated. Moreover, the plan had to include all BACM, which were required for the Serious Area Plan.

There were six local control measures that each jurisdiction within the San Joaquin Valley air basin had to adopt in order to be included in the Serious plan. They included: (1) paving or stabilizing roads and alleys; (2) paving, vegetating and chemically stabilizing unpaved access points onto paved roads; (3) curbing, paving or stabilizing shoulders on paved roads; (4) frequent routine sweeping or cleaning of paved roads; (5) intensive street cleaning requirements for industrial paved roads and streets providing access to industrial/construction sites; and (6) erosion clean-up. The Air District Board adopted the Draft 2003 PM-10 Plan on June 19, 2003. Adoption by the California Air Resources Board (CARB) occurred June 26, 2003.

EMFAC2002

The EPA issued a Notice of Availability on April 1, 2003 in the Federal Register announcing the official release of the EMFAC2002 Motor Vehicle Emission Factor Model for use in the State of California. The EMFAC, short of EMISSION FACTor, is a computer model developed by the California Air Resources Board (CARB) that can estimate emission rates for motor vehicles for calendar years 1970 to 2040 operating in California. EMFAC is used to calculate current and future inventories of motor vehicle emissions at the state, county, air district, air basin or air basin within the county level. In this notice, EPA approved and announced that EMFAC2002 is available for use in statewide California State Implementation Plan (SIP) development.

EMFAC2002 is used in transportation conformity for pollutants and precursors that affect transportation emissions and are identified in air quality plans as significant. The transportation conformity rule requires that analyses be based on the latest motor vehicle emissions model approved by EPA for SIP purposes. Effective July 1, 2003, EMFAC2002 became the only approved motor vehicle emissions model for new regional and hot-spot transportation conformity analyses in California. All future conformity budgets must be run through the EMFAC2002 model.

San Joaquin Valley Model Coordinating Committee

The San Joaquin Valley Model Coordinating Committee has been established by the Valley Transportation Planning Agency's Director's Association to provide a coordinated approach to valley air quality, conformity and transportation modeling issues. The committee's goal is to ensure Valley wide coordination, communication and compliance with Federal and State Clean Air Act requirements. Each of the eight Valley RTPAs and the SJVAPCD are represented. In addition, FHWA, FTA, EPA, CARB and Caltrans are all represented on the committee.

The committee's activities are coordinated through Cari Anderson Consulting, an air quality consulting firm that arranges monthly conference calls and director meetings to review conformity procedures and standards as well as the current status of attainment demonstration plans with RTPAs. All locally adopted control measures for attainment demonstration plans are coordinated by the consultant, who in turn submits the adopted measures to the SJVAPCD and CARB. In addition, the consultant represents the committee at important air quality meetings. Information about the committee's activities is made available over the Fresno COG website <http://www.fresnocog.org/>, which includes meeting agendas and minutes; locally adopted BACM and RACM plans; and a summary of current air quality issues.

Operation Clean Air

Operation Clean Air (OCA) is the collective effort of business, government, and community leaders from San Joaquin to Kern counties working to identify voluntary strategies that can clean the air of the San Joaquin Valley. OCA held an inaugural summit in Fresno on April 23, 2003 that attracted 400 participants. The mission of OCA is to create a 5-year action plan that will clean the air and increase economic prosperity in the San Joaquin Valley. Through OCA, industry and sector working groups are developing a menu of sustainable incentives to improve air quality. By uniting for this common good, the region can better equip itself to address an important issue. By striving for emission reduction goals beyond mandated regulations, there are opportunities to create business that is good for the environment and an environment that is good for business.

1.3.3 Specific Transportation Strategies and Modal Action Plans

Introduction

The specific transportation strategies used throughout the eight counties are classified under three programs: Transportation Demand Management, Transportation Control Measures, and Transportation Systems Management. Each of the eight counties is currently using a combination of the three programs to manage the vehicular flow on their streets, roads and highways.

Transportation Demand Management

Transportation Demand Management (TDM) consists of efforts to influence 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. TDM may also reduce trips by providing jobs and housing balance. TDM is specifically targeted at the work force that generates the majority of peak hour traffic. In each of the eight counties, a ridesharing outreach program is designed to educate employers and employees about the benefits of reducing trips. Some of the TDM strategies include the following techniques:

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

By educating people, TDM strategies can be implemented and utilized within the circulation system. However, in order to change travel habits, employers must identify transportation alternatives and encourage employees to reduce single occupant vehicle trips.

Transportation Control Measures

Transportation Control Measures are designed to reduce vehicle miles traveled, vehicle idling, and/or traffic congestion in order to reduce motor vehicle emissions. The San Joaquin Valley is designated as a non-attainment air basin under both the Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA). Both Acts require implementation of TCMs.

The FCAA requires that regions implement all reasonably available control measures. Section 108(f) of the FCAA provides a list of TCMs that regions should consider implementing. Further, the Federal Transportation Conformity Regulation requires MPOs to have timely implementation of transportation control measures contained in applicable state implementation plans.

In addition to federal requirements, the CCAA requires the implementation of TCMs in order to reduce the rate of increase in passenger vehicle trips and miles traveled per trip. The CCAA had previously required that TCMs be implemented to achieve an average vehicle ridership of 1.5 persons per vehicle by 1999 during commute periods and required regions to show that there is no net increase in vehicle emissions after 1997. These requirements were rescinded in 1996.

On a regional level, the SJVAPCD has committed to implementing TCMs in the proposed 2006 - 2010 Rate of Progress Plan for Ozone, the proposed 2004 Ozone Attainment Demonstration Plan, and the 2003 PM10 Attainment Demonstration Plan.

The San Joaquin Valley developed a plan in 1994 entitled, "The Transportation Control Measure Program" which serves as a long-range plan to reduce emissions of carbon monoxide and ozone precursors through TCM implementation. This plan evaluated a diverse range of programs and recommended the following TCMs for implementation in the San Joaquin Valley area:

- Rideshare programs
- Park-and-ride lots
- Telecommunications
- Alternate work schedules
- Bicycle Facilities
- Public Transit
- Traffic Flow Improvements
- Passenger Rail and Support Facilities

Although all of these TCMs provide opportunity for emissions reductions, only Rideshare programs, Bicycle Facilities, Public Transit, and Traffic Flow Improvements have been included in the approved ozone SIP. TCMs included in the SIP are discussed in the conformity documentation of each agency, which must demonstrate timely implementation of TCMs in approved SIPs. TCMs will continue to play a role in the Valley's air quality efforts. This is in part due to the fact that the San Joaquin Valley Air Basin is being reclassified from severe to extreme non-attainment air quality status for ozone. In response, the Valley transportation planning agencies and the SJVAPCD are working together on a new State Implementation Plan to address the Clean Air Act's extreme area requirements. This new extreme area State Implementation Plan will include the evaluation of existing TCMs for potential improvements and also, determine whether new TCMs will need to be implemented to meet the requirements of the Clean Air Act.

Congestion Management System

With the passage of ISTEA, all urban areas in the nation are required to have a Congestion Management System (CMS). This continues to be a requirement under TEA-21. The federal CMS requirements are similar to the optional California requirements; in fact, the CMS was largely modeled after the California program. Both programs are structured around the identification and monitoring of a system, the

establishment of performance standards, and the identification and correction of congestion problems.

The Final Rule for the Federal Management and Monitoring Systems defines an effective CMS as a systematic process for managing congestion that provides information on: 1) transportation system performance, and 2) alternative strategies for alleviating congestion and enhancing the mobility of persons and good to levels that meet state and local needs. This process includes the following six elements:

- 1) Methods to monitor and evaluate the performance of the multimodal transportation system, identify the causes of congestion, identify and evaluate alternative actions, provide information supporting the implementation of actions, and evaluate the efficiency and effectiveness of implemented actions;
- 2) A definition of parameters for measuring the extent of congestion and for supporting the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies;
- 3) The establishment of a program for data collection and system performance monitoring to define the extent and duration of congestion, to help determine the causes of congestion, and to evaluate the efficiency and effectiveness of implemented actions;
- 4) Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies, such as: transportation demand management measures, traffic operational improvements, Intelligent Transportation Systems technologies, and system capacity;
- 5) Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy proposed for implementation; and,
- 6) Implementation of a process for periodic assessment of the efficiency and effectiveness of implemented strategies, in terms of the area's established performance measures.

Transportation Systems Management

Transportation Systems Management (TSM) is designed to identify short term, low cost capital improvements that improve the operational efficiency of the existing transportation infrastructure. An effective TSM program using the appropriate techniques can improve circulation and reduce automobile emissions throughout a region. TSMs are an important tool endorsed by the SJVAPCD and State to obtain air quality standards and congestion management levels-of-service. Furthermore, TSM strategies are used in coordination with TDMs and TCMs to improve our local and regional environment. Some of the TSM strategies include the following Traffic Flow Improvements:

- Traffic signal synchronization
- Traffic engineering improvements (geometric)
- Channelization
- One-way streets
- Turning and bus pocket bays
- Bus Terminals
- Removal of on street parking

- Limit arterial street access
- Street and highway widening
- Bicycle facilities
- Pedestrian malls

Applicable Regions

In the Central Valley, TSM strategies are currently in practice in all eight counties. The cities that experience severe traffic congestion during peak hours will benefit most from implementing TSMs.

Strategies

Transportation System Management (TSM) strategies are most effective in densely populated communities rather than on a regional Valleywide scale. However, implementing some of the applicable TSMs on a regional basis will require a cooperative effort among the eight counties. There are TSM alternatives available for reducing traffic congestion regionally in the Central Valley (i.e. coordinate traffic signals). TSMs have several advantages that influence the environment and circulation system. By using TSM improvements, the circulation system becomes efficient and environmentally sensitive toward air quality. According to the Air Resource Board, vehicles that travel at a constant speed below 55 mph have fewer toxic emissions than vehicles that must stop, idle, and then accelerate at each traffic signal. The optimal speed for NO_x is between 20-35 mph and for reactive organic gases (ROG) is between 30-50 mph. TSMs are an effective and inexpensive option compared to building new facilities. Many TSM techniques are available for cities to study and implement into their circulation system. The Central Valley will continue to support and communicate interregionally on programs that help improve air quality and congestion to satisfy the SJVAPCD and state standards.

1.4 Action Elements

1.4.1 Highway, Streets, and Roads

Introduction

The eight counties that comprise the San Joaquin Valley have extensively planned systems of streets and roads. Each of these single county systems is designed to meet the demands for three types of travel: local, regional, and interregional. This section of the San Joaquin Valley Regional Transportation Plan focuses on the interregional components of each system. However, it is important to note that an effective interregional road system depends on sufficient regional and local facilities to provide access to interregional facilities and to provide capacity for local trips.

Existing Interregional Facilities

For several years, neighboring transportation planning agencies, Caltrans, and the Federal Highway Administration have coordinated single county, local and regional components of the street and road system in the Valley to ensure that the needs of interregional travelers have been met. In some cases, neighboring agencies have entered into more formal agreements to address multi-county problems.

Intended to serve as a long-range planning tool for the state transportation system, the Interregional Road System (IRRS) was adopted by Caltrans in 1998. The IRRS was developed to provide a highway system that was sufficient to meet the demand for travel between urban areas. Exhibit 1-11 identifies the IRRS road system within the eight-county San Joaquin Valley. This could be thought of as the San Joaquin Valley Interregional Road System (SJVIRRS). The facilities that are on SJVIRRS, including the portions through urbanized areas, are those that are most important to Valleywide travel. By including the

urbanized portions of IRRS routes in the conceptual SJVIRRS, the system meets the need for connectivity of roads between metropolitan areas and rural areas.

The San Joaquin Valley component of the IRRS provides access to ports, airports, intermodal transportation facilities, major freight distribution routes, national parks, recreation areas, monuments and historic sites and military installations. Moreover, extensions of Interstate 5, north and south of the Valley, provide access to border crossings into Canada and Mexico.

Caltrans is responsible for developing the Interregional Strategic Plan (ITSP) that identifies the priorities for Interregional Improvement Program funds allocated through the State Transportation Improvement Program. This Plan is updated on a regular basis and includes specified projects in the San Joaquin Valley. Regional agencies are given an opportunity to participate in the development of the Plan.

With respect to the movement of people and goods in the eight-county region, Interstate 5 and State Route 99 provide the most significant capacity. Many state routes provide major connections between Interstate 5 and State Route 99 as shown in Exhibit 1-11.

Interregional Issues

Each of the eight, county Regional Transportation Plans address significant issues (either explicitly or implicitly) in transportation planning today. While several of these issues are local or regional in focus, three issues are significant on a Valleywide basis.

1. The aging highway network

The average design life of a State Highway facility is 20 years. However, most of the facilities on the San Joaquin Valley Interregional Road System were originally constructed prior to 1970. Many do not meet today's design standards, particularly within urban areas. Others, such as Interstate 5, are declining in condition.

Pursuant to Senate Bill 45 (SB 45), Caltrans has maintenance and operational responsibility for the State Highway System via the State Highway Operation and Protection Program (SHOPP). Regardless of how the improvements are funded, it is clear that preservation of interregional roads is vital to the economic interests of the Valley.

In May 1999, Senate Resolution 8 was enacted by the Legislature that required the California Transportation Commission (CTC) to prepare a report documenting transportation infrastructure needs throughout the State. The report summarizes the needs of counties in the San Joaquin Valley, highlighting the need for additional street and road maintenance and capital improvement funding.

Exhibit 1-11 Interregional Road System



2. *Population growth and the implications for transportation*

Each of the eight Valley counties has experienced higher-than-average rates of population growth during the 1990s. Projections by the Department of Finance and local transportation planning agencies anticipate above-average population increases in the Valley for many years to come.

This growth (past and projected) has a significant implication for interregional transportation facilities. While travel demand has risen in proportion to the increase in population, the state's investment in the highway system has not kept pace.

3. *Increased levels of truck traffic*

The California economy is largely based upon the efficient movement of goods, including the movement of raw materials to manufacturing and processing plants, as well as the movement of finished products to market. While goods are moved through a variety of modes (including rail, air, and pipeline), most are moved by trucks over roadways. The large-scale abandonment of railroads since 1980 and the expansion of the highway system since World War II have combined to cause a major shift in freight movement from rail to trucks.

The increase in freight movement over State highways is now growing faster than increases in capacity. Moreover, the fastest growing segment of the truck traffic are trucks with five or more axles; the State of California is under pressure to allow "triples" (trucks with three trailers) on selected state highways. With the introduction of Canadian and Mexican heavy trucks, the traffic congestion will be compounded.

Truck traffic has three significant effects on highway transportation. First, high truck volumes affect pavement life and cost of rehabilitating highway facilities. Second, the high volume of truck traffic on San Joaquin Valley roadways has increased the demand for additional roadway capacity. Third, facilities that attract large numbers of trucks are often located in or adjacent to areas with high levels of passenger vehicles and non-motorized traffic. Under these conditions, the potential for conflicts and accidents may increase. Additional comments on this issue are provided in the Goods Movement section of this chapter.

4. *Lack of adequate and stable State highway financing.*

It is imperative that the State pursues a stable and consistent source of funding for the transportation infrastructure needs. The voters, in 2003, enacted Proposition 42 that set aside transportation funds for transportation expenditures. In 2003, Governor Davis elected to override Prop. 42 and Governor Schwarzenegger is expected to do the same in 2004 to help backfill the \$15 billion dollar state deficit. In conjunction with Proposition 42, the California Transportation Plan underscores that need by stating that "methods of financing the transportation system will be evaluated and recommended to achieve adequate funding levels and equity in the distribution of transportation costs and benefits." Due to the state's stalled economy, limited funds are available for transportation improvements, bringing a close to the large budget surpluses that have made specialized funding, such as the Traffic Congestion Relief Program, available for transportation infrastructure improvements in the San Joaquin Valley.

The Traffic Congestion Relief Act (AB 2928) provided some additional funding for capital improvements in the San Joaquin Valley region prior to the suspension. Of the \$5.3 billion made available throughout the State, however, about \$502 million was allocated to the San Joaquin Valley. Although the Traffic Congestion Relief Act was not fully funded, it did not represent a fair share allocation of funding as defined under the current formulas for the State Transportation Improvement Program. Also, the state of California has continued to borrow funds from the State Highway Account to support the General fund. The result has been a lack of any STIP funding for almost two years. The repayment of the loans in the next few years is necessary if programmed projects are not to be delayed further. This infusion of the repayment of loans is one of the needs if the counties within San Joaquin Valley can move forward with planned projects.

Current State highway financing is a mix of State and federal dollars, augmented by a wide variety of local funds such as transportation sales taxes and development impact fees for some counties. Federal financing is uncertain at this time because of the reauthorization of TEA-21. California, historically a donor state, is fighting for fair-share allocations of the transportation bill. An extension was approved at the end of February 2004, for two months. Although the US Senate and Congress have each established new Transportation authorization packages, there is a large difference in total amount between each. Either a further extension will occur or a compromise will be reached between the House and Senate. The most likely scenario is an extension of the TEA-21 bill for five months with little change and a review of the bill in September 2004. This provision of funding from a new reauthorization combined with the repayment of State loans would combine to lower the amounts of capital and maintenance backlog.

As the State's success in the area of alternative fuels grows, traditional transportation improvements revenue sources, such as the State and federal gasoline taxes, will grow at a much slower, and perhaps even a declining, rate. In light of the higher-than-average growth in population and vehicles miles of travel projected in the San Joaquin Valley, these revenue trends are particularly alarming. Other, more significant funding sources will have to be identified, if the Valley is to adequately address its transportation needs.

5. State Route 99

State Route 99 is a major component of the California State Highway system, stretching nearly 500 miles from Red Bluff to past Bakersfield, generally parallel to Interstate 5. However, unlike Interstate 5, State Route 99 connects each of the major urbanized areas in the San Joaquin Valley, including Bakersfield, Visalia, Fresno, Modesto, Merced, and Stockton. State Route 99 attracts high volumes of inter-city commercial truck traffic serving the Valley's economic activities. Truck traffic on State Route 99 ranges from 18% to 37% of total volume.

The majority of State Route 99 is currently a four-lane facility, but it is planned to be developed as a six-lane facility over a 15 year period. Numerous segments of State Route 99 are classified as an expressway-class facility with at-grade intersections at rural arterials. The ultimate build-out for SR 99 is planned as a eight-lane facility. Safety and deterioration of the facility are issues of common concern to the Valley transportation planning agencies.

Highway Improvements

Each county RTP includes a funding-constrained action plan. These action plans have been prepared through extensive local and regional planning processes to best address regional needs with projected resources. This section intentionally does not address specific projects or interregional priorities. To the extent necessary, future transportation plans for the San Joaquin Valley will address project-specific actions and interregional priorities.

In the interim, county transportation planning agencies in the Valley are encouraged to consider the objectives, goals, and policies identified in the Policy Element of this chapter and the significant issues identified in this section when establishing regional priorities.

Relationship to Caltrans Systems Planning Process

Caltrans has been actively involved in the development of this section. Each District's System Management Plan has been reviewed and considered in the development of this section.

Intelligent Transportation Systems

Background

Intelligent Transportation Systems represent a means of applying new technological breakthroughs in detection, communications, computing and control technologies to improve the safety and performance of

the surface transportation system. This can be done by using the technologies to manage the transportation system to respond to changing operating conditions, congestion or accidents. ITS technology can be applied to arterials, freeways, transit, trucks and private vehicles. ITS includes Advanced Traffic Management Systems (ATMS), Advanced Traveler Information Systems (ATIS), Advanced Public Transportation Systems (APTS), Advanced Vehicle Control Systems (AVCS) and Commercial Vehicle Operations (CVO).

Today, applications of ITS technologies allow the monitoring of traffic conditions and the dynamic adjustment of traffic signals to reduce unnecessary delay, the automated collection of transit fares and advanced detection and television cameras to detect, assess and respond to traffic accidents and incidents. In the future, ITS technologies will automate transit fare collection and parking payments, use vehicle location systems to track trains and buses to give users “real time” arrival and departure information, as well as use onboard systems to detect and avoid collisions.

Within the San Joaquin Valley, utilizing a federal planning grant, the eight counties have formed an ITS committee focused on solving transportation problems within the region. The ITS vision for the San Joaquin Valley Strategic Deployment Plan is to enhance the quality of life, mobility, and the environment through coordination, communication, and integration of ITS technology into the Valley’s transportation systems. The ITS plan for this corridor includes major local elements developed by the eight counties. The plan coordinates architecture, standards and institutional issues and also provides the framework for deploying an integrated ITS.

The overall strategy for the deployment of ITS includes a number of components and user services:

- Completion of advanced traffic management of the region’s freeways and certain arterial corridors, through traffic operations centers, signal synchronization, visual detection and deployment of incident management systems.
- Advanced Traveler Information Systems will provide real-time information to system users on traffic conditions, incidents, accidents, events, weather and alternative routes and modes.
- Advanced Public Transportation Systems will provide some of the technology to implement improved dispatching of transit vehicles and will enable vastly improved demand-responsive transit services.
- Improved Commercial Vehicle Operations will take place by deploying technologies that track vehicles through the Valley, providing them with improved traveler information and safety warnings.

General Opportunities

- Geographically expand the Yosemite Area Traveler Information (YATI) system and either develop additional systems for other major recreation areas, or combine with YATI.
- Build upon the existing extensive Caltrans District 6 and District 10 Traffic Management Systems to fill gaps and complete coverage on major facilities, including expansion of their highway closures and restrictions database to include other agencies.
- Capitalize upon the extensive ITS technology testing and standards development conducted by Caltrans by, where appropriate, utilizing Caltrans approaches for local traffic management systems.
- Build upon lessons learned from past and current transit ITS deployment experience (Fresno Area Express, Golden Empire Transit District, San Joaquin Regional Transit).

- Build upon Caltrans District 6 and District 10 experience with co-location and coordination between traffic management and Highway Patrol staff.
- Build upon the momentum and stakeholder coalition generated through the San Joaquin Valley Goods Movement Study to pursue ITS commercial vehicle projects.
- Traveler information for commercial vehicle operators at truck rest stop locations. As new laws require longer off-duty periods, demand for rest areas and for access to services will increase.
- Investigate how ITS can support other efforts to improve east-west travel between the travel and the coast.
- Improve the visibility of and access to existing Caltrans Valleywide alternate route plans.
- Utilize momentum from the Valleywide ITS planning effort in conjunction with proposed federal rules (ITS architecture and standards conformity and statewide and metropolitan planning).

Fresno County Opportunities

- Maintain momentum generated by recent ITS strategic deployment planning process, taking advantage of the level of awareness and precedent for joint action established through the previous planning effort.
- Continue efforts to improve coordination between the Caltrans District 6 and Fresno metro area traffic management centers, taking advantage of the current District 6 and Fresno fiber optic implementation projects. Utilize the Fresno-District 6 coordination efforts as a demonstration of the benefits of improved coordination between Caltrans and local traffic management centers.
- Encourage other local entities (in addition to City of Fresno) to investigate opportunities to coordinate with Caltrans District 6 fiber optic system with City of Clovis and County of Fresno.
- Support and expand upon the projects identified in the Fresno County ITS Strategic Deployment Plan that are intended to develop a regional transportation user information system (project 4.1), connections to a Valleywide or statewide information system (project 4.2), and development of common or standard electronic maps to support applications such as automatic vehicle location.

Kern County Opportunities

- Coordinate Bakersfield area TMC with Caltrans' District 6 TMC via satellite.
- Look for ways to integrate the ITS capabilities being implemented at Golden Empire Transit (GET) with the developing Bakersfield traffic management system, including sharing of information between the two centers during emergencies.
- Facilitate the transfer of lessons learned from the Golden Empire Transit (GET) ITS deployment, now beginning, to other area transit operators, and look for opportunities for those agencies to better coordinate with GET using GET's new ITS capabilities.
- Expand upon the accident-reduction successes of the Route 46 Safety Coalition Program and the South Kern Corridor Safety Program.

Kings County Opportunities

- Provide improved safety and mobility along east-west highways such as SR-198 using CMS and

other ITS applications.

- Build on City of Hanford's traffic management capabilities, including coordination with Caltrans.
- Continue to develop the AVL system for Kings Area Rural Transit (KART).
- Improve safety at rural railroad crossings using ITS applications.
- Provide commercial vehicles with improved information in the I-5 corridor related to routes, facilities and parking within the County.
- Enhance the safety and capacity of Highway 43 as an alternate route to SR-99/I-5 using ITS applications.

Madera County Opportunities

- Evaluate surveillance and automated red-light running at high accident locations in Madera
- Enhancements to emergency vehicle dispatching systems for rural areas, including improved evacuation plans for Yosemite Park that build on the additional roadway connections that are being constructed (i.e., elimination of "dead ends").
- Traveler information and/or other ITS applications that would support needed park and ride lots along Highway 99.
- Develop traveler information strategies to support the relocated Amtrak station.
- Investigate options for utilizing ITS in support of upcoming restructuring/optimization of rural demand-responsive transit service.
- Develop analysis tools for traffic accidents, such as a geographic information system, for the City of Madera.

Merced County Opportunities

- ITS traveler information and traffic management in support of the future University of California facility, red-light running enforcement and train warning and information system applications in Merced.
- Consideration of ITS traffic signal applications in support of Merced's major interchange improvements.
- Develop traveler information and other transit management strategies to improve coordination of the regional bus service ("the Bus") with the intermodal transportation center in downtown Merced.
- Investigate options for supplemental railroad crossing warning and information systems at high-volume train crossings where delays are frequent and long.
- Investigate potential ITS enhancements to the planned weigh station on SR 99 at PM 2.1.

San Joaquin County Opportunities

- Use ITS to support the coordination of local transit services with the new commuter rail service to

the Bay Area.

- Investigate methods to further improve coordination between San Joaquin Regional Transit and Stockton and/or Caltrans District 10 TMCs.
- Build upon next bus arrival signs and automated phone system traveler information strategies at San Joaquin Regional Transit, possibly to include kiosks and Internet information.

Stanislaus County Opportunities

- Expand on the City of Modesto/Ceres Traffic Management System (TMS) to develop an integrated Urban ATMS for the County.
- Improve interjurisdictional signal coordination.
- Build upon ITS transit applications in Stockton, Fresno and Bakersfield to provide Modesto Area Express (MAX) and local transit services with a means to improve operations and management.
- Improve safety and mobility on the Counties east-west rural highways including Highway 132 between the I-5 and SR-99 corridors using ITS applications such as Road Weather Information Systems (RWIS).
- Utilize intermodal freight facilities to provide improved information to commercial vehicles.
- Improve mobility, coordination and information between the urbanized areas of Stockton and Modesto along the SR-99 corridor.

Tulare County Opportunities

- Implement red-light running enforcement in Visalia.
- Build upon the current traffic signal system efforts to develop an urban ATMS in the areas of Visalia, Tulare and Goshen.
- Provide safe areas along rural routes to the National Parks system including improved traveler information.
- Development of an improved communication link between the Visalia/Tulare urbanized area and Caltrans – District 6 to address coordination efforts along the SR-99 and SR-198 corridors.

Short Range/Long Range Action Plan

Federal Highway Administration

- Continue to provide funding for projects that will maintain and expand interregional routes, regional routes, and local routes.

State of California - Department of Transportation and California Transportation Commission

- Continue to program projects that will enhance interregional routes and access to interregional routes.

- Maintain and preserve interregional routes and routes that provide access to interregional routes.
- Identify and implement operational improvements on interregional routes and routes that provide access to interregional routes.

Metropolitan Planning Organizations/Regional Transportation Planning Agencies

- Continue to coordinate planning of interregional transportation facilities to the extent necessary and feasible.
- Continue to support efforts by state and federal agencies to program priority projects that enhance interregional transportation.
- Support and participate with Caltrans in corridor studies on State Route 99.
- Support new funding sources to fund local street and road maintenance needs.

Local Agencies - Cities and Counties

- Continue to maintain and improve local facilities.
- Support new funding sources to fund local street and road maintenance needs.
- Participate in the planning of regional and interregional facilities.

1.4.3 RAIL

Introduction

In general, rail facilities are privately owned. Passenger service is provided by the National Rail Passenger Corporation, referred to as Amtrak. Private rail corporations, primarily the Union Pacific (UP) Railroad and the Burlington Northern Santa Fe (BNSF) Railroad provide freight service. In recent years, regional transportation planning agencies in the eight Valley counties have had an enhanced role in the planning of Interregional passenger rail service and rail freight movement.

Existing Interregional Rail Facilities

Rail facilities are located throughout the San Joaquin Valley. Many of these facilities provide for long distance movement of goods. In particular, several facilities owned by UP and BNSF stretch for significant lengths north-south through the Valley. These are connected at locations up and down the Valley by several shorter, east-west lines, owned by a number of different companies, such as the San Joaquin Valley Railroad.

Valley passenger rail service is provided by Amtrak *San Joaquins* service routed between Oakland/Sacramento, Fresno, Bakersfield and Los Angeles. The *San Joaquins* provide four daily round trips between Oakland and Bakersfield and one daily roundtrip between Stockton and Sacramento, which was added in February 1999. Connecting bus service is provided north and west of Stockton to Sacramento and destinations surrounding Sacramento, as well as the South Bay Area. Connecting Amtrak bus service is also provided south of Bakersfield to the Los Angeles area and other destinations in Southern California. The *San Joaquins* also provide connecting service to long-distance nationwide trains. The *San Joaquins* service includes stops in the Valley cities of Stockton, Modesto, Turlock/Denair, Merced, Madera, Fresno, Hanford, Corcoran, Wasco, and Bakersfield.

Interregional Issues

Passenger Rail

In 1987, members of the Caltrans San Joaquin Task Force formed a committee to take a more active role in developing suggestions for improving the Amtrak *San Joaquins* service. This committee, known as the San Joaquin Valley Rail Committee is comprised of representatives from each of the counties served by the trains, and representatives of interested counties served by the connecting bus network. The committee serves as an advisory body to Caltrans and Amtrak on issues pertaining to the *San Joaquins* service.

Recent efforts of the San Joaquin Valley Rail Committee include the adoption of a Strategic Growth Plan for the San Joaquin Corridor. This report became a significant resource to the Caltrans Rail Program in their work efforts to prepare a business plan for the *San Joaquins* intercity rail corridor.

In recent years Committee work has focused on:

1. Increasing service frequencies and improving on time performance;
2. Improving the utilization of equipment so as to get the maximum number of car miles from this expensive equipment;
3. Extending service to fill the gaps in the current route. The first priority is to extend through service with an existing train on an overnight schedule from Bakersfield to Los Angeles with connections to San Diego;
4. Continuing efforts to make incremental track and signal system upgrades to improve speed, efficiency and capacity;
5. Creating a fare structure to maximize revenue per passenger mile;
6. Restructuring on board services in order to satisfy the travel needs of passenger train travelers; and
7. Increasing the level of public awareness of the *San Joaquins* so that citizens of the communities along the route think of the *San Joaquins* as their trains and communities along the route develop a pride of ownership.

In 2000, the State of California Department of Transportation Rail Program issued its "California Passenger Rail System Five-Year Improvement Plan". This Plan is to develop and implement a statewide rail blueprint that will guide future planning and investment decisions in the near and long term.

Some highlights of the plan include:

- Reducing delays caused by congestion and decrease travel time by constructing new second main track and realigning curves in several locations;
- By 2005, implementing five daily roundtrips between Bakersfield and Oakland, two between Bakersfield and Sacramento and a new service to San Jose;
- Opening new stations in Fresno, Lodi and Martinez
- Through service between Bakersfield and Los Angeles.

High Speed Rail

In addition to state and regional planning efforts and interest in conventional inter-city passenger rail service, the State of California has made progress in establishing High-speed Rail service. To investigate whether high-speed rail might be appropriate for California, the Governor and Legislature authorized Senate Concurrent Resolution 6 (SCR 6) in 1993. SCR 6 established a nine-member Intercity High-speed Rail Commission to assess the feasibility of a high-speed rail system in California. The Commission determined that high-speed rail is technically, environmentally, and economically feasible once constructed, and would be operationally self-sufficient. The Commission recommended a statewide high-speed rail network 676 miles long. The network will link all of California's major population centers: Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, and San Diego. The Commission recommended that the service be routed through the Central Valley roughly parallel and adjacent to State Route 99. The construction of a high-speed rail system in California will be a public works program on the scale of the State Water Project or the creation of the state's freeway system.

Implementing the high-speed rail project is the responsibility of the California High-speed Rail Authority, created by Senate Bill 1420 in 1996 and signed by the Governor in September 1996. The Authority is required to direct the development and implementation of intercity high-speed rail service that is fully coordinated with other public transportation services. The Authority is required to prepare a plan for the construction and operation of a high-speed train network for the state capable of achieving speeds of at least 200 mph, and that is consistent with and continues the work of the Intercity High-Speed Rail Commission. The Authority has all the powers necessary to oversee the construction of a statewide high-speed rail network. The continuation of the Authority until December 31, 2003 was authorized in 2000 with the enactment of AB 1703 (Florez/Costa).

The California High Speed Rail Authority prepared a Business Plan in 2000 that recommended the route and alignments to be studied in the environmental clearance phase. For the San Joaquin Valley, the recommended alignment between Bakersfield and Sacramento is along the SR 99 corridor with stations at Bakersfield, Visalia, Fresno, Merced, Modesto, Stockton and Sacramento. Access to the Bay Area would be aligned from south of Merced through either the Pacheco Pass or the Altamont Pass. Access to Los Angeles is being considered on three alignments. One follows Interstate 5 over the Grapevine and the second is a line through the Antelope Valley across the Tehachapi Mountains, and the third is along the alignment of the California Aqueduct. Kern COG has supported service to the Antelope Valley along the Palmdale/Mojave alignment. The Authority has started the implementation phase of high-speed rail by beginning the environmental review process. Five "regional environmental/engineering studies" are being conducted for each segment of the recommended corridor to be completed by June 30, 2003. These studies will provide data and analyses to be used in the completion of the overall program EIR document. The Traffic Congestion Relief Act (AB 2928, 2000) appropriated \$5 million to the HSR Authority in 2000 to begin the environmental process. The Legislature and the Administration must assess the Authority's progress and determine the appropriate amount of funding for the following years.

Freight Rail

Central California is a major corridor for freight/goods movement. The highway system, and in particular State Route 99, is at times overwhelmed with truck traffic. In an effort to relieve congestion on highways, streets, and roads, several planning efforts are underway to enhance the efficient movement of freight and more efficiently use existing transportation facilities.

In 1992, Caltrans District 6 prepared a report titled *Freight Movement in the San Joaquin Valley*. The report identifies key issues relating to goods movement and concludes with several recommendations, including "...modifying truck traffic demand over state highways by encouraging alternatives to highway freight movement. A logical alternative especially to long haul freight through the San Joaquin Valley would be to take advantage of available capacity on rail mainlines."

In 2000, the counties of the San Joaquin Valley in conjunction with Caltrans, hired a consulting firm, Cambridge Systematics, to conduct the "San Joaquin Valley Goods Movement Study". Although this

study noted that trucking is the dominant mode for moving freight, rail accounts for 11% of the total tonnage and is also important for long-haul shipments of certain key commodities. Less than 25% of shippers surveyed currently use rail services and only one third of those indicated that their rail usage was likely to grow. The decline in rail shipments since 1993 may have been attributable to rail network mergers and acquisitions. Many rail shippers looked for alternative shipping options during this time and they also found it difficult to find enough boxcars to meet their needs. There were also shifts in higher value shipments to alternative modes that provide higher reliability and faster transit times than rail. Food processors in the San Joaquin Valley continue to show strong interest in rail as a preferred shipping mode, and both UP and BNSF are taking steps to maintain market share in the Valley. In the future, it is expected that rail shipment volumes in the Valley will increase, although market share may continue to decline as demand for shorter-haul service increases and the quality of rail intermodal facilities improves.

Another collaborated effort in rail planning was conducted in 1993 and 2001 by the City of Fresno, the Union Pacific Railroad, the Burlington Northern Santa Fe Railroad, Caltrans, the Council of Fresno County Governments, Madera County Transportation Commission and Fresno County. This effort was directed at estimating the cost of consolidating the Burlington Northern Santa Fe tracks into the Union Pacific corridor to eliminate freight train travel through the center of the City of Fresno.

In an effort to preserve a rail corridor that was threatened with abandonment, funding for the rehabilitation of the Union Pacific Coalinga branchline between Huron and Visalia was obtained from various sources. Rehabilitation of the tracks improved freight service operated by the San Joaquin Valley Railroad and reduced the amount of truck traffic on regional roads and state highways. Funding for the \$15 million project was provided with the Governor's Traffic Congestion Relief Program, federal Economic Development Initiative grant, Congestion Mitigation and Air Quality funds from Fresno, Kings and Tulare Counties, the cities of Huron, Lemoore and Visalia, private agencies and the San Joaquin Valley Railroad. Rehabilitation work was completed in early 2004 and passenger service along this corridor will be revisited again.

Short Range Action Plan

Federal Government

- Continue to fund Amtrak service.

State of California

- Continue financial support of Amtrak service.
- Implement the California Passenger Rail System Five-Year Improvement Plan.
- Implement the *San Joaquins Corridor FY 1998-99 Business Plan*, specifically:
 - [Open new stations in Fresno, Lodi and Martinez;
 - [Complete final engineering for the next phase of track and signal improvements;
 - [Develop a marketing/public relations program campaign for the new stations;
 - [Monitor the feeder bus network and make appropriate adjustments;
 - [More clearly define the checked baggage procedures and promote use of the service;
 - [Explore the feasibility of providing a premium service on all trains;
 - [Explore the potential for contracting out food service;

- [Work with the San Joaquin Valley Rail Committee to coordinate with local on-line cities to increase community involvement; and
- [Coordinate schedules with other Amtrak services where feasible.
- Continue cooperative planning and coordination with recommendations of the San Joaquin Valley Rail Committee.

Regional Transportation Planning Agencies

- Participate in the San Joaquin Valley Rail Committee and support the committee recommendations.
- Monitor the planning and analysis work of the California High Speed Rail Authority and participate in the planning effort to ensure that Valley interests are appropriately reflected.
- Support state and federal actions that would increase accessibility to passenger rail service. The Central Valley passenger rail system should be designed to fully integrate the larger intermodal passenger transportation network including multimodal stations that provide convenient and direct access to all appropriate state, regional, and local modes, including, where applicable, urban commuter, inter-city and high speed rail service, regional and local bus service, airport shuttle services, and other feeder serviced that provide intermodal linkage.

Long-Range Action Plan

Federal Government

- Continue to fund Amtrak service.

State of California

- Continue financial support of Amtrak service.
- Implement the recommendations of the San Joaquin Valley Rail Committee.

Regional Transportation Planning Agencies

- Participate in the San Joaquin Valley Rail Committee and support the committee recommendations.
- Support state and federal actions that would increase accessibility to Amtrak service.

1.4.4 Aviation

Introduction

Aviation facilities within the eight county San Joaquin Valley are used for the interregional movement of persons and goods. Each of the eight San Joaquin Valley counties has a system of aviation facilities designed to meet the local and regional needs of its municipalities. The eight RTPAs representing the counties participated with Caltrans in the development of the region's first Central California Aviation System Plan (CCASP). The CCASP was completed in January 1998 to include the Valley's fifty public use airports that serve the aviation needs in the Valley. Each county was responsible for preparing their CCASP document for Caltrans to use in the California Aviation System Plan (CASP). The CCASP analyzes each county's aviation system. The contents of the CCASP include an inventory of services and

operations, forecasting of future needs, financial sources and needs, and systems requirements to meet the needs of aviation over the next twenty years.

Existing Facilities

A variety of aviation facilities are available in the San Joaquin Valley. A few of these facilities serve interregional aviation needs. Local public use airports serve the county's general aviation needs. Kings County's Lemoore Naval Air Station is the only remaining military airport in the San Joaquin Valley. Castle Air Force Base in Merced and Crows Landing Naval Air Station in Stanislaus were converted to civilian use airports in 1995. There are four facilities in the Valley that provide interregional commercial aviation service: Modesto Airport, Fresno Yosemite International Airport, Meadows Field (Kern County), and Visalia Municipal Airport. Stockton Metropolitan Airport currently does not carry commercial services, however, Farmington Fresh, a local produce packaging business, has located at the airport to transport fresh produce around the world. The remaining Valley airports offer services that include chartering, agricultural spraying, fire fighting, recreational activities, and medical emergency facilities.

Interregional Issues

Interregional air service for commercial service is an important issue in the Valley. High fares and inconvenient service have made commercial aviation difficult to access for the public, and commercial air service out of the Valley is perceived as inadequate. Existing services are essential for the Valley to maintain connections with the major hub airports of San Francisco and Los Angeles. Fresno Yosemite International Airport has traditionally served as the major hub airport in the Valley, but has in the past had difficulty keeping major air carriers and jet service established. Currently service has expanded to the northwest and links to other major hubs in the west. In addition, airline deregulation had an adverse effect on aviation in the San Joaquin Valley in the late 1970s resulting in decreased service and higher fares. Despite these setbacks, aviation use is expected to grow over the next twenty-five years as the Valley's population and economy continue to expand.

Aviation Systems

State law PUC 21701 requires Caltrans to update the CASP every five years. Caltrans contracted with the ten transportation planning agencies in the Valley and the Sacramento area to develop the CCASP using a grant from the Federal Aviation Administration (FAA). These federal funds allowed Caltrans and the Valley agencies to prepare individual aviation plans to assist Caltrans in updating the CASP for the Valley region. The CCASP was completed with each RTPA developing and adopting their Aviation Plan, which includes the following elements:

- The Inventory Element contains the existing conditions and services at each airport.
- The Forecasts Element contains projections of future demand through the year 2020, in five year increments.
- The System Requirements Element includes projected aviation needs through the year 2020 in five year increments.
- The Action Element identifies strategies and projects to implement the plan.
- The Financial Element identifies local, state, and federal funding sources, and methods of allocating future funds.

Airport Land Use Commissions

Included in the individual RTPs is a status evaluation of airport land use commissions and their progress in implementing comprehensive land use plans.

Coordination

Valleywide coordination efforts have been achieved through the CCASP process with Caltrans. Components of this section are drawn from the aviation sections of each of the eight Valley RTPs, and as such are consistent with the eight RTPs. Each of the RTPs is coordinated with the appropriate airport master plans, comprehensive land use plans, regional aviation systems plans, and the California Aviation System Plan.

Short Range Action Plan

Federal Aviation Administration

- Continue to fund airport projects, including projects that enhance interregional aviation facilities.

State of California

- Complete the California Aviation System Plan.
- Continue to fund airport projects, including projects to enhance interregional aviation facilities.
- Continue to provide matching funds for federally funded airport projects.

Regional Transportation Planning Agencies

- Maintain the regional aviation system plans.
- Update Regional Transportation Plans to be consistent with the California Aviation System Plan, and regional aviation system plans, as necessary.

Local Agencies

- Continue to expand aviation facilities, as needed.
- Promote increased commercial air service to major Valley airports.

Long-Range Action Plan

Federal Aviation Administration

- Continue to fund airport projects, including projects to enhance interregional aviation facilities.

State of California

- Continue to fund airport projects, including projects to enhance interregional aviation facilities.
- Continue to provide matching funds for federally funded airport projects.

Regional Transportation Planning Agencies

- Update Regional Transportation Plans to be consistent with the California Aviation System Plan, and regional aviation system plans, as necessary.

Local Agencies

- Continue to expand aviation facilities, as needed.
- Promote increased commercial air service to major Valley airports.
- Support a Valley international airport with immigration services.

1.4.5 Goods Movement

Introduction

The movement of goods plays an important role in the overall economy of the San Joaquin Valley. As one of the prime agricultural regions in the nation, the intra-county road linkage of goods to processing plants, and the inter-county linkage of goods to other regions, manufacturers, and shipping ports is essential. Not only is the San Joaquin Valley a leading agricultural producer, it is also a prominent producer of oil and other minerals. These industries rely heavily on bulk movement by truck, rail and pipeline.

The regional highway system is a vital aspect in the movement of people and goods. The Valley's transportation system serves as an east-west and north-south connection to major markets. Commodity movement is an important economic factor to Valley prosperity. Also of great significance to the transport of goods is the Port of Stockton, located in San Joaquin County at the northern end of the San Joaquin Valley. The Port is an integral part of the state transportation system and is the third largest seaport on the west coast.

Transportation planning has traditionally emphasized the movement of people; often the importance of large trucks, rail, ship and air cargo is overlooked in the technical transportation planning process. Continuing growth in freight and goods movement traffic is beginning to cause conflicts with passenger transportation as the region is also experiencing significant population and service sector employment growth. Consideration must be given to goods movement needs and its coexistence with other modes of transportation.

Existing Facilities

Trucks

Trucking is the most commonly used mode for transporting freight. Goods movement by truck is popular because of its flexibility, timely delivery, and efficiency for haul distances of up to 600 miles. Trucking, however, can be more expensive than other modes for longer hauls because of its higher energy costs. Commodity movement by this mode is a major cause of street and highway surface failures necessitating a high level of street and highway network maintenance.

Heavy trucks contribute to the damage of roads much faster than do automobiles; however, deferred maintenance and water intrusion in the roadbed continue to be the primary causes of road damage. As a result, Valley streets and highways are subject to rapid deterioration and failure. According to the American Association of Highway Officials, a fully loaded truck (80,000 pounds) has an impact on roads equal to the passage of approximately 9,000 cars.

Trucking is the dominant mode of transporting freight, accounting for 87 percent of outbound tonnage and 81 percent of inbound tonnage (*San Joaquin Valley Goods Movement Study, September 27, 2000*). Commodity movements by truck also indicate a strong relationship with the rest of the state with shipments to/from Southern California and the Bay Area constituting the greatest percentage of total tonnage to and from the Valley (18 and 14 percent of the total, respectively). Major interregional highway corridors experience relatively high volumes of heavy (3 to 5 axle) truck traffic, usually between 16-24 percent of the annual average daily traffic (AADT). By their very size and slower speeds, trucks lead to

congestion and reduced levels-of-service on rural highways and local streets. In addition, emissions from trucks, like automobiles and railroad power units, have an adverse affect on air quality. While current legislation focuses on implementing Traffic Control Measures for passenger vehicles, TCMs do not specifically address truck usage.

Travel along the major corridors in the San Joaquin Valley is mostly in a north-south direction. The primary truck routes in the Valley are Interstate 5 and State Route 99, which together account for 24 of the 25 highest volume truck routes in the system. Many other state highways and county roads play major roles in distribution as well. As the Valley develops to support a more mobile and service-oriented population, the need for east-west travel corridors will become crucial. Special attention must be given to the regional routes to keep them in serviceable condition and to avoid major reconstruction costs.

Cooperative efforts are needed between the trucking industry, the driving public, and local officials to assess the impacts that trucks have on local streets, and to create regulatory guidelines for trucks in urban areas. Alternative transportation modes for the long haul movement of goods should be explored and supported. These include improved intermodal freight transfer facilities and access at major airports and rail terminals. As a result of surveys conducted for the *San Joaquin Valley Goods Movement Study*, several significant truck operational issues were found. These trucking issues include congestion, railroad crossings, roadway geometry, parking/rest area problems, route restrictions, and signal timing. These issues must be considered throughout the transportation planning process.

The San Joaquin Valley has both agricultural and light industrial demands for trucking. The needs of individual growers and manufacturers to get their goods to major terminals, market places, and processing centers are met by trucks. In addition, trucks are used as feeder lines to distribute goods from major rail, water, and air centers as well as shopping centers. Because many Valley agricultural products are destined for world markets, efficient freight access at California export points must be ensured.

Rail

Trains provide an economical means of transporting bulk goods. Although each engine requires large amounts of fuel, its ability to haul large amounts of cargo makes for an overall low energy requirement per unit of weight when compared to highway or air transport.

Two major rail companies, the Union Pacific and Burlington Northern Santa Fe Railroads, serve the San Joaquin Valley. UP representatives report that they operate an average of 19 trains a day through the San Joaquin Valley carrying food products, general freight, grain, and lumber (*San Joaquin Valley Goods Movement Study*). UP and CSX Transportation have teamed to offer a new service in the San Joaquin Valley for perishable goods. Express Lane offers two tiers of refrigerated service from the San Joaquin Valley to New York and Boston. The San Joaquin Valley Railroad (State Railways Inc.) operates a regional rail freight service between Tulare, Fresno, and Kings Counties on 125 miles of leased Union Pacific branch lines connecting outlying areas to mainline carriers. The Modesto and Empire Traction railroad connects with the UP in Modesto and with the BNSF in Empire. These rail systems, and a number of local spur lines, move freight through the Valley daily.

Most cargo shipped by rail are bulk items such as grains, food products, vehicles, and fuels. Rail transport provides the option of specialized rail cars such as flatbeds, refrigerated boxcars, fuel tankers, and piggy back cars. These specialized rail cars allow transport to move a large variety of goods giving rail an advantage over other modes of transportation for distances over 500 miles or more. Transport by rail is generally less expensive for long hauls than air or truck transport; however, rail is limited by speed and by the limitation of fixed rail track. An especially acute example of rail limitation is the rail route over the Tehachapi Summit in Kern County. Some of the route is single track, and although recent work on tunnels now allows for double-stacked containers to pass over the line, opposite traffic is often diverted to sidings, creating a freight bottleneck over, into, and out of the San Joaquin Valley.

Greater coordination and integration of the various modes of freight transportation have become increasingly important in recent years. Limited resources and the intense pressure on existing

transportation systems have brought broad-based support for intermodal transportation systems. In order to allow goods movement to be more efficient and maintain a reasonable highway level of service, a public/private cooperation between these modes should be encouraged.

Rail/Truck Transfer Facilities

Rail/Truck transfer facilities for bulk and semi-bulk commodities are often not considered in narrow definitions of goods movement, but are a growing means of combining the efficiencies of the two modes for movement other than trailers and containers. Transfer facilities are generally of two types:

- Simple facilities for direct transfer between freight cars and trucks by means of conveyors, hoses, etc. without immediate storage or handling; and
- More extensive facilities with the capability to store, sort, package, or otherwise process the commodity.

Rail Intermodal Facilities

Intermodal terminals are critical to the success of intermodal services. Terminals are the starting and ending points for trains, and the sites of crucial distribution between modes. Terminals also function as equipment storage, maintenance, and dispatching centers, and as focal points for the flow of information. Terminals vary widely in configuration, capacity, and operations, and only a few have been built from the ground up as intermodal facilities.

In the 1980s, railroads consolidated their intermodal service networks into fewer, larger hub terminals. Railroads saw an opportunity to consolidate facilities in mergers, and a need to consolidate enough volume in one location to justify lift machines. The recent rapid growth of intermodal traffic, the enormous influx of double-stack trains of containers, and the even more recent entry and rapid growth of rail-truck trailer initiatives all raise questions about the adequacy of intermodal terminals to handle traffic increases, and to do so efficiently.

Union Pacific Railroad has intermodal facilities in Fresno and Lathrop. Intermodal facilities for Burlington Northern Santa Fe Railroad are located in Stockton, Modesto, Fresno, and Bakersfield. Construction of the new Mariposa yard in Stockton by BNSF is one example of direct investment by the Class I carriers aimed at meeting growing demand for intermodal service. Increased intermodal service will create potential for local truck congestion problems and access to intermodal facilities could become a critical issue.

Buses

Passenger bus companies, such as Greyhound and Orange Belt Stage Lines, provide carrier service in addition to their passenger service. Because of the small amounts handled, buses are a very minor contributor to goods movement in the region.

Air Service

Air service is characterized by the fast shipment of small bulk items of high value over long distances for high cost. Goods movement by air is an emerging element of freight movement in the San Joaquin Valley. Statewide, 23 out of the 43 commercial air carrier airports account for almost 3 million tons of freight transported by air. While air freight is a specialized mode of transportation, it accounts for an estimated 60 percent of the export values in California. Air carriers depend heavily on truck transportation to deliver goods for transport. It is important, therefore, to have adequate infrastructure in place for this significant element of the State's economy. According to the Intermodal Transportation Management System GIS database, the commodities most typically shipped by air to and from the Valley include food and kindred products, machinery, and miscellaneous manufactured products. Of the numerous airports in the Valley, only Fresno Yosemite International airport reports cargo statistics to state and federal

agencies. A significant feature of air movement is its dependability and very short in-transit time. For businesses seeking to open new markets or dealing in high value items, air shipment is an important means of providing rapid access to distant manufacturing facilities, thereby eliminating large inventory requirements. In such cases, air shipment makes it possible to establish supply lines quickly and significantly lowers the cost of carrying inventory. This offsets the higher cost of the air mode.

Ports

The Port of Stockton is the only significant port facility in the San Joaquin Valley. The Stockton Deepwater Channel, with a 37-foot depth at average low tide and a 40-foot depth at average high tide, could accommodate 70 percent of the World's Bulk Fleet. Located 75 nautical miles due east of the Golden Gate Bridge, the Port of Stockton owns and operates a diversified and major transportation center that encompasses 600 acres. Port officials estimate that, on average, 150 to 200 vessels use the Port each year. Included among the commodities that the Port handles are: dry bulk commodities, neo-bulk cargo (steel coils, steel products), general cargo, and liquid bulk cargoes (fertilizers, molasses, petroleum products, etc.) The Port's Beltline Railroad accesses all Port warehouses, transit sheds, and other facilities.

The Port of Stockton is an integral part of the state transportation system, and is immediately accessible to the interstate highway system. Convenient access by surface transportation to the entire United States is provided by the two transcontinental railroads: UP and BNSF. The Port handles millions of tons of cargo that otherwise would be using the railroads or roadways; however, they continue to rely on both trucks and rail to deliver inbound cargo and distribute outbound cargo.

In 2003, Cambridge & Associates completed a planning study analyzing the growing transportation link between the San Joaquin Valley and the Port of Oakland. This "link" is growing in importance due to the substantial growth in the Valley as a regional and national distribution center for importers and exporters. This study known as the California Interregional Intermodal Shuttle Market Assessment & Public Benefit Analysis (CIRIS) study focused on examining the feasibility of running a short-haul intermodal freight rail shuttle between the Valley and the Port as one alternative to the current motor carrier drayage system. In the San Joaquin Valley, the rail shuttle would shift goods from truck to rail, which would reduce overall truck traffic volumes on key corridors resulting in reductions in congestion and emissions for the Valley. The freight rail service would also increase mobility options for shippers located in the San Joaquin Valley, and could potentially increase the capture area for the Port of Oakland. The study examines the extent of the market for a CIRIS service, as well as the extent of potential benefits to the public and identifies how public sector agencies might best be able to support such a project.

Pipelines

Various pipelines carry natural gas, crude oil and other petroleum products through the San Joaquin Valley. Storage, pumping and branch line facilities are used to distribute those products.

Pacific Gas and Electric (PG&E) is responsible for the maintenance and operation of the natural gas line, while major petroleum corporations are responsible for the crude oil pipelines throughout the region.

Hazardous Materials Movement

Because more than 50 percent of all goods transported throughout the world are to some degree hazardous, there is potential danger to human life and property. Each year, more than 4 billion tons of hazardous products and waste are transported throughout the United States. Hazardous materials can be transported by rail, small or large trucks, and possibly by air and pipeline.

At present and for the foreseeable future, large trucks transport the largest volume of hazardous material. Truck transport accounts for about half of all hazardous material shipments. The types of vehicles carrying hazardous materials on the nation's highways range from tank trucks, bulk cargo carriers, and other specially designed mobile containers, to conventional tractor trailers and flat beds that carry drums

and other small containers. Rail shipments are commonly bulk commodities, such as liquid or gaseous chemicals and fuels carried in tank cars.

Potentially adverse effects associated with the transportation of hazardous material can be partially mitigated by restricting roads available for hazardous material trucking. Under California law, transportation of hazardous waste is required to be carried out via the most direct route over interstate highways whenever possible. Exceptions to this general rule are such occasions when it is necessary to avoid highly congested areas and areas of high population density. Interstate 5 and most of State Route 99 are built to full freeway standards. Interstate 5 provides the service for north-south transporters and serves the Interregional transport needs of local and long distance hazardous waste haulers. Interstate 5 has been proposed as a route for the transportation of radioactive materials. Route 99 is the major artery connecting the north and south central San Joaquin Valley areas. Route 99 passes through the more populated areas of the San Joaquin Valley, including Stockton, Modesto, Merced, Fresno, and Bakersfield.

Kings County, located in the southern region of the San Joaquin Valley, is the site of a Class I hazardous waste facility. This facility, located in Kettleman Hills, draws trucks carrying hazardous materials from all western states. The presence of these trucks on regional routes increases the probability of dangerous spills.

Forecasts

California's seaports, airports, railroads, and highways together move about one billion tons of freight annually overseas, across the Canadian and Mexican borders, to and from other states, and within the state. This volume of freight places a high demand on the state's transportation system. Much of this freight originates from, passes through, or comes to the San Joaquin Valley by various modes.

Economic development is one of the vital interests of the San Joaquin Valley. Hundreds of small and mid-sized companies are making decisions based on their own best judgments about the extent of future goods movement. Much of this judgment is proprietary. It is expected that rail transport will continue to increase because of its availability to haul large amounts of long distance cargo at lower cost. Trucking is expected to increase because of its flexibility and timeliness. Increases in fuel costs will affect all modes of transportation.

Goods movement by bus will continue to be an alternate source for moving small goods. As the population in the Valley increases, airlines serving regional airports are expected to introduce larger aircraft thereby expanding the air service area and making goods movement by air a more viable option.

Pipelines will continue to be the most effective way of moving oil and gas through the region. Fuel and natural gas use will likely increase in the future because they are primary sources of energy.

Assumptions/Future Needs and Issues

The movement of goods by trucks is essential to the economy of the San Joaquin Valley. Trucking will continue to be the most inexpensive form of goods movement, and will continue to add highway congestion. In addition, trucks, like cars, produce an adverse effect on air quality, and the presence of trucks carrying hazardous materials increases the probability of dangerous spills. Air and rail services are under developed for the movement of goods; however, most goods will continue to be moved by trucks.

Short Range Action Plan

State of California

- Pursue additional funding for street, road, highway, air, and rail projects by working with the League of California Cities and the County Supervisors Association of California to ensure the efficient movement of goods;

- Oppose higher axle load limits for the trucking industry;
- Encourage and support strict enforcement of transportation regulations concerning the transportation of hazardous materials;
- Support and work with districts, local jurisdictions, regional agencies and the private sector to provide improved intermodal freight transfer facilities and access at major airports and rail terminals;
- Assess and incorporate, where appropriate, innovative intermodal linkage; and
- Explore all viable options to facilitate freight movement while reducing conflicts between freight and passenger traffic.

Metropolitan Planning Organizations and Regional Transportation Planning Agencies

- Support the creation of an effective Valleywide truck model to track regional commodity flows and identify critical economic trends that will drive truck flows on regionally significant truck routes;
- Identify opportunities for truck-to-rail and truck-to-intermodal mode shifts, and evaluate the contributions of different types of truck traffic on regional air quality;
- Provide heavy truck access planning guidance including a review of the current Surface Transportation Assistance Act route system, review of geometric issues and signaling for all routes identified as major local access routes, and the development of standards;
- Study parking for long distance trips including a review of available rest areas, layover lots, and truck stops to determine needs for more parking;
- Oppose higher axle load limits for the trucking industry;
- Provide technical and planning assistance to local jurisdictions for industrial and wholesale land use and transportation planning;
- Coordinate planning efforts to ensure efficient, economical and environmentally sound movement of goods;
- Support a higher safety level requirement for hazardous material transportation programs;
- Encourage the use of rail and air for the transportation of goods to reduce impacts to state and inter-county routes, and reduce air quality impacts;
- Encourage coordination and consultation between the public and private sectors to explore innovative strategies for the efficient movement of goods; and
- Support the intermodal linkage of all freight transportation.

Counties and Cities

- Continue to evaluate and designate truck routes;
- Coordinate and consult with private sector providers in order to identify obstacles to the efficient movement of goods, and develop alternative strategies;
- Seek strict enforcement of transportation regulations concerning the transport of hazardous

substances; and

- Consider locating industrial development near rail, airports, and major highways in the land use elements of local General Plans.

Industry

- Increase the use of rail and air service for the movement of goods; and
- Develop hazardous material transportation plans.

Long Range Action Plan

- Continue to follow the objectives of the short-range plan.

1.5 Financial Element

The San Joaquin Valley contains urban and rural counties, self-help and non self-help counties, passenger rail and non-passenger rail counties and two Caltrans districts. Funding for transportation projects is subject to the north-south split requirements, county share requirements and availability of development or other mitigation fees, local sales taxes, state and federal gas taxes, gasoline sales tax and bond revenues. No two counties are exactly alike. One aspect of transportation financing, however, which is common to all eight counties is that funding is not available to eliminate all long-range deficiencies. The current State of California financial crisis combined with the delayed Federal Reauthorization of the Transportation Equity Act for the 21st Century (TEA-21) threatens to impact the ability of State, Regional Transportation Planning Agencies (RTPA's), and local agencies to deliver planned and programmed transportation projects. Each county, in consultation with adjacent counties, cities, Caltrans, and the San Joaquin Valley Air Pollution Control District (SJVAPCD), must prioritize the use of available funds. The results of that process are shown in the financial elements of each of the eight regional transportation plans along with a detailed description of funds available.

TEA-21, the six-year Federal surface transportation program, expired on September 30, 2003. Congress has initiated the legislative process for reauthorization of the program, which is expected to provide transportation funding through September 2009. The Senate version of the bill, Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003 (SAFETEA) would provide \$255 billion over six years. The House version of the bill, Transportation Equity Act: A Legacy for Users (TEA LU) would provide over \$100 billion more than the Senate version at \$375 billion over six years. The House version would require a \$0.5 increase in the Federal gas tax in order to fund the program. Congress has elected to continue funding the program through continuing appropriation resolutions until the new surface transportation reauthorization is enacted. There are several issues of concern as to how reauthorization will impact California's transportation program. How will overall funding levels be affected? Will California receive its fair share under the distribution formula? How will changes to the funding programs affect flexibility? How will transit funding be affected? How will project earmarks impact California transportation programs? The uncertainty surrounding Federal reauthorization has influenced the funding projections used by the California Transportation Commission (CTC) in formulating the 2004 State Transportation Improvement Program (STIP) Fund Estimate.

In its 2003 Annual Report to the California Legislature, the CTC outlined the challenges of funding the State Transportation Improvement Program. The 2004 STIP Fund Estimate added two new years out to FY 2008-09, but provided no new project capacity. In fact, \$5.4 billion in projects were carried forward from the 2002 STIP and re-spread over the five-year program delaying projects an average of two years. In addition to project delays resulting from a lack of STIP programming capacity, the State Budget Crisis has significantly impacted CTC allocations for STIP, State Highway Operation and Protection Program (SHOPP), and Traffic Congestion Relief Program (TCRP) projects ready to go to construction. "In recent years, there have been \$5.9 billion in state transportation funding postponements, suspensions, and

borrowings, including over \$3 billion in STIP funding” (CTC 2003 Annual Report). At the end of 2003, the CTC was unable to allocate funding for over \$600 million in STIP and SHOPP projects ready for construction. The CTC estimates that by June 2004, \$1.6 billion in projects will be awaiting allocations. Another \$700 million in STIP projects have been allowed to go to construction through the local funding advancement and through state bonding against future Transportation Improvement Program funding. However, these advancements will impact the STIP in future years as the debt repayment schedule would come off the top of the program disproportionately affecting counties that were unable to participate under AB 3090 or GARVEE. In response to the inherent uncertainty surrounding transportation financing, the San Joaquin Valley RTPA's and their local agencies have implemented and plan to implement several innovative financing measures to ensure local control and timely delivery of transportation projects.

LOCAL SALES TAX MEASURES

There are currently three “self help counties” in the San Joaquin Valley: San Joaquin (sunset 2011); Madera (sunset 2005); and Fresno (sunset 2007). Combined these local sales tax measure have delivered hundreds of millions of dollars in transportation projects. Some of the “highlight” projects that involved federal, state, regional, and local partnerships include:

- The Altamont Commuter Express (ACE) provides rail service between Stockton and San Jose for over 2,000 commuters daily. This Measure “K” project leveraged millions of federal and regional dollars and established regional partnerships between San Joaquin, Alameda, and Santa Clara Counties.
- The SR41 Freeway project in Madera County leveraged \$35 million of federal, state, and regional funds with a \$6 million local Measure “A” contribution. The project provides access to Children’s Hospital Central California from the Fresno-Clovis Metropolitan Area.
- Measure “C” in Fresno County has provided approximately \$1 billion for new freeway construction on SR41, SR180, and SR168 and local rehabilitation projects over the life of the measure.

Several other San Joaquin counties have attempted to enact local sales tax measures to no avail. The State Constitutional requirement that a special sales tax receive a 2/3 vote of the electorate has proved to be a considerable obstacle to passage. In November 2004, Fresno, Madera, and Merced counties failed to extend or implement new measure programs. Support of legislation such as ACA 7 that would lower the voter threshold to 55% for transportation measures is critical to ensure that Valley counties have access to billions of local transportation dollars over the next 30 years through the reauthorization and implementation of new measures.

REGIONAL IMPACT FEE PROGRAM

Merced County is in the process of implementing a Regional Impact Fee Program (RIFP). The MCAG Policy Board approved the impact fee study in October 2003 and has forwarded it and a sample ordinance to its seven member agencies for their individual action. The RIFP would impose a uniform county-wide fee on new residential and commercial developments. The Merced RIFP would provide \$120 million combined with other federal, state and local funding for 15 regional projects that total \$883 million.

Fresno COG in collaboration with MCTC, Fresno and Madera counties and the cities of Chowchilla, Madera, Fresno, Clovis, Selma, Kingsburg, and Caltrans are currently participating in the Fresno-Madera County Freeway Interchange Deficiency Study which when completed will provide pertinent information for developing a regional transportation impact fee.

CONGRESSIONAL LOBBYING PROGRAM

San Joaquin COG coordinates an annual (5th) regional legislative trip to Washington D.C., known as San

Joaquin One Voice. A group of officials, business leaders, administrators and transportation planners representing San Joaquin County and its cities speak as “One Voice” to advocate for important regional projects that are not limited to transportation. The delegation meets with congressional representatives from California, key committee staffers, and administration staff present a list of projects in an effort to secure funding and legislative assistance for regional priorities. Legislative successes from previous year’s advocacy efforts include: \$2 million for the Arch/Sperry Intersection; \$3 million for the ACE Maintenance Facility; \$1.6 million for the Stockton Metropolitan Airport; \$500,000 for the Downtown Transit Center; and \$540,000 for the Lathrop Well Replacement.

Fresno COG leads an annual (2nd) delegation of elected officials, public administrators and community stakeholders on a week long visit to Washington D.C. to meet with local Congressional representatives and staff from various federal departments. The goal of the effort – termed “One Voice” – is to seek federal and state funding for projects that were selected to best represent their regional goal and theme, which is *“Improved Air Quality – Transportation Mobility – Prosperity for Fresno County”*. The inaugural Fresno COG “One Voice” effort was considered a success as they established positive relationships with their congressional representatives and federal staff. Fresno COG was encouraged to continue their efforts and that a commitment to a long-term presence is needed to be successful. In 2004, the group highlighted the need for several transportation projects including: \$2.7 million for the Transit Infrastructure Plan; \$124.1 million for SR180 Corridor Completion; \$21.8 million for the Friant Road Corridor; and \$2.5 million for a Regional Farebox and Universal Transit Pass Program.

AB 3090

Under AB 3090, a local agency may advance STIP projects with local funds in exchange for programming either for cash reimbursement or for a replacement project in a later year. The CTC approved \$386 million in STIP projects under AB 3090 in 2003 that otherwise would not have been able to advance to construction due to the State Budget Crisis.

San Joaquin COG is pursuing an AB 3090 approval of \$27 million for the SR 99 Widening Project (SR 4 to Hammer Lane). This project provides interregional connectivity for goods movement throughout California and the U.S. The San Joaquin COG Policy Board would utilize Measure “K” dollars to advance the project to construction as scheduled in Spring 2004 and avoid a possible 4-year delay.

GARVEE BONDS

Federal Grant Anticipation Revenue (GARVEE) notes are bonds secured by future Federal transportation apportionments. In 2003, the CTC approved \$632 million for eight 2002 STIP projects to advance to construction. The first GARVEE bonds were issued in February 2004.

Merced CAG is considering a request for GARVEE bonding for the SR 99 Freeway and Mission Avenue interchange project. This fully funded project has stalled due to the CTC freeze on right-of-way acquisition and the requirement to re-spread 2002 STIP projects over the programming years of the 2004 STIP. The project converts 3 miles of 4-lane expressway to a 6-lane freeway, closes at-grade crossings, provides access to an industrial area, and connects a Merced new growth area via Campus Parkway.

San Joaquin COG is considering pursuing a GARVEE bond for I-205 in the amount of \$90 million. The project would widen I-205 from 4 to 6 lanes providing increased capacity for a corridor that carries over 100,000 vehicles per day. This would allow the project to advance in 2005 instead of the current option that prevents access to STIP funding for this project until 2009. While the region would have to bear the burden of debt issuance cost as high as \$13 million, a delay of 4 years for the I-205 project would cost much more in project cost inflation, economic development, and congestion.

Exhibit 1-12

San Joaquin Valley Regional Transportation Plan Coordinating Committee

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San Joaquin Valley Air Pollution Control District

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Appendix 2 – Public Participation Process

Public involvement is integral to the regional transportation planning process. Federal regulations to implement the Transportation Equity Act for the 21st Century (TEA-21) call for comprehensive proactive public involvement procedures that respond not only to TEA-21 but to other related acts such as the Clean Air Act and the Americans with Disabilities Act. It is also called for under the California Environmental Quality Act.

In order to build public acceptance and support, Kern COG is committed to a public participation process that is open, thorough and meaningful throughout every regional transportation planning activity. Kern COG, in keeping with this commitment, adopted Public Involvement Procedures in May 2001 and an Environmental Justice Policy and Procedures document was adopted in February 2003.

Kern COG has, and will continue, to make every effort to involve Native American tribal groups and communities in the transportation planning process. Kern COG will work with the federal, state and regional governments, as well as the Native American tribal governments/groups to develop strategies that address the transportation issues of importance to Native Americans. This effort will promote direct involvement by the Native American community in transportation planning and project selection, as well as other issues that affect them.

In mid-2003, Kern COG conducted an initial series of public workshops to introduce the Destination 2030 RTP process and to gather public opinion about transportation priorities, needs and funding over the next 20-30 years. The interactive workshops were intended to determine how Kern County residents believe federal transportation dollars should be invested to best serve community needs. Questions posed to the workshop attendees included:

- How can traffic congestion be reduced?
- Are existing bus routes enough?
- Where should new freeways be located?
- What are the community's unmet transit needs?
- How should projects be funded?

The workshops included activities and exercises to promote public understanding of the transportation planning process and encouraged participation by all interested parties. Jars were labeled with various modes of transportation and other concerns (i.e., road operations and maintenance, highway construction, public transit, Amtrak/high speed rail, bike and pedestrian routes, air quality, and "other") and play money was provided (see "Fistful of Dollars" illustration) to allow participants to indicate how they would spend transportation monies.

The first series of workshops were held at the following venues:

- Buttonwillow Recreation Center
- Delano Veterans Hall
- Shafter Veterans Hall
- Frazier Park Recreation Building
- Taft Veterans Hall
- Lake Isabella Seniors Building
- Mojave Veterans Hall
- Rosamond Hummell Building
- Inyokern Senior Center
- Arvin/Lamont DiGorgio Hall
- Lost Hills Recreation Building
- Tehachapi Veterans Hall
- McFarland Community Center.

The meetings were designed to be very “user-friendly” and anyone who had an interest or concern about transportation, traffic or air quality in our communities was invited and encouraged to attend. (see display advertisements, which were run in the Bakersfield *Californian*, *El Mexicalo*, and *El Popular* as well as all of the outlying community newspapers, such as the Taft *Midway Driller*, Tehachapi *News*, Mojave *Desert News*, Ridgecrest *News Review*, and Arvin *Tiller*).

In addition to the workshops, Kern COG staff participated in numerous community fairs and festivals throughout the county during 2003 and 2004. Booth space was reserved and brochures were prepared discussing all aspects of Kern COG’s work program. Interest on the part of the community was very high and very enthusiastic.

Once a draft of the Destination 2030 Regional Transportation Plan was completed in late June 2004, Kern COG embarked on a second round of public workshops to promote the document and to generate consensus on its findings and projects.

To accomplish this, staff produced a 12-page workbook that was designed as a condensed version of the major findings in the RTP. The project lists in Tables 4.1 and 4.2 of Destination 2030 were also reproduced for the workbook so that the public could easily find projects specific to their communities.

In deciding how best to reach the public, Kern COG attempted to craft a multi-pronged outreach campaign that relied on a full-color newspaper insert in the Bakersfield *Californian*. This was followed by a series of full-page, full-color ads in several smaller papers throughout the county trumpeting the RTP’s major findings on population growth, capital improvements, air quality, road maintenance and congestion relief.

The ads set the stage for a series of 16 workshops held in each of the 11 incorporated cities as well as certain unincorporated areas. To increase the

likelihood of gathering an interested audience, staff sought out chambers of commerce, economic development committees and non-profit collaboratives to host the workshops during regular meetings of their own organizations, or in front of other groups they thought would be interested in transportation issues.

With a desire to maintain the same interactive nature of the RTP's first workshop series in the summer of 2003, Kern COG printed a group of nine to 10 maps that graphically represented each of the sections in the condensed workbook. The intent was to have audience members circulate through the maps using the workbook as a narrative to explain what they were seeing.

In addition, staff members devised a two-page survey that touched on practically every transportation mode discussed in Destination 2030. To draw out a better response, the survey relied on a series of multiple-choice questions, each one of which was followed by a request to explain the previous answer in longhand form. A second survey, addressing the quality of the workshop itself, was also included.

Each workshop was intended to begin with a short presentation about Kern COG's roles and responsibilities, followed by an explanation of the document and its purpose. Following a Q & A session, the audience would be encouraged to circulate around the maps with their workbooks and then answer the surveys before they left. Each person in attendance was given a workbook and a Kern COG pen to complete the surveys.

Although the audience was encouraged to circulate around the room to get a closer look at the maps, several of the venues were too small to allow for that. Instead, those who answered the surveys did so using only the staff presentation as their guide. This almost certainly affected the tone and content of the feedback.

In all, staff spoke to 240 people over the course of the 16 workshops, not including those who either failed or refused to sign in. Also, some of the locations were not conducive to a sign-in sheet. For example, one workshop was held during a Bakersfield Blitz arena football game that had an official attendance of about 7,500 people. However, only a handful offered to sign Kern COG's workshop sheet. Nevertheless, staff estimates about 75-100 drop-ins who spoke with us for at least a minute or two during that event.

In response to the information presented, Kern COG received 106 completed surveys addressing issues or projects in the RTP itself. Respondents were asked to reply to questions covering every mode of transportation widely available in the Kern region, as well as potential future projects like high-speed rail. Some of the notable survey findings, by category, appear below.

Streets and Roads

Survey question No. 5 asked what street/road/highway projects in the RTP are most important. All major highways in the region were mentioned at least once. There were 28 surveys with no response to this question. The top six state routes mentioned were:

1. 178 (seven votes in metro Bakersfield and five votes in Eastern Kern)
2. 119 (eight votes)
3. 58 (seven votes)
4. 46 (five votes)
5. 395 (five votes)
6. 14 (five votes)

While many of the responses mentioned only route numbers as priorities, other survey forms raised specific projects, such as removing the Highway 58 designation from Rosedale Highway in Bakersfield; West Ridgecrest Boulevard; Cecil Avenue in Delano and California City Boulevard.

Public Transportation

Kern COG asked its workshop audiences what transit system improvements they would most like to see in their communities. The survey also questioned public interest in the statewide high-speed rail project.

Breaking down the various responses into categories, there were 11 requests for new types of transit service; eight responses asking for enhancement of an existing service, such as expanding dial-a-ride service or increasing service frequency; 10 votes for system improvements such as information in Spanish or adding bus turnouts. Other comments included increasing outreach to student ridership; add a (bus) connection to Metrolink; add bus stops.

For high-speed rail, the survey questioned how important the project was to respondents. Four answers were possible. Fifteen percent of surveys did not respond to the question.

High Speed Rail

Very Important	42%
Important	21%
Somewhat Important	13%
Not Important	8%

Sixty-three percent of respondents considered high-speed rail either very important or important for Kern County. Others expressed an interest in

alternative travel methods, but had reservations to the project for fear the Kern region would become a suburb to LA and inherit a number of the L.A. basin's problems.

Bicycle and Pedestrian Facilities

Respondents were asked which pedestrian and bicycle facilities they would most like to see built in their communities. They surveys returned more than 30 different types of projects or ideas. The most popular responses included:

1. Multi-use path around Lake Isabella (22%)
2. Path between Golden Hills and Tehachapi (13%)
3. More paths/lanes in Lamont (7%)

Other priorities or projects mentioned included:

- Extend Kern River Trail (Kernville and north)
- More north/south bike paths
- Central Bakersfield — more crossings around Stockdale Highway
- More lanes and crossings (countywide)
- Path from Mountain View Middle School to Lamont city center
- Pedestrian rest stops/shades
- Smoother roads for walking
- Public restrooms
- Expand Kern River Trail west of 99, east of CALM (into foothills)
- More traffic lights
- Oak Creek Road (W. Mojave)

Freight Movement

Information on a survey question indicated that the number of goods moved throughout California is projected to double by 2020. It then asked what transportation projects should be completed to help address future freight needs, and offered four possible answers. The next question asked respondents to explain their answer. Twenty-two percent of those surveyed did not answer this question.

More reliance on rail	34%
Truck only lanes	32%
Truck toll lanes	8%
Other	4%

The majority of respondents wish to see rail lines take a greater role in moving freight. Some attribute their support to the idea of fewer trucks on the road, while

others took a more environmental perspective. Thirty-two percent believe that separating trucks onto their own lanes would help the situation.

Transportation Financing

Kern COG has estimated that it will take \$3 billion by 2030 to address the growth and maintenance needs of our transportation system. Kern COG also estimates that transportation revenues will be amount to \$1.7 billion over the same timeframe. The survey informed respondents of these points and asked how they though we should address the funding shortfall. Six possible answers were offered. Forty-two surveys had no response to this question.

1/2 cent sales tax	33%
Toll-based roads	12%
Gas tax increase	9%
Bond financing	8%
Parcel tax	5%
Do nothing	3%

This section had the most diverse answers and comments. Some strong opinions were for the ½ cent sales tax increase, citing that everyone needs to pay their fair share. One comment said instead of ½ cent, it should be 1/8-cent increase. Another comment said only Bakersfield residents should pay the tax -- that having other county residents pay for the improvements that primarily occur in the metro area was disproportionate and unfair.

The other choices with a significant percentage of votes include toll-based roads and a gas tax increase. Some of the comments that accompanied these responses included the notion that people who use the roads the most should pay more for them. In addition, these financing methods can account for through traffic in the area. Bond financing was considered a viable option, something the region has used in the past with other public infrastructure and a relatively a safe venture.



Public Workshop Notice

Kern Council of Governments

For information, call 661-326-RIDE

How should we spend our transportation tax dollars?



What roads need improvement?



Where are the worst traffic problems?

Kern Council of Governments is conducting public workshops to get **your** answers to these questions and others as part of the process to update Kern County's Regional Transportation Plan.

This is your opportunity to express your opinions about transportation needs in our community.

What: Transportation Plan Workshop

When: 6-8 p.m. Monday, July 28

Where: Frazier Parks & Recreation Center



Kern Council
of Governments

Call for other workshop locations,
or visit us at www.kerncog.org

(661) 326-RIDE

Public Workshop Notice

Kern Council of Governments

For information, call 661-326-RIDE

How should we spend our transportation tax dollars?



What roads need improvement?



Where are the worst traffic problems?

Kern Council of Governments is conducting public workshops to get **your** answers to these questions and others as part of the process to update Kern County's Regional Transportation Plan.

This is your opportunity to express your opinions about transportation needs in our community.

What: Transportation Plan Workshop

When: 6-9 p.m. Tuesday, July 27

Where: Veterans Hall, 309 California Ave.



Kern Council
of Governments

Call for other workshop locations,
or visit us at www.kerncog.org

(661) 326-RIDE

Aviso de Taller de Trabajo Publico

El Consejo de Gobiernos de Kern

Para información, llame al 661-326-7433

¿Cómo debemos de gastar el dinero de los impuestos en el transporte?



¿Que caminos necesitan mejorarse?



¿Dónde están los peores problemas de trafico?

El Consejo de Gobiernos de Kern esta dirigiendo talleres de trabajo públicos para obtener **sus** respuestas a estas preguntas y otras como parte del proceso de actualizar el Plan Regional de Transporte del Condado de Kern.

Esta es su oportunidad de expresar sus opiniones acerca de las necesidades de transporte de nuestra comunidad.

Qué: transporte propósito taller

Cuándo: 6:00 a 8:00 p.m.

lunes, 25 de agosto

Adonde: DiGiorgio Hall in Arvin



**Kern Council
of Governments**

Llámenos para mas localidades de
talleres o visítenos en www.kerncog.org

(661) 326-7433

Regional Transportation Plan Checklist

(To be completed electronically Microsoft Word format by the MPO/RTPA and submitted along with draft RTP to the Calif. Department of Transportation)

Name of MPO/RTPA: Kern Council of Governments

Date Draft RTP Completed: June 17, 2004

RTP Adoption Date: August 19, 2004

Environmental Document (ED) Certification Date (if applicable):
Recertified 8/19/2004

Identify where the ED is located (in the RTP, separate document, etc.):
Separate document 1998 RTP

By completing this checklist, the MPO/RTPA verifies the RTP addresses all of the following required information within the RTP.

A. Regional Transportation Plan Components

1. Explain how the RTP provides a coordinated and balanced transportation system.
Destination 2030 RTP provides Policy, Action and Finance Elements for both the Kern County region (Chapters 2, 4, and 5, respectively) and for the San Joaquin Valley (Appendix 1). Regional, state and federal issues are discussed throughout the document
2. Contains a short-term (10-year) time horizon. Table 4-1 (4-15)
3. Contains a long-term (20-year) time horizon. Table 4-1 (4-15)
4. Considers strategies to meet the seven planning factors specified in Title 23, 134(f) of the U.S. Code. **(MPOs only)** Page 1-3
5. Identify where the RTP describes how it is consistent with the Civil Rights Act as identified in Title 23, CFR § 450.316(b)(2). **(MPOs only)** Ch. 6
6. Specify where the RTP identifies actions necessary to meet the ADA as identified in Title 23, CFR § 450.316(b)(3). **(MPOs only)** Ch. 4 Public Transit Element and Ch. 6
7. Explain how the RTP considers, analyzes and reflects the following social and environmental effects. **(MPOs only)**
 - a) Housing 3-3; 4-42
 - b) Employment App. A 1-2
 - c) Community development 2-6

- d) Land Use
- e) Central city development goals

3-4; 4-41; App A
N/A

Other social and environmental effects (identify and specify page number)
Environmental Justice – Ch. 6

B. Public Involvement

1. Includes a public involvement program that meets the requirements of Title 23, CFR § 450.316(b)(1) **(MPOs only)** 1-4; App 2
2. Where there are Native American Tribal Governments within the RTP boundaries, the tribal concerns have been addressed and the Plan was developed in cooperation with the Tribal Government(s) and the Secretary of the Interior (Bureau of Indian Affairs) (Title 23, CFR § 134, 135 [e]). N/A
3. Identify where the RTP describes the public involvement efforts the MPO/RTPA used during the development of the Plan. 1-4; App 2
4. Identify where the RTP describes the private sector involvement efforts the MPO/RTPA used during the development of the Plan. Ch 6 & App. 2
5. The RTP describes the coordination efforts of MPO/RTPA with regional air quality planning authorities.
(federal nonattainment and maintenance areas only) 8-3 et seq.
6. Specify where the RTP addresses efforts concerning interagency coordination. Ch. 2 & 4; App. 1

C. Policy Element

1. Identify where the regional transportation issues are addressed in the Policy Element. 2-2 thru 2-7
2. Specify where the regional needs are identified in the Policy Element. 2-2 thru 2-7
3. Identify where the regional transportation issues are described in the RTP. Ch. 4
4. Identify where the objectives in the RTP are linked to a 10-year time frame. Ch. 4 & 5
5. Identify where the objectives in the RTP are linked to a 20-year time frame. Ch. 4 & 5

D. Action Element

1. Where are the transportation needs as discussed in the Policy Element identified in the RTP. Ch. 4
2. Specify where the RTP describes that it is consistent with the adopted regional transportation goals and policies? Ch 4 & 5
3. Identify where the RTP conforms to the projected revenues. Ch 5

- | | |
|---|---------------|
| 4. Where does the RTP identify consistency with the projected constrained financial revenues. | Ch .4 |
| 5. Includes a discussion of highways. | 4-3 et seq. |
| 6. Includes a discussion of mass transportation. | 4-35 et seq. |
| 7. Includes a discussion of the regional airport system. | 4-47 et seq. |
| 8. Includes a discussion of regional pedestrian needs. | 4-67 et seq. |
| 9. Includes a discussion of non-motorized transportation | 4-67 et seq. |
| 10. Includes a discussion of rail transportation. | 4-39 thru -46 |
| 11. Includes a discussion of maritime transportation. | N/A |
| 12. Includes a discussion of goods movement. | 4-58 et seq. |

E. Consistency Requirement

- | | |
|---|-----------|
| 1. Where does the RTP state the first four years of the fund estimate is consistent with four year STIP fund estimate adopted by the CTC. | 5-2 |
| 2. Where does the RTP state the goal, policy and objective statements is consistent with the Financial Statement. | 5-2 |
| 3. Where does the RTP state the projects included in the ITIP are consistent with those included in the RTP. | 5-2 |
| 4. Where does the RTP identify the projects included in the RTIP are consistent with the RTP. | Table 4-1 |

F. Performance Measurement

- | | |
|---|------------------|
| 1. Identify the objective criteria for measuring the performance of the transportation system located in the RTP? | 2-2; 6-5 et seq. |
|---|------------------|

G. Environmental Considerations

1. How were the environmental impact considerations of the RTP addressed **(choose A or B):**

a) It was determined through the Initial Study (IS) process the projects in the RTP will not impact the environment, therefore a Negative Declaration was prepared. _____

b) The MPO/RTPA prepared a program EIR in accordance with CEQA guidelines. _____√_____

2. Specify where the RTP identifies how it will conform to the State Implementation Plan (SIP). **(federal nonattainment and maintenance areas only)** 8-4 et seq.
3. Specify where the RTP identifies TCM's to be implemented in the region. **(federal nonattainment and maintenance areas only)** 4-75 et seq.
4. Identify where the RTP addresses efforts to coordinate with the regional Air Pollution Control District and the Calif. Air Resources Board (CARB) to ensure conformity with the SIP. **(federal nonattainment and maintenance areas only)** 8-2

I have reviewed the above information and concur that it is correct and complete .

(Must be signed by MPO/RTPA Executive Director
or designated representative)

Date

Print Name

Title

August 23, 2004

Ms. Sue Kiser
Federal Highway Administration
650 Capitol Mall Suite 4-100
Sacramento CA 95814

Re: Destination 2030 Regional Transportation Plan

Dear Ms. Kiser:

Kern Council of Governments, at a regularly scheduled meeting held on August 19, 2004, formally adopted the 2004 Air Quality Conformity Determination, the Destination 2030 Regional Transportation Plan (RTP), and the 2004 Federal Transportation Improvement Program. Enclosed for your review and approval is a copy of the RTP . Within the document is an executed copy of the authorizing resolution, Resolution No. 04-23.

Should you have any questions about this submittal, please do not hesitate to call Marilyn Beardslee at (661)861-2191 or email mbeardslee@kerncog.org.

Sincerely,

RONALD E. BRUMMETT
EXECUTIVE DIRECTOR

Enclosures

cc:
Doug Ito, ARB
Diane Eidam, CTC
Karina O'Connor, EPA
Mayela Sosa, FHWA
Sue Kiser, FHWA
Paul Page, FTA
Rachel Falsetti, Caltrans HQ
Muhaned Aljabiry, Caltrans HQ

Jenny Huntsman, Caltrans District 6
Mike Brady, Caltrans District HQ
Alan McCuen, Caltrans District 6
Tom Hallenbeck, Caltrans District 9
Tom Jordan, SJVAPCD
Tom Paxson, Kern County APCD
Executive Directors, Valley COGs
Cari Anderson, Cari Anderson Consulting

BEFORE THE KERN COUNCIL OF GOVERNMENTS
STATE OF CALIFORNIA, COUNTY OF KERN

Resolution No. 04-23

In the matter of:

ADOPTION OF THE "DESTINATION 2030" REGIONAL TRANSPORTATION PLAN

WHEREAS, the Kern Council of Governments, as the state-designated Regional Transportation Planning Agency (RTPA) and the federally-designated Metropolitan Planning Organization (MPO), is required to prepare and adopt a Regional Transportation Plan that serves as the Kern region's long-range transportation planning document; and

WHEREAS, the Federal Clean Air Act Amendments of 1990 in Section 176(c) requires that a finding be made that any project, program, or plan subject to approval by a Metropolitan Planning Organization, conforms to any plan approved or promulgated under Section 110 of the Federal Clean Air Act Amendments of 1990; and

WHEREAS, the U.S. Environmental Protection Agency and the U.S. Department of Transportation Federal Highway Administration have provided guidance to determining conformity of transportation plans, programs, and projects as provided for in Section 176(c)(3) of the Federal Clean Air Act Amendments of 1990; and

WHEREAS, the California State Implementation Plan for Air Quality has been prepared as per the requirements of Section 110 of the Federal Clean Air Act Amendments of 1990; and

WHEREAS, the development of these plans was fully supported by the Kern Council of Governments through the provision of a consistent information base to be used for all related transportation and air quality planning activities; and

WHEREAS, the documents have been circulated and reviewed by the member agencies of the Kern Council of Governments, representing their technical and management staffs, and representatives of other governmental agencies. In addition, the document has been made available for review by residents of Kern County through a duly-advertised public review period and public hearing; and

WHEREAS, the Environmental Impact Report for the 1998 Regional Transportation Plan is re-certified for the Destination 2030 Regional Transportation Plan to comply with the requirements of the California Environmental Quality Act; and

WHEREAS, the planning factors required for consideration during the planning process continue to apply to the Destination 2030 Regional Transportation Plan; and

WHEREAS, the Destination 2030 Regional Transportation Plan has been reviewed through a cooperative process between the federal government, State of California Department of Transportation, elected officials of general purpose local governments and their staff, public owners and operators of mass transportation services; and

WHEREAS, on August 19, 2004, Kern Council of Governments held a duly advertised public hearing to allow interested parties and the general public to review and comment on the Destination 2030 Regional Transportation Plan prior to adoption.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. Kern Council of Governments finds that the Destination 2030 Regional Transportation Plan meets the transportation conformity requirements of the federal Clean Air Act Amendments of 1990.
2. Kern Council of Governments finds that the Destination 2030 Regional Transportation Plan is in conformance with the California State Implementation Plan.
3. The TEA-21 planning factors were considered during the development process of the Destination 2030 Regional Transportation Plan.
4. The Environmental Impact Report for the 1998 Regional Transportation Plan is recertified for the Destination 2030 Regional transportation Plan in compliance with the California Environmental Quality Act.
5. Kern Council of Governments does hereby endorse the Destination 2030 Regional Transportation Plan.

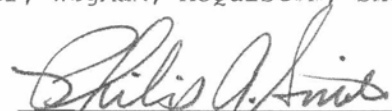
AUTHORIZED AND SIGNED THIS 19TH DAY OF AUGUST 2004

AYES: Couch, Lessenevitch, Throop, Rosson, Nelson, Hatch, Smith, Watson, McCuen, Silver

NOES: None

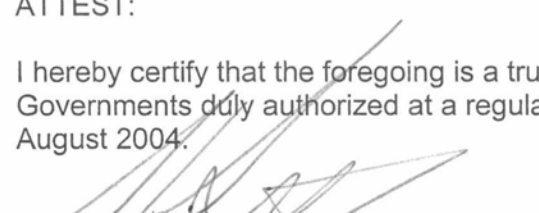
ABSTAIN: None

ABSENT: Olivares, Armendariz, Melendez, Carter, Wegman, McQuiston, Shelton


Philip A. Smith, Chair
Kern Council of Governments

ATTEST:

I hereby certify that the foregoing is a true copy of a resolution of the Kern Council of Governments duly authorized at a regularly-scheduled meeting held on the 19th day of August 2004.


Ronald E. Brummett, Executive Director
Kern Council of Governments

Date: 8/19/04