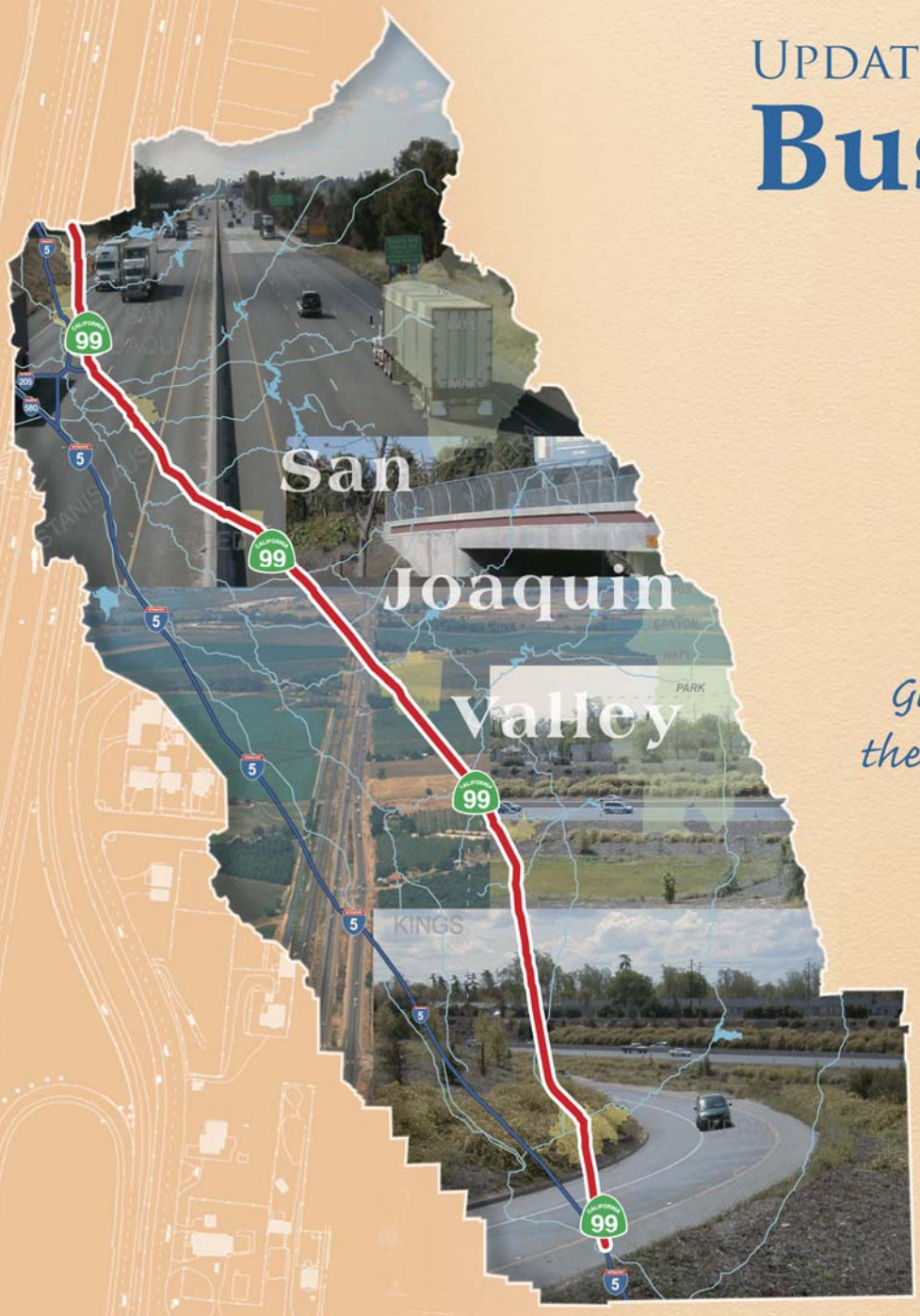

Updated Business Plan

September 2009

Volume I

"Decision - Makers Guide to Improving the Route 99 Corridor"

Council of Fresno County Governments

Madera CTC

MCAG Merced County Association of Governments

Caltrans

KernCOG

Kings County Association of Governments

StanCOG Stanislaus Council of Governments

TCAG Tulare County Association of Governments

PREPARED BY:

CALTRANS DISTRICT 6 and 10

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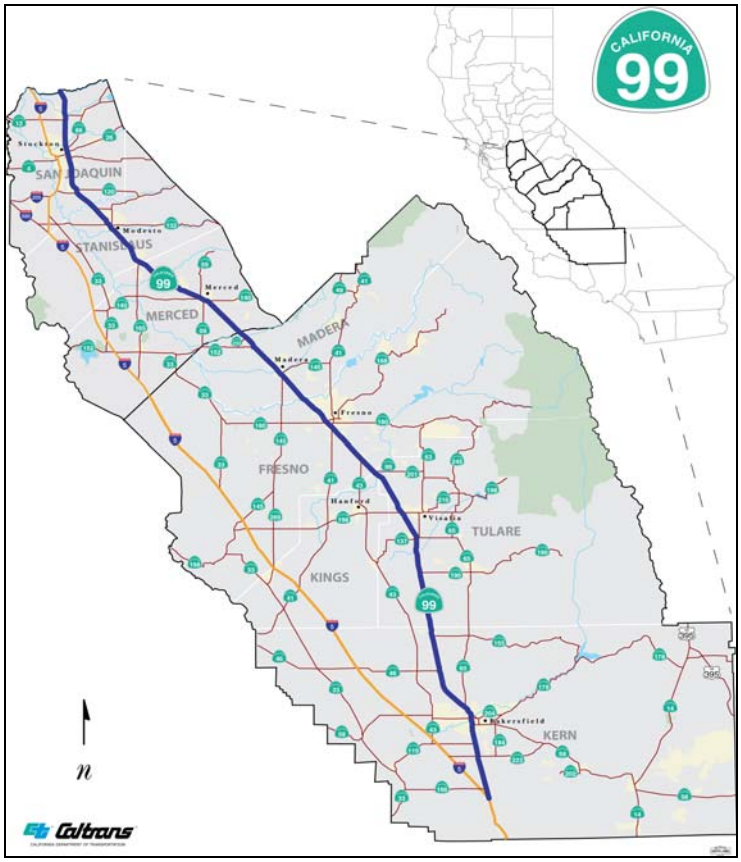
Executive Summary

Background

Highway 99 is the transportation backbone of the San Joaquin Valley. A high rate of growth in the area is quickly using and exceeding the capacity of this corridor. It is clear that to maintain the corridor's ability to support ongoing development, facilitate efficient goods movement, and improve the quality of life in this fast-growing region, a substantial investment is needed to maintain and improve the corridor.

This Business Plan is a "nuts and bolts" approach to achieving the functional goals for the corridor laid out in the Interregional Transportation Strategic Plan, the Transportation Concept Reports, and the companion *Route 99 Corridor Enhancement Master Plan Element*. By clearly identifying Caltrans' long-term goals—and a corresponding list of prioritized projects to achieve those goals—the ability to make funding decisions regarding the corridor as a whole will be much easier. This Business Plan Element was developed to provide a guide for decision makers as they address the needs of this developing corridor.



Location Map

This Business Plan update encompasses three separate Volumes as noted below.

- Volume I: Route 99 Updated Business Plan
- Volume II: Updated Route 99 Business Plan - Financial Program
- Volume III: Updated Route 99 Business Plan - Appendices A, B, C, D, E

Volume I is the primary Business Plan document with Volume II and Volume III providing essential supporting information and data.

Route 99 first became a State highway in 1909, designated as Legislative Route Number 4. It was paved in about 1913–1914 and in the 1920's was redesignated as U.S. 99 and "The Golden State Highway." Some segments of U.S. 99 were widened to 3 lanes in the 1930's and to 4 lanes during the 1930's, 40's, and 50's. Since that time, most areas have been upgraded to freeway by closing at-grade intersections, or replacing them with interchanges. The last stoplight on Route 99 in the San Joaquin Valley was eliminated by the Livingston Bypass project in 1996.

The Annual Daily Traffic (ADT) for Route 99 ranges from a current level of 38,000 vehicles near Chowchilla in Madera County to over 100,000 vehicles in Bakersfield, Fresno, Modesto, and Stockton. The projected traffic volume in 2030 is from 84,000 to 217,000 vehicles. Truck traffic accounts for anywhere from 10 percent at Ming Avenue in central Bakersfield to nearly 30 percent in north Bakersfield in Kern County. The statewide average for truck volumes is about 9 percent.

Business Plan Goals

Following is a list of the goals for this Business Plan update:

- Update 2005 Business Plan data and projects to current status.
- Establish a mutually agreed upon Corridor Financial Program for completion of Business Plan project improvements.
  a) Includes current and future funding sources
  b) Includes an updated comprehensive list of major project improvements
  c) Includes joint funding agreements
- Update, enhance and apply corridor performance measures.
- Establish mutually agreed upon Corridor System Management Plan (CSMP) policies that serve as overarching guidance that integrates sub-area CSMPs for the benefit of the corridor.
- Establish strategies that maximize the effectiveness of STIP and SHOPP type projects.
- Support and apply the adopted principles/outcomes of the Regional Blueprint as appropriate.
- Establish a corridor Right of Way preservation strategy that is universally accepted.
- Identify the economic benefit associated with an improved transportation corridor.

Route 99 Projects

Route 99 faces many challenges now, and in the years ahead. The most significant of these include: increases in ADT and truck traffic, encroaching development, and lack of adequate funding.

While the focus of the projects identified in this Business Plan is to increase capacity to meet demand or improve operations, safety is still the single most important consideration for Route 99. Caltrans has and continues to make good progress toward adding median barriers where appropriate to reduce or eliminate cross median accidents. In fact there are only six miles of warranted median barrier remaining along the entire 274 mile corridor. These and other safety projects are typically dealt with through the State Highway Operations and Protection Program (SHOPP). One of the most critical safety issues on the route, however, are at-grade intersections where traffic can enter, exit, or cross the freeway without the benefit of an interchange.

> *As a result of projects either under construction or now fully funded all existing at grade intersections will be eliminated within the next five years.*

While there are many different types of projects developed by Caltrans, MPOs, Local Tax Measure Authorities, and other local agencies for the Route 99 corridor, this Business Plan focuses on major STIP improvement projects in excess of $8 million. For the purpose of this Business Plan, these projects have been grouped into four Priority Categories. These include:

Priority Category 1—Freeway Conversion

Because all non-freeway sections either have been or will be eliminated within five years this Priority Category is now deemed complete and is only included in this Business Plan update for information purposes.

Priority Category 2—Capacity-Increasing Projects

Priority Category 2 consists of projects that will widen Route 99 to a minimum of 6 lanes throughout the corridor. Projects to widen Route 99 to 8 lanes in some urban areas, where feasible, are also included in this category. While the primary goal of these projects is to increase capacity to meet demand, there are safety benefits as well. Eliminating or reducing the incidences of stop-and-go traffic on the route will reduce the number of congestion-related accidents that currently occur.

Priority Category 3—Major Operational Improvements

This category consists of projects that will improve existing outdated interchanges and construct auxiliary lanes in urban areas. As with Priority Category 2, these projects also have a safety-related benefit.

Priority Category 4—New Interchanges

Priority Category 4 consists of projects that will construct interchanges at new locations on Route 99. The new interchanges are proposed to accommodate growth and development along Route 99.

Summary Status of Priority Categories

With the completion of all Priority Category 1 projects the focus of this Business Plan update turns to Category 2. The goal of Priority Category 2 is to increase capacity and provide a minimum 6-lane roadway. There are 22 Priority Category 2 projects that either have no funding or are partially funded. Twelve of the remaining 20 capacity-increasing candidate projects propose to convert 4-lane segments to 6 lanes. The remaining nine capacity-increasing

> *After completion of all projects constructed, under construction, and fully funded to widen to 6-lanes 175 miles or 64% or the corridor will have satisfied the 6-lane minimum goal.*

projects propose to convert existing 6-lane segments to 8 lanes. Although there is a defined goal of achieving a minimum 6-lane facility, 4- to 6-lane projects may not always take precedence over 8-lane projects because of more pressing safety or congestion issues on a 6- to 8-lane widening segment.

Projects that propose improvements to roadway operations are in Priority Category 3. There are 28 Priority Category 3 projects remaining that either have no funding or are partially funded. Priority Category 3 projects included in this Business Plan consist of major auxiliary lane projects and improvements to existing interchanges. Operational interchange projects will vary in magnitude of scope. A small-scale project might construct additional ramp lanes, signalize ramp intersections, and/or improve ramp geometry. A larger scale project might replace a structure or structures or modify the entire configuration of the interchange. The scope of these projects would be determined based on the project's stated purpose and need.

New interchange projects, typically prompted by a need to improve local road circulation and access due to ongoing local development, are in Priority Category 4. Three of the four original new interchange projects have no funding while one is fully funded.

There were 67 original projects that were prioritized into the four Priority Categories as a part of the 2005 Business Plan effort. Three of the original 67 projects have been split into two segments each so there are now 70 projects listed. As a result of the recent success to fully fund projects and delivery of projects to construction over the past three years 55 projects are either partially funded or have no committed funding. These projects are the primary focus of this Business Plan update.

The total estimated cost to complete the Business Plan, in 2009 dollars, has been reduced by 25% from $6.0 billion to $4.5 billion.

Goods Movement

Goods movement in California represents a significant factor in economic growth and job creation. Efficient goods movement in the San Joaquin Valley is essential to the viability of the nation's largest agricultural economy. Goods movement also plays a role in efforts to reduce the region's unemployment rate, one of the highest in the country.

In 2006 *Go California* specifically identified the Central Valley as one of four "Port to Border" regional corridors. Route 99 is identified as a "Major International Trade Highway Route" in the California "Goods Movement Action Plan," dated 2007. A safe and efficient Route 99 transportation corridor is vital to the economic vitality of the San Joaquin Valley. Improved transportation infrastructure will also contribute toward reduced air pollution.

The Route 99 capacity and operational improvements identified in this Business Plan are consistent with the "Goods Movement Action Plan" and represent a key contribution toward improving the efficiency of goods movement. In addition, upgrades of older Route 99 segments and interchanges are essential to meet the truck access standards of the Federal Surface Transportation Assistance Act. This is particularly important as new distribution centers and businesses locate to new or expanding areas.

Just-in-time goods delivery systems and very large regional distribution centers locating in the San Joaquin Valley provide more responsive customer service and reduced inventory storage costs to the business community. However, the result of just-in-time delivery from a roadway perspective has been higher than historical growth in truck volumes on Route 99. Truck volumes on the route vary from 10 to 30 percent, as compared to the statewide average of 9 percent. Truck vehicle miles traveled in the San Joaquin Valley region are projected to increase by 60 percent over the next 20 years. The Business Plan strategies to add capacity, improve operations, use long-life pavement where appropriate, and enlarge and add new Safety Roadside Rest Areas will all contribute to safer and more efficient goods movement.

Interstate Designation

There has been much local interest in the possible benefits of including Route 99 as a part of the Interstate system. Language included as part of the 2005 federal Transportation Act, SAFTEA-LU, designated Route as a "future Interstate route". This has set in motion activities associated with determining whether California should follow through with applying for full designation. That process is still underway.

Interstate proponents believe that inclusion of the route in the Interstate system would make the region more attractive to new or expanded businesses, resulting in more and better paying jobs for the region. Proponents also believe Interstate designation would increase funding to the route. While Interstate designation might bring additional funds to the San Joaquin Valley it would not increase the amount of federal formula transportation funding available to California.

This Business Plan does not fully analyze the implications of Interstate designation, but it does present a discussion of the potential economic benefits of an Interstate designation scenario and an economic scenario with full implementation of Business Plan improvements. Of coarse there are a number of issues associated with designation. Foremost is the potential cost of upgrading the route to Interstate standards as a condition of designation. Caltrans has estimated that bringing the route up to meet all Interstate standards would cost an additional $14 to 19 billion (2005/06 dollars) over the amount associated with the projects include in this Business Plan. However, more recent discussions with FHWA representatives and a more recent updated estimate indicates that the cost to meet "essential safety related" Interstate standards could be as low as $1 billion.

In a consultant prepared economic analysis study indicated that the full Business Plan implementation scenario would produce an average annual increase of about 27,000 jobs in the eight county San Joaquin Valley region and a 3% increase of $3.7 billion in Average Annual Gross Regional Product. The Interstate designation scenario could produce up to an additional 3,600 annual jobs and increase the Average Annual Gross Regional Product by 0.3% or about $400 million.

Funding

The most significant obstacle facing the improvement of the route is the lack of adequate funding. Neither the STIP nor the SHOPP have adequate funding to maintain and improve the route. In order to address this issue, this Business Plan update now includes a corridor "financial program" as a separate document; Volume II: Updated Route 99 Business Plan - Financial Program. The Financial Program investigates the use of road tolls and a corridor development mitigation fees and several other sources as potential new sources of funding to augment traditional STIP and SHOPP funds. The program also identifies a number of innovative funding strategies. Unfortunately, most of these innovative financing methods are methods that only advance future

revenue streams. While these strategies can advance the delivery of improvement projects, most of them do not actually generate additional revenues. All of these will be necessary to achieve the goals identified in this Business Plan.

The 2005 Business Plan laid out a 20-year program to meet the goals. The program was broken down into three phases. The phases generally coincided with the Priority Categories. Phase 1 would complete Priority Category 1, and parts of Priority Categories 2 and 3. Phase 2 would complete Priority Category 2, and Phase 3 will complete Priority Categories 3 and 4. The 20-year schedule provided five years to "ramp up" and deliver all of Priority Category 1 and some of Priority Category 2 projects. Phase 1 is considered to have been accomplished over the past three years since these projects have all been either constructed or have full funding commitments.

While it is difficult to determine how much capacity the construction and engineering industries can deliver each year and how much of the route can practically be under construction simultaneously, about $333 million appears to be a reasonable target. At $333 million in projects per year it would take about 15 years to complete Priority Categories 2, 3 and 4. The $333 million per year is in 2008/09 dollars. However, the effect of inflation must also be considered. The Business Plan assumes a five percent inflation rate. When calculated into this equation, each subsequent year demands additional funds, finally topping out at approximately $880 million in year 20.

It is estimated that, from a practical standpoint, the engineering and construction industry can deliver about $333 million/yr. We are not likely to be in jeopardy of this number since the funding stream is far below this figure.

Other 99 Issues

While the focus of the Business Plan is increased corridor capacity, there are other issues that are also discussed. These include:

- Geographic coordination of HOV lanes and ramp metering
- Long-Life Pavement strategy
- Intelligent Transportation Systems
- Landscaping and facility appearance
- Safety Roadside Rest Areas
- Land Use strategies
- Environmental strategies
- Performance monitoring

Implementation

This Business Plan proposes about a 20-year timeframe for implementing these improvements. In discussion with the MPOs, it is clear that the Region does not want to wait 20 years for implementation and there continues to be great pressure within the Region to accelerate this effort. While Caltrans continues to propose a 20-year implementation schedule in this Business Plan update, acceleration of this effort should be aggressively pursued. We have already seen some acceleration due to the influx of over $800 million for Route 99 due to the voter approved Proposition 1B in 2006. While accelerating this program may present challenges to Caltrans, Metropolitan Planning Organizations and the construction industry, Caltrans is more than willing to accept these challenges.

Implementation of this Business Plan is the key action for success. To assure a continuum to implementation a new companion document has now been added to the Business Plan as Volume II: Financial Program. The focus of the Financial Program is laying out a strategy with follow-up financial "commitments of intent" to fund projects. These represent joint financial understandings among funding decision makers.

> *A new companion document, Volume II: **Financial Program**, has been established to assure a continuum to Business Plan implementation. The focus of the Financial Program is a financial strategy with follow-up financial "commitments of intent" to fund projects.*

Another key action associated with implementation is the establishment of an annual corridor financial review and **Annual Report**. The Annual Report will present the current status of funding and delivery progress of all Business Plan projects. It also provides the opportunity for Caltrans Districts 6 and 10 and the eight San Joaquin Valley MPOs to update financial understandings to current conditions.

Recommended Financial Approach: Several project funding approaches are described in the Financial Program. It has been determined that a variation of the initially described Full Corridor Approach is the recommended financial approach. An Example is shown in Table ES.1. In essence the recommended approach establishes an ongoing dedication of IIP and RIP shares as the base funding source with balances of project funding coming from several other fund sources. Under the approach agreed upon between Caltrans and MPOs in the San Joaquin Valley 10% of each MPO RIP share, or an equivalent other fund source, for each STIP cycle will be contributed to a Route 99 Corridor Fund. This will be matched by Caltrans IIP funds. Under this scheme it will take 12 STIP cycles (24 years) to fund the projects shown in Table ES.1. However, actual project list and the decision of which projects to fund first is yet to be determined. It is expected that those decisions will be made in conjunction with the 2010 STIP programming cycle.

Table ES.1 Example of Recommended Funding Approach

Co	Limits	Proj. Desc.	Fund Sources ($1,000s)						Tot. Cost ($1,000s)
			[3]IIP	[2]MPO RIP	Co. Meas	Dev. Fees	[11]Vehicle License Fees	Other	
Ker	SR 119 to Wilson Rd.	Widen 6F to 8F	$14,500	$14,500		[4]$14,500	$14,500		$58,000
Tul	Prosperity Ave to Goshen	Widen 4F to 6F	$51,000	$51,000			$51,000	[5]$51,000	$204,000
Fre	Central Ave to Jensen Ave	Widen 6F to 8F	$11,750	$11,750		[6]$11,750	$11,750		$47,000
Mad	Ave 7 to Ave 12	Widen 4F to 6F	$13.600	$13,600		[7]$13,600	$13,600	[8]$13,600	$68,000
Mer	Hammett Ave to S. Turlock OC	Widen 4F to 6F	$20,000	$20,000		[9]$20,000	$20,000		$80,000
Sta	Carpenter Rd to SJ CL	Widen 6F to 8F	$18,250	$18,250		[6]$18,250	$18,250		$73,000
SJ	Harney Rd to Sacto CL	Widen 4F to 6F	$36,000	$36,000	[10]$36,000		$36,000	[8]$36,000	$180,000
Multi-STIP Cycle Totals			$165,100	$165,100	$36,000	$78,100	$165,100	$100,600	$710,000

Notes:

1. This project list is established jointly by Caltrans and the San Joaquin Valley MPOs. Decisions of which project(s) and how much to contribute are to be jointly determined as part of each STIP programming cycle.
2. The seven (eight?) MPOs participate in the RIP fund share by contributing 10% of its RIP (or alternate source) share allocation from each STIP programming cycle into a fund that is used to participate in the joint funding of agreed upon projects. For example, based on the RIP shares for each MPO in the 2008 STIP cycle, each share would be:

Kern:	$5.9M	Merced:	$1.1M
Tulare:	$2.2M	Stanislaus:	$2.1M
Fresno:	$4.4M	San Joaquin:	$2.7M
Madera:	$0.6M		

3. IIP funds match MPO RIP funds.
4. 25% of total cost funded by Bakersfield Metro Area Development Impact Fee Program.
5. 25% of total cost funded by Federal Transportation Act special earmark funds.
6. 25% of total cost funded by development mitigation fees.
7. 25% of total cost funded by development impact fees.
8. 20% of total cost funded by federal Transportation Act special earmark funds.
9. 20% of total cost funded by development impact fees.
10. 20% of total cost funded by County Measure Program.
11. Revenue generated by $4 Vehicle License Fee surcharge for vehicles registered within each county.

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Volume III: Updated Route 99 Business Plan - Appendices A, B, C, D, E (*Separate document*)

Chapter 1 Introduction

1.1 Overview and Mission Statement of Business Plan

Various efforts have been undertaken to develop guidance and planning documents for the improvement of the Route 99 corridor through the San Joaquin Valley. The California Department of Transportation (Caltrans) District 6 and 10, the eight Metropolitan Planning Organizations (MPOs) in the San Joaquin Valley and the Great Valley Center (GVC) have been key leaders and participants in these efforts. Caltrans completed the *Route 99 Master Plan* that includes a *Business Plan Element* and an *Enhancement Plan Element* dated December 7, 2005 for the 274-mile segment of Route 99 from its junction with Interstate 5 in Kern County, to the northern limits of San Joaquin County. This Master Plan focused on enhancing the appearance and driving experience and those major improvements necessary to improve route safety, capacity, operations, and road conditions. The original Master Plan was developed in conjunction with the GVC and the eight Metropolitan Planning Organizations in the San Joaquin Valley.

This updated Business Plan Element was written with the focus toward providing decision-makers with both a status update to the 2005 Plan and an implementation strategy to achieve the goals that remain to be addressed.

The mission of this Business Plan is to:

1) *Update goals, objectives and the Plan to current conditions.*
2) *Chart a course toward completing the implementation of project improvements not yet constructed with focus toward attainment of the main goal of a minimum six lane freeway throughout the corridor.*

This Business Plan is a "nuts and bolts" approach to achieving the functional goals laid out in the statewide Interregional Transportation System Plan (ITSP), the Route 99 Transportation Corridor Report (TCR), and the Route 99 Enhancement Master Plan Element. By clearly identifying long-term goals for the corridor—and a corresponding list of prioritized projects to achieve those goals—the ability to make funding decisions regarding the corridor as a whole will be much easier. In addition to the extensive list of prioritized projects, this document will recommend strategies that could enhance the continuity of the corridor, while reducing overall costs and time in the project development process.

The focus of this Business Plan is on major facility improvements that would typically be funded through the State Transportation Improvement Program (STIP) or similar programs. While the

Business Plan will touch on some projects that could be funded by the State Highway Operations and Protection Program (SHOPP), that is not its primary focus. In general terms, the STIP provides for capacity-increasing projects while the SHOPP is focused primarily on maintaining and operating the existing State highway system. These programs are both discussed in further detail later in this report.

While the focus of the projects identified in this Business Plan is those is to increase capacity or improve operations, safety is still the single most important consideration for Route 99. Safety projects are typically funded and delivered through the SHOPP; however, it should be recognized that capacity-increasing projects and operational improvement projects typically provide safety features as well. These features may vary from the installation of median barriers, to the closing of at-grade intersections, to the installation of signal lights at ramp intersections. In reality, some of the more serious safety issues on the route, specifically the at-grade intersections, are beyond the ability of the SHOPP to remedy and must be built as a part of the STIP.

1.2 Business Plan Goals

The overall purpose of the Business Plan is to provide local and regional transportation decision-makers, Caltrans, and Metropolitan Planning Organizations with a universally accepted guide they can use when making ongoing funding and policy decisions along the Route 99 corridor in the San Joaquin Valley.

Following is a list of the goals for this 2009 Business Plan update:

- Update 2005 Business Plan data and projects to current status.
- Establish a mutually agreed upon corridor Financial Program for completion of Business Plan project improvements.
  a) Includes current and future funding sources.
  b) Includes an updated comprehensive list of major project improvements.
  c) Includes joint financial understandings.
- Update, enhance and apply corridor performance measures.
- Establish mutually agreed upon Corridor System Management Plan (CSMP) policies that serve as overarching guidance that integrates sub-area CSMPs for the benefit of the corridor.
- Establish strategies that maximize the effectiveness of STIP and SHOPP type projects.
- Support and apply, as appropriate, the adopted principles/outcomes of the Regional Blueprint.
- Establish a corridor Right of Way preservation strategy that is universally accepted.
- Identify the economic benefit associated with an improved transportation corridor.

1.3 Challenges

Route 99 is an integral part of the State highway system and crosses many diverse areas. The effort to produce an updated Route 99 Corridor Business Plan required input and consensus between Caltrans and local partners. At a minimum, San Joaquin Valley leaders face the following challenges:

- Reaching consensus: The San Joaquin Valley is a large geographic area with eight counties, 59 cities, two Caltrans Districts and many diverse organizations. Reaching consensus among important and sometimes competing issues pose a significant challenge.
- Finding funds to the complete remaining unfunded Business Plan projects: Probably the biggest challenge, from a transportation perspective, facing the San Joaquin Valley is finding sufficient funding to complete remaining Business Plan projects. The inclusion of Volume II: Financial Program as part of this Business Plan is a major tool toward addressing this issue.
- Gaining timely resource agency approvals in advance of construction: Obtaining approval of environmental documents, as well as obtaining permits from various resource agencies, is typically the controlling operation for the first five years of a project's schedule. Because of the potential magnitude of the investment considered in this report, there may be significant opportunity to obtain early consensus from resource agencies through advance mitigation for groupings of projects. Although this potential exists, it has not yet been successfully accomplished in the State. Advance mitigation for large sections of freeway will require close cooperation with multiple federal and State agencies.

1.4 Local and Regional Cooperation

In an effort to gain the cooperation and consensus necessary to accomplish such a large task, multiple meetings have been held with Caltrans' local partners. The following is a list of the agencies and groups that have been involved in development of this plan:

- Kern Council of Governments
- Kings County Association of Governments
- Tulare County Association of Governments
- Council of Fresno County Governments
- Madera County Transportation Commission
- Merced County Association of Governments
- Stanislaus Council of Governments
- San Joaquin Council of Governments
- Great Valley Center
- Highway 99 Task Force (as part of original 2005 Business Plan)
- Caltrans, Districts 6 (Fresno) and 10 (Stockton)

Chapter 2 Existing Facility

2.1 Route 99 Background

Route 99 first became a State highway in 1909, designated as Legislative Route Number 4. It was paved in about 1913-1914 and in the 1920's was redesignated as U.S. 99 and "The Golden State Highway." Some segments of U.S. 99 were widened to 3 lanes in the 1930's. This led to head-on collisions in the middle lane, which was intended for passing and turning. U.S. 99 was gradually widened to a 4-lane expressway during the 1930's, 40's, and 50's. The widening was often done on new alignments, frequently bypassing towns. The last 3-lane section of U.S. 99 became a 4-lane expressway in May 1960.

During the 1960's, the black and white U.S. 99 shields gave way to the familiar green CA-99 signs shaped like miners' spades. Since that time, most areas have been upgraded to freeway by closing at-grade intersections, or replacing them with interchanges. The last stoplight on Route 99 in the San Joaquin Valley was eliminated by the Livingston Bypass project in 1996.
With completion of about 26 miles of projects either fully funded or currently under construction in Madera and Merced counties all of the "freeway gaps" identified in the 2005 Business Plan will have been eliminated. Therefore, by 2012, 100% of the 274 mile corridor will attain the objective of "full freeway status". Also, with these projects and others already constructed the other half of the primary corridor objective "to have a minimum of 6 lanes" will be 64% complete. Completing the remaining 36% of the corridor to 6 lanes now becomes the focus of this Business Plan update.

> *"Completing the remaining 36% of the corridor to 6 lanes now becomes the focus of this Business Plan update."*

Since the 1910's, when Route 99 was first developing as a State highway, agricultural improvements—especially irrigation—have led to significantly greater crop yields. Transporting these valued commodities to market has made Route 99 an even more vital economic link. Changes to business practices that depend upon "on-time delivery" of goods to supplant on-site storage have led to higher truck volumes on the route. Rapid population growth over several decades has also led to more traffic and a greater dependence on Route 99 as the north-south backbone of the San Joaquin Valley.

The Annual Daily Traffic (ADT) ranges from a current level of 38,000 vehicles near Chowchilla in Madera County to over 100,000 vehicles in Bakersfield, Fresno, Modesto, and Stockton. The projected traffic volume in 2030 is from 84,000 to 217.000 vehicles. Truck traffic accounts for anywhere from 10 percent at the junction of Route 58 in central Bakersfield to nearly 30 percent

in north Bakersfield in Kern County. The statewide average for truck volumes by segment is about 9 percent.

Urbanized versus Rural Areas

Urbanized areas are defined as a population of 50,000 or greater and urban areas have a population of 5,000 to 50,000 as determined by the U.S. Census Bureau. Currently, eleven urbanized areas are located along this stretch of Route 99, including: Bakersfield, Delano, Tulare, Visalia, Fresno/Clovis, Merced, Turlock, Modesto, Manteca, Stockton, and Lodi. Other cities will likely become urbanized and may be treated as urbanized rather than rural for some projects.

This is an important element to consider because different roadway standards and treatments apply to urban and rural areas. Urban areas may typically have:

- Interchanges spaced closer together.
- More lanes to handle greater traffic volume and auxiliary lanes to help local and regional traffic merge on and off the freeway.
- More enhancements, such as soundwalls, fencing, and irrigated landscaping.
- A depressed or elevated roadbed.
- More storage for storm water runoff.
- Greater emphasis on cross street sidewalks and lighting.
- Intelligent Transportation Systems such as ramp meters and changeable message signs.

As project features are considered in later sections of this Business Plan, it is important that these distinctions be kept in mind.

2.2 Physical Characteristics and Issues

2.2.1 Highway Safety

Safety is the top priority of Caltrans and local governments and has been a major focus for the corridor. An essential part of this effort has been the elimination of at grade intersections by means of constructing new interchanges and the addition of median barriers to prevent cross median accidents.

> *With the recent construction of new interchanges and the fact that all remaining non-freeway segments are fully funded the at grade cross-median intersection safety issue has been addressed.*

Caltrans has a number of criteria to determine the appropriate location and type of median barriers. The primary criteria include accident history, median width, and traffic volumes.

Because of the recent concerted effort of District 6 and 10 only 6 miles of the 274 mile corridor are now without median barriers where they are warranted.

Standard types of median barriers for new installation are concrete safety-shaped barriers and metal thrie-beam barriers. Temporary concrete barriers may be used under certain conditions.

Caltrans attempts to preserve the median oleander shrubs when barriers are installed. When this is not feasible, Caltrans provides mitigation in the form of adjacent landscaping; however, once the facility is upgraded to 6 lanes, preservation of the oleanders generally becomes impractical.

Removing or modifying fixed objects along the sides of the highway has increased safety significantly. This includes removing large metal signposts, installing lighting and signs on bases that break away when they are hit, and removing other unyielding objects or adding barriers to absorb the energy of a collision. Removing roadside objects creates a clear recovery zone, which gives drivers who run off the road an opportunity to recover. Barriers, guardrails, and yielding roadside features reduce the severity of run-off-the-road accidents.

Safety Roadside Rest Areas

Providing safety roadside rest areas for fatigued drivers is an important part of Caltrans' safety efforts. Tired drivers and unsafe roadside parking are significant problems that can be reduced with adequate rest areas that include parking areas, drinking water, toilets, tables, benches, telephones, and information boards.

Today, there are three rest areas along this segment of Route 99. The Philip S. Raine and Chester H. Warlow rest areas are in Tulare County and the Enoch Christoffersen rest area is in Stanislaus County. According to the Rest Area Program guidelines, there should be no more than 60 miles between rest areas. With the exception of the distance between the Phillip S. Raine and Chester H. Warlow rest areas, the gap is much greater than this.

Existing rest areas are also severely under capacity, especially for trucks; this means that truck drivers may keep driving or park illegally along highway ramps.

2.2.2 Highway Capacity Needs

Reduced speeds and bottlenecks along the Route 99 corridor are indications that the current capacity of Route 99 is not adequate to meet demand, especially during commute hours in urbanized areas. Some additional lanes have been added to Route 99 in recent years, but congestion persists due to increases in ADT, increases in traffic merging on and off the freeway, and a large percentage of truck traffic.

Capacity is affected by the number and width of lanes; the location, spacing, and type of interchanges; the width of shoulders; the condition of the pavement; and gaps in the freeway system. Over the next 20 years, there will be a significant need to add lanes to Route 99. However, the ability to widen the route, particularly in urbanized areas, is hampered by currently available right-of-way and ongoing encroachment into future right of way needs by adjacent development.

2.2.3 Operational and Structural Needs

Interchanges

Interchanges have a greater effect on the urban corridor than any other single feature. An interchange allows high volumes of traffic to enter and exit the highway via ramps, and provides a grade separation between the highway and cross street. Many of the interchanges on Route 99 were built in the 1950's and 60's, and were designed for significantly lower volumes than those encountered today. Inadequate geometrics, as well as limited storage and merge distance all contribute to congestion on the ramps, local roads, and the highway itself. There is a need to modify or replace these interchanges to improve the safety and operation of the route; however, even minor modifications to interchanges on Route 99 may be limited by the State right-of-way and adjacent local development.

Inadequate spacing between interchanges can also affect the flow of traffic, especially during commute hours in urbanized areas. This leads to insufficient distances for vehicles to safely and efficiently merge on and off the highway, which in turn leads to congestion and increased accidents. Where substandard spacing exists, interchange spacing should be increased or other operational features, such as auxiliary lanes, constructed to decrease the merging conflicts and improve operations. This may result in closing some interchanges.

Pavement

Much of the pavement on Route 99 is 30 to 50 years old, and has already exceeded its design life, warranting reconstruction. While the statewide average for truck traffic is about 9 percent, trucks make up as much as 25 to 30 percent of the traffic on Route 99 at several locations. This extra stress on aged pavement, along with the lack of adequate funding to reconstruct the pavement, is the single most significant factor contributing to the current poor pavement conditions. Complete pavement reconstruction is the best long-term solution; however, the length of time it takes for reconstruction, consequent traffic delays, and the high cost make this strategy problematic.

2.2.4 Highway Appearance

The somewhat negative appearance of some segments of Route 99 affects the quality of life for Valley residents and the perceptions of travelers, which can have an impact on the local economy. A visually appealing transportation corridor should either blend into or complement the

landscape. The companion document to this Business Plan Element, the *Route 99 Corridor Enhancement Master Plan Element*, describes this connection between corridor appearance and quality of life in detail, so it will not be repeated here. A few key highlights are worth noting, however.

Highway Structural Themes

Over the years, incremental improvements to Route 99 have resulted in a mix of old and modern bridges, sign panels, landscape types, fences, and lighting fixtures. The lack of unified features has left the corridor with a diminished appearance and no community identity.

Soundwalls have also been added along the corridor to reduce noise, but many of them did not have screening vegetation planted and they have become a magnet for graffiti. Others need to be repaired or replaced.

Outside of Caltrans' right-of-way, abandoned buildings, billboards, junkyards, microwave towers, and trash create unsightly views for travelers. Communities can use tools such as zoning laws and other ordinances to help clean up these eyesores. At the same time, they can preserve old structures such as water towers and barns to create a more interesting view shed.

Because Route 99 is the gateway to urbanized communities along the corridor, improving the appearance can help reinforce a community's identity and give travelers a good impression of the community, which in turn should improve local economies.

Planting Types

The roadsides along Route 99 include two types of planting—"Functional Planting" and "Highway Planting."

"Functional Planting" is used in the rural segments of Route 99 and is made up mostly of the original planting along the corridor. The original plantings were composed of eucalyptus trees to frame the highway and oleander shrubs planted in the median to block the glare of oncoming headlights. Groundcover, planted as erosion control in rural areas, is mostly non-native grasses.

In recent years, many oleander plants, which came to symbolize Route 99, have been removed due to space constraints to make way for median barriers or additional traffic lanes. Many of the eucalyptus trees were also removed for similar reasons, or due to decay or safety issues.

"Highway Planting" is used in urban and urbanized areas and goes beyond function to improve aesthetics. Highway planting includes trees, shrubs, and groundcovers watered by automatic irrigation systems. This landscaping also helps control dust, erosion, fire, and weeds. In addition,

highway planting can help delineate the route, provide headlight screening, conceal eyesores next to Route 99, or conceal the roadway from the community.

Unfortunately, both of these landscape types may suffer from a lack of adequate maintenance due to funding constraints. Further, many of the areas with "Highway Planting" are old, antiquated, and difficult to maintain. Maintenance of the roadside is discussed later in this chapter.

2.3 Truck Traffic

Route 99 is a critical artery for goods movement in the State of California and the San Joaquin Valley, and it is important for the overall economic vitality of the State. It is known as a "Priority Global Gateway" for goods movement in the Global Gateways Development Program. Accordingly, truck traffic is playing an increasingly larger role in the transportation fabric of the valley.

As previously mentioned, truck volumes on Route 99 in the San Joaquin Valley vary from a low of 10 percent to a high of 30 percent. This is compared to the statewide average of about 9 percent. Some examples of truck traffic impacts are:

- Lower capacity of the highway, contributing to congestion.
- Increased conflicts between slower-moving trucks and fast-moving cars.
- Distressed pavement conditions from the extra stress of the truck weight and numbers.
- More parking to accommodate the roadside rest requirements of trucks.
    - Interchange upgrades to accommodate modern truck access.

According to a 2001 survey called the "California Heavy Duty Truck Travel Survey," 24 percent of truck trips are regional in nature or may stay in the county area, and 76 percent of truck trips are interregional or outside the county area. While this was a statewide study, it has direct application to the Route 99 corridor.

2.4 Maintenance of Route 99

Over the last five years, maintenance costs for highway elements including roadsides, pavement, bridges, guardrail, median barrier, signs, and delineation, have increased an average of 4 percent per year, while staffing resources have been reduced by 10 percent for the same time period. Along with an increase in inventory on Route 99 and other State routes, maintaining adequate appearance and condition ratings for the roadway is becoming increasingly difficult. Routine maintenance costs by State forces and highway maintenance contracts on Route 99 are projected to be $300 million over the next 10 years. The 10-year Constrained SHOPP indicates contracts

expected to total nearly $80 million with the focus of the projects being split between rehabilitation and roadway preservation projects. This investment is expected to provide highway appearance and condition ratings similar to current conditions, which are less than Caltrans performance targets and desires of the communities.

At a time when the inventory of highway pavement and roadside landscape miles are increasing, maintenance resources are decreasing. Maintenance efforts for safety and preservation items must take priority over maintenance efforts for appearance items. Keeping up the appearance and condition of aging highways and roadside facilities are becoming more difficult.

Roadbed Maintenance

Maintaining the integrity and serviceability of the pavement on Route 99 requires a continuous effort by maintenance forces. As rigid Portland cement concrete slabs become broken from truck traffic, they are patched temporarily until a Major Maintenance or SHOPP project can be designed and contracted to replace them. As flexible asphalt concrete (AC) pavement becomes distressed and deteriorates due to traffic, age, or storm damage; pothole filling, thin overlays, and other strategies are used as interim repairs until repaving or rehabilitation projects can begin.

Bridge Structure Maintenance

Bridge maintenance crews respond to a variety of bridge damage incidents on a weekly basis. Over-height loads and accidents on the mainline cause damage, as well as accidents on the bridge decks themselves. In some extreme cases, bridges have been closed and traffic detoured for long periods because of structural damage from accidents or deterioration of reinforced steel and other structural elements. Routine maintenance on bridges includes replacement of expansion joint material, repairing rails and fences, and patching spalled concrete.

Traffic Control Elements

Traffic control elements including lighting, striping, signs, median barriers, guardrail, and fencing are maintained continuously on a routine basis and in response to incidents. Signs, light poles, and median barriers damaged by accidents are repaired as quickly as materials are available and resources allow. Maintenance of these elements requires specialized equipment and expertise.

Storm Maintenance

Route 99 storm-related maintenance activities involve drain cleaning and monitoring, patching quickly forming potholes in the distressed AC pavement sections, and grading shoulders to limit drop-offs between the pavement and the dirt shoulders. Maintenance patrol during storms is a routine practice.

Litter Collection

Roadside litter is a growing problem that significantly detracts from the appearance of the transportation facility. Caltrans uses a number of innovative programs to supplement its litter removal effort including:

- Adopt-A-Highway program, which uses volunteers to clean up litter. The program is in place along Route 99, but there are some gaps.
- Low-risk inmate and probationary crews supervised by law enforcement personnel to assist in litter and weed removal.
- California Conservation Corps crews, hired through intergovernmental contracts, to assist in litter and weed removal.

Graffiti Control

Reducing graffiti takes a quick response by maintenance staff, but in many areas, Caltrans and local agencies appear to be losing the battle. The only real solution is to provide planting in front of flat surfaces to deter graffiti.

Adopt-A-Soundwall is part of the Adopt-A-Highway program that provides volunteer labor to clean up graffiti. Currently, one soundwall in Stanislaus County has been adopted into this program.

Roadside Vegetation Management (Weed Control)

Vegetation along rural roadsides usually includes grasses and broad-leaved, non-woody plants used for erosion control following road construction. This vegetation is non-irrigated, but must be maintained to improve the appearance of the roadside, reduce fire risk, and maintain sight distances.

Caltrans primarily uses mowing and chemicals to control this vegetation. Since 1992, however, Caltrans has been reducing the use of chemicals. In 2000, a 50 percent reduction was met and by 2012, the goal is to reduce chemical use by 80 percent. Since mowing is much more labor intensive than spraying, it will become increasingly difficult to adequately control weeds in the rural areas.

Maintenance of Highway Planting

Fully planted and irrigated urban landscaping along Route 99 requires ongoing, intensive maintenance. Landscape rehabilitation projects are developed to replace dead and dying landscapes and to make aging roadsides easier to maintain. These projects, however, must compete with pavement, operations, and safety projects, and due to funding limitations are currently not being constructed.

Each Landscape Maintenance worker should not be responsible for maintaining the landscape and controlling litter, weeds, and graffiti for more than 15 to 20 acres. The statewide average responsibility, however, is about 40 acres per worker. The staffing levels for landscape workers assigned to Route 99 are at the statewide average.

Annual Maintenance Costs

Appendix E contains a projection of the 10-year maintenance costs for the Route 99 corridor in Districts 6 and 10. These costs assume a rate of inflation of 3 to 5 percent per year. The tables show maintenance costs are significantly higher on the segments of the route in the urbanized areas. This is due to a number of factors, but the most critical are additional lanes, higher traffic volumes, and more landscaped acres. The projected costs assume that the route remains in its current configuration, that no new lanes or landscaping are added. In reality, as the projects presented in this document are built, these costs will increase. While some of the maintenance categories such as "Roadbed" may actually decrease due to new and rehabilitated pavements, this will be more than offset by increases in the other categories.

2.5 Environmental Resources

The San Joaquin Valley is rich in diverse natural habitats, cultural and historical resources, and fertile farmland. Improving Route 99 must be done in a way that protects these irreplaceable resources, as well as water and air quality. Noise is another environmental concern as urban areas along this route continue to grow and more housing is built close to Route 99.

Biological Resources

The valley grasslands, oak savannas, riverbanks, and freshwater marshes that travelers enjoy along Route 99 also provide habitat for wildlife. To survive, animal species such as the San Joaquin kit fox must be able to travel between these areas to find food, escape predators, and migrate with the seasons. Because of intense development, waterways are now the primary link between habitats. Since Route 99 crosses every major river between Bakersfield and Stockton, as well as many seasonal streams, it is vital that improvements to Route 99 also maintain or re-establish these links. This can be done by restoring riparian (riverbank) vegetation, stabilizing stream banks, eliminating exotic plants, and restoring stream habitats for aquatic species and migrating birds. Wildlife crossings are another important tool for the recovery of Valley species.

Cultural Resources

Before western settlement of California, the Valley was primarily inhabited by Native Americans known as Yokuts. While agriculture and the damming of rivers have altered the landscape, archaeological remains of Yokut villages may still lie intact near Route 99.

More recently, Route 99 and the history of the San Joaquin Valley parallel the railroad tracks laid through the Valley in the 1870's. The railroad gave Valley farmers an efficient means to transport their goods to Los Angeles, San Francisco, and Sacramento. Cities such as Modesto and Fresno followed the arrival of the railroad, becoming the Valley's major population centers of the railroad era. Smaller towns also sprung up at railroad stops along the line. Today, signs of the area's history are apparent in the aging farmhouses and barns visible from Route 99. Even remnants of advertisements painted on barns during the early 1900's still exist to give us a glimpse into the past.

This historic landscape is threatened by development and advertising that may hide or even remove elements of the Valley's history. Preserving both archaeological and historic sites should be considered when planning any projects to improve Route 99.

Farmland

Fast-flowing water from the Sierra Nevada Mountains deposited mud, sand, and gravel when it reached the flatter lands of the San Joaquin Valley, providing some of the most productive soil in the world. This fertile soil, along with a long growing season and a complex irrigation system, yields a diversity of crops that include: fruits, nuts, berries, cotton, and vegetables. Cattle, poultry, and dairy products are also produced in significant quantity.

Federally funded projects affecting prime and unique farmland are generally subject to the provisions of the Farmland Protection Policy Act.

Air Quality, Water Quality, and Noise

The San Joaquin Valley Air Basin, which is approximately 250 miles long and averages 35 miles wide, is the second largest air basin in the State. It is defined by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi Mountains to the south. The bowl shape of the San Joaquin Valley contributes to its air pollution problem.

The main pollutants of concern are carbon monoxide, nitrogen dioxide, ozone, and particulate matter that are 2.5 and 10 microns in diameter PM2.5 and PM10, respectively. If a project is located in an area that has exceeded State or federal standards for these pollutants, additional air quality analysis and reduction measures for that pollutant are required. This is most frequently done for carbon monoxide and particulate matter.

Potential impacts to water quality are associated with the discharge of pollutants in storm water runoff from the highway. Pollutants commonly associated with highways are litter, heavy metals, petroleum hydrocarbons, brake materials, oil and grease, sediment, suspended solids, and pesticides and herbicides. Water Quality Assessments identify potential impacts on surface water

and groundwater resources resulting from proposed projects and describe project design, procedures, and practices that would minimize these impacts.

Potential noise impacts from transportation projects are identified during the planning and design phase. A noise impact occurs when the projected noise levels, after a project is completed, result in a substantial increase in noise level (defined as a 12-decibel or more increase) or when the projected noise level with the project approaches or exceeds the noise abatement criteria. If it is determined that the project would have noise impacts, then potential abatement measures, such as soundwalls, must be considered.

Chapter 3 Route 99 Projects

3.1 Long-Range Plans for Route 99

Route 99 has been the subject of many planning studies and documents. The most important of these completed to date include:

- The 1998 Interregional Transportation Strategic Plan
- Transportation Concept Reports for Route 99 (District 6 and District 10)
- 2005 Business Plan
- Proposition 1B Corridor System Management Plans in both District 6 and District 10.

According to the **1998 Interregional Transportation Strategic Plan (ITSP)**, the Route 99 vision for the year 2020 ranges from a 4- to 8-lane freeway. This vision applies from south of Bakersfield to the Route 99 junction with Route 70 in Sutter County. The Strategic Plan recognizes the important role of Route 99 and seeks to:

- Clear all remaining non - freeway gaps south of the Route 99/70 junction.
- Add freeway lane capacity to handle increased interregional travel demand for goods movement and major commute volumes. This represented the first coordinated multi-Caltrans District effort to work toward a 4- to 8-lane freeway for the entire length.

The **Transportation Concept Reports** for Route 99 in both Districts 6 and 10 support the ITSP objectives. The Transportation Concept Reports are long-range documents that establish a planning concept for the Route 99 corridor through the year 2030. They define the appropriate level of service (LOS) target, as well as facility roadway types needed to accomplish this target (i.e., 6- to 8-lane freeway).

In addition, there are proposed improvements to an 8-lane freeway in the urbanized areas of Bakersfield, Fresno, Modesto, and Stockton. The estimated cost to accomplish the 2030 Concept Facility throughout the corridor is about $6 billion in 2005 dollars.

The 2005 Route 99 Business Plan provided the first comprehensive corridor management document with consensus agreement between all eight MPOs and Caltrans Districts 6 and 10. It laid out all project improvements necessary to attain the primary corridor objective of a minimum 6-lane freeway for the entire corridor in the San Joaquin Valley. Project improvements were grouped into four priority categories in readiness for future funding. That future funding came shortly thereafter in 2006 with the voter approved $19.9 billion Proposition 1B.

The best example of the value of the 2005 Business Plan is the fact that Route 99 received a direct allocation of $1 billion from Proposition 1B

Another useful planning document, **Corridor System Management Plan (CSMP)**, was created as part of California Transportation Commission requirements placed as a pre-requisite for use of Proposition IB funds. To assure that transportation benefits resulting from the investment of Proposition 1B funds are not lost over time a CSMP is required that covers both the Proposition 1B funded project segment and related adjoining segments. These CSMPs provide one unified concept for managing, operating, improving, and preserving this sub-corridor. They integrate all modes, management strategies, and improvements in concert with adjoining jurisdictions.

3.2 Projected Operations on Route 99

The Transportation Concept Reports described in the previous section indicate the appropriate level of service (LOS) target or Concept LOS, and roadway types for the route. LOS describes operating conditions on a roadway. Like a report card, the LOS is defined in categories ranging from A-F, with A representing the best traffic flow and F representing the worst congestion. As a general rule, the Concept LOS for Route 99 is D in urban areas and C in rural areas. LOS C or D are the targets because they provide the highest traffic throughout with the least traveler disruption.

Figure 3.1 shows the current (2007) LOS along the Route 99 corridor, which ranges from LOS B to LOS F. Current Annual Daily Traffic (ADT) volumes range from 38,000 to over 100,000, but are projected to be 84,000 to over 217,000 by 2030. Without any project improvements, the LOS would deteriorate to predominately LOS E or F by the year 2030. With the project improvements described in this Business Plan, which largely comprise the 2030 Concept Facility, some segments in the urbanized areas along the route will still be at LOS E or F, but most segments will be at LOS D or better. LOS F in the urbanized areas will typically result in speeds of 25 miles per hour or less during commute periods. Please refer to Figure 3.2 for the 2030 Concept Facility. Those segments where we cannot attain LOS better than E or F with highway improvements will have to depend upon other mode or parallel corridor enhancements to improve mainline LOS. The role of Corridor System Management Plans, previously mentioned, will be to help address these other opportunities.

Additional information for each project is listed in Appendix B of *Volume III: Updated Route 99 Business Plan - Appendices A, B, C, D, E*. Within Appendix B, Figures B.1 and B.2,

provides performance measure data for the Route 99 projects. This includes data on 5-axle trucks, peak hour and ADT volumes, level of service, and more.

Figure 3.1 Current Route 99 Levels of Service

Figure 3.2 2030 Concept Facility

3.3 Regional Project Priority Categories

Priority categories were established as part of the 2005 Business Plan. These priority categories are continued as part of this Business Plan update with the exception of Priority Category 1 as noted below. These priority categories were established to allow a general measure of importance of specific types of project improvements as a beginning point for funding decisions.

> *The fact that a project is listed in a lower Priority Category than another project, such as priority 3 versus priority 2, does not exclude it from funding consideration since there may be other benefits that are appropriate to take into account.*

3.3.1 Priority Category 1—Freeway Conversion

Since the 2005 Business Plan was published Priority Category 1 is considered complete and closed because all listed projects have either been constructed or are fully funded and will be in construction by the year 2012.

This category consists of those projects necessary to convert Route 99 expressway sections to a full 6-lane freeway. Projects in this category will close at-grade intersections and add interchanges where appropriate to maintain local circulation, as well as widen the route to 6 lanes within the project limits. As indicated previously in this report, these projects serve a dual purpose. Not only will they improve the capacity and operation of the route, they will significantly improve safety as well by eliminating conflicting movements that result from vehicles attempting to enter, leave, or cross the highway at the at-grade intersections.

3.3.2 Priority Category 2—Capacity-Increasing Projects

Priority Category 2 consists of projects that widen Route 99 to a minimum of 6 lanes throughout the corridor. Projects to widen Route 99 to 8 lanes in some urbanized areas, where feasible, are also included as part of this category. While the primary goal of these projects is to increase capacity, there are safety benefits as well. Eliminating or reducing the incidences of stop-and-go traffic on the route will reduce the number of congestion-related accidents that currently occur.

3.3.3 Priority Category 3—Major Operational Improvements

This category consists of projects that will improve existing outdated interchanges and construct auxiliary lanes where needed, primarily in urbanized areas. As with Priority Category 2, these projects also have safety-related benefits.

3.3.4 Priority Category 4—New Interchanges

Priority Category 4 consists of projects that will construct interchanges at new locations on Route 99. These new interchanges are proposed to accommodate growth and development of areas along Route 99.

How the Categories Coincide with Current Programmed and Candidate Projects

Caltrans' and Metropolitan Planning Organizations' first priority has been to convert all expressway segments to freeway. Freeway conversion projects were thus assigned Priority Category 1. Through construction or fully funding all remaining components of these programmed projects the goal associated with Priority Category 1 has now been accomplished.

The stated goal of Priority Category 2 is to increase capacity and provide a minimum 6-lane freeway. After completion of the three programmed 4- to 6-lane projects, approximately 99 miles of the facility will remain 4 lanes. Twelve of the remaining 21 capacity-increasing candidate projects propose to widen the remaining 4-lane segments to 6 lanes. The remaining nine capacity-increasing projects propose to widen the existing 6-lane segments to 8 lanes. Although Caltrans has a defined goal of achieving a minimum 6-lane facility, 4- to 6-lane projects may not always take precedence over 8-lane projects. In this Business Plan, all capacity projects fall into the same Priority Category; therefore, additional consideration will be given to such issues as operations and safety in determining final priorities.

Projects that propose improvements to roadway operations are in Priority Category 3. The Priority Category 3 projects included in this Business Plan are auxiliary lane projects and interchange improvement projects. Operational interchange projects will vary in magnitude of scope. A small-scale project might construct additional ramp lanes, signalize ramp intersections, and/or improve ramp geometry. A larger scale project might replace a structure or structures or modify the entire configuration of the interchange. The scope of these projects would be determined based on the project's stated purpose and need.

Projects prompted by a need to improve local road circulation due to ongoing local development are in Priority Category 4. Three of the projects in this category propose new interchanges at new locations and one project proposes lengthening mainline structures to allow widening of a local road.

3.4 Status of Route 99 Programmed and Candidate Projects

Caltrans Planning and Metropolitan Planning Organizations identified an original list of 67[1] projects that were prioritized into four categories. **Since three of the original 67 projects have now been split into two segments each there are now a total of 70 projects listed.** There are now 24 programmed plus constructed projects (See Key Map Figure 3.3) and 46 candidate projects (See Key Map Figure 3.5). These programmed and candidate projects are consistent with Caltrans' planning and the Regional Transportation Plans in each county. Updated Fact Sheets for each project are included in Appendix A of *Volume III: Updated Business Plan - Appendices A, B, C, D, E*. The fact sheets are used as a tool for determining project funding priorities on Route 99. Each fact sheet includes:

- A brief project description based on a previously completed Project Study Reports (PSR) or based on an assumed scope when no PSR has been completed.
- Primary and secondary benefits of the project.
- Programming information, including phase of the project, a rough cost estimate, and estimated time necessary to deliver the project.
- Highway maintenance impacts shown in tabular form.
- Issues related to delivery of the project.
- A table that lists consistency with the 13 controlling Interstate system standards.

The original list of 13 programmed projects has been updated to current status and now includes 24 projects including those already constructed. This updated list, Figure 3.4, now includes four projects to convert expressway segments to freeway, seven projects to add capacity by widening 4-lane freeway segments to 6 lanes, twelve projects to make operational improvements to interchanges, and one new interchange project. Four of these projects have been constructed. The other 46 projects are spread across Priority Category 2, 3 and 4 lists that include 20 projects that would increase mainline capacity, 23 projects that would improve facility operations, and three new interchange projects that would improve local road circulation. These 46 projects have also been updated to current funding or delivery status. Operational projects include projects to construct auxiliary lanes or make interchange improvements. Improvements to interchanges range in scope from ramp modifications to reconstruction of an existing interchange. The interchange projects that propose to improve local road circulation range in scope from lengthening the existing bridge structure to complete construction of a new interchange with a new freeway connection.

[1] Projects costing $8 million or more. Smaller projects while not specifically included in the project lists, are included in the program costs.

3.4.1 Programmed Projects

Figure 3.3 Map of Programmed Projects

Figure 3.4 Route 99 Programmed Capacity and Interchange Projects Not Yet Advertised

(Capital Costs Greater than $8 million) August 25, 2009

MAP PROJ. NUMBER	COUNTY	ROUTE 99 POSTMILE	EXPENDITURE AUTHORIZATION	LOCATION	PROJECT NAME	PROJECT DESCRIPTION	ADVERTISE SCHEDULE	R/W AND CONSTRUCTION CAPITAL COSTS (X $1,000)	SUPPORT COSTS (X $1,000)	TOTAL COSTS PER PROJECT (X $1,000)	REGIONAL PRIORITY CATEGORY
2	Kern	18.0/19.2	06-0C9300	At Hoskings Rd	Hoskings Rd Interchange	Construct New Interchange	2010	$35,000	$1,800	$36,800	4
6	Kern	R30.5/R31.1	06-433504	At 7th Standard Rd. Interchange	7th Standard Road Widening	Modify Interchange	Constructed	$17,200	$1,700	$18,900	3
12	Tulare	31.3/32.6	06-332200	At Cartmill Ave	Cartmill Ave Interchange	Reconstruct Interchange	2010	$54,500	$11,000	$65,500	3
14	Tulare	30.6/41.3	06-360200	Prosperity Ave to North Goshen Overhead	Tulare to Goshen 6-Lane	Widen from 4F to 6F	2016	*$181,000*	*$28,400*	$209,400	2
15	Tulare	39.6/41.3	06-471500	In Goshen at Betty Drive	Betty Drive Interchange	Reconstruct Interchange	2014	*$44,000*	*$11,200*	$55,200	3
16	Tulare, Fresno	41.3/53.9, 0.0/1.0	06-324501	N of Goshen to N of Sierra Ave Overcrossing	Goshen to Kingsburg 6-Lane	Widen from 4F and 5F to 6F	2010	$151,800	$21,000	$172,800	2
25a	Fresno	26.7/30.6	06-442610	From Ashlan Avenue to 0.2 Miles N of Grantland Ave Overcrossing	North Fresno 6-Lane	Widen from 4F to 6F	2010	$20,000	$6,000	$26,000	2
25b	Fre/Mad	30.3/31.6, 0.0/1.6	06-442620	Grantland to Ave. 7 I/C	Island Park 6-Lane	Widen from 4F to 6F	2012	$55,000	$11,000	$66,000	2
29	Madera	R7.1/R7.9	06-471000	At Avenue 12	Avenue 12 Interchange	Reconstruct Interchange	2012	$57,000	$11,000	$68,000	3
30	Madera	10.1/10.4	06-407214	At Route 145	Route 145 Widening at SR99	Modify Interchange	2008	$6,100	$1,800	$7,900	3
35	Madera	19.5/22.8	06-293304	Ave 21 to the Rte 99/152 Separation	Fairmead Freeway and Interchange	Widen 4E to 6F with Interchange at Ave 22	Constructed	$62,000	$9,000	$71,000	1
39	Merced	0.0/4.6	10-415801	Madera County Line to Buchanan Hollow Rd	Plainsburg RD Freeway	Widen from 4E to 6F on 8 Lane R/W Alignment	2010	$101,200	$18,000	$119,200	1
40	Merced	4.6/10.5	10-415701	Buchanan Hollow Road to 0.5 Km N of McHenry Rd	Arboleda Drive Freeway	Widen from 4E to 6F on 8 Lane R/W Alignment	2010	$152,200	$25,000	$177,200	1
44	Merced	23.8/28.5	10-414814	0.5 mi. N. of Atwater OH to 0.5 mi. S of Arena Way	Atwater Freeway	Widen from 4E to 6F on 8 Lane R/W Alignment	Constructed	$58,000	$12,100	$70,100	1
45	Merced	28.8/R37.3	10-0Q1200	S of Hammat Ave Overcrossing to Stanislaus/Merced County Line	Merced Median Widening	Widen from 4F to 6F	2014	**$67,000**	*$13,000*	$80,000	2
48	Stanislaus	9.7/10.9	10-1A6900	0.5 Km S to 1.0 Km N. of Mitchell Rd	Mitchell Rd / Service Rd Interchange	Reconstruct Interchange	2018	**$60,000**	*$12,000*	$72,000	3
51	Stanislaus	R11.9	10-2A7704	City of Ceres at Whitmore Ave. Overcrossing	Rte 99/Whitmore Interchange	Reconstruct Interchange	Constructed	$18,100	$14,200	$32,300	3
55	Stanislaus	R16.2/R17.0	10-403501	Rte 132 to Kansas Ave	Route 132 West Expressway	Reconstruct Interchange	2013	$31,000	$13,400	$44,400	3
59	Stanislaus	21.0/22.4	10-472100	At Pelandale Ave	Pelandale Interchange	Modify Interchange	2011	**$78,000**	*$3,700*	$81,700	3
62	San Joaquin	5.3/15.0	10-0E6100	SR 120 West to Arch Road	Manteca 6-Lane	Widen from 4F to 6F	2012	$225,300	$24,700	$250,000	2
63	San Joaquin	15.0/18.6	10-3A1001	0.4 Mile N of Arch Rd to Rte 4 West	South Stockton 6-Lane	Widen from 4F to 6F	2012	$231,000	$19,500	$250,500	2
64	San Joaquin	16.4/17.5	10-3A1001	Mariposa Rd and Farmington Rd	Combined into Proj. #63	Reconstruct and Combine Interchanges	2012	NA	NA	NA	3
65	San Joaquin	23.5/24.5	10-0L1400	At Morada Lane	Morada/99 Interchange	Reconstruct Interchange	2012	**$25,000**	*$2,800*	$27,800	3
66	San Joaquin	24.9/25.9	10-0L1300	At Eight Mile Rd	EightMile/99 Interchange	Reconstruct Interchange	2012	**$34,200**	*$10,000*	$44,200	3
	Note: Data in this table should not be used to program projects.				**Legend:**		**PROGRAMMED PROJECTS TOTAL COSTS**			$2,046,900	
					Shaded = Fully Funded						
					Constructed						
					Italic = Partially Funded **Bold = Not Funded**						

3.4.2 Candidate Projects

Figure 3.5 Map of Candidate Projects

Figure 3.6 Status of Priority Category 2 Projects: Capacity-Increasing Improvements

(Capital Costs Greater than $8 million) August 25, 2009

MAP PROJECT NUMBER	COUNTY	ROUTE 99 POSTMILE	EXPEND. AUTHORIZ.	LOCATION	PROJECT DESCRIPTION	CONSTRUCT. CAPITAL COST X $1,000	R/W CAPITAL COST X $1,000	SUPPORT COST X $1,000	TOTAL COSTS PER PROJECT X $1,000	DELIVERY STATUS	RTP STATUS	REGIONAL PRIORITY CATEGORY
1a	Kern	13.4/17.0		Bear Mountain Blvd to SR 119	Widen from 6F to 8F	$40,000	$0	$12,000	$52,000			2
1b	Kern	17.0/22.1	06-0G830K	SR 119 to Wilson Rd	Widen from 6F to 8F	$40,000	$8,000	$10,000	$58,000	PSR in Prep	In RTP	2
7	Tulare	0.0/16.0		Kern Co Line to South of Tipton	Widen from 4F to 6F	$149,000	$1,000	$45,000	$195,000		In RTP	2
8	Tulare	16.0/25.5		South of Tipton to Avenue 200	Widen from 4F to 6F	$105,000	$1,000	$31,500	$137,500		In RTP	2
11	Tulare	25.4/30.5	06-48950K	Avenue 200 to Prosperity Ave	Widen from 4F to 6F	$124,000	$47,000	$32,000	$203,000	3/18/09	In RTP	2
19	Fresno	15.8/18.5		Central Ave to Jensen Ave	Widen from 6F to 8F	$36,000	$0	$11,100	$47,100		In RTP	2
21	Fresno	18.5/26.6		Jensen Ave to Ashlan Ave	Widen from 6F to 8F	$165,000	$0	$50,000	$215,000	PSR Expired	In RTP	2
28	Madera	1.7/7.5	06-0H220K	Avenue 7 to Avenue12	Widen from 4F to 6F	$46,000	$16,000	$19,400	$81,400	3/11/08	In RTP	2
32	Madera	7.5/12.8	06-47090K	Avenue 12 to Avenue 16	Widen from 4F to 6F	$74,000	$7,500	$36,300	$117,800	Inactive PSR	In RTP	2
34a	Madera	12.8/20.5		Avenue 16 to Avenue 21 1/2	Widen from 4F to 6F	$66,200	$7,000	$17,100	$90,300		In RTP	2
38	Madera	22.5/29.4		SR 152 Interchange to Merced Co Line	Widen from 4F to 6F	$69,200	$1,700	$21,400	$92,300		In RTP	2
41	Merced	12.7/19.2	10-0U230K	S of Childs Ave to Weber Canal	Widen from 4F to 6F	$120,000	$20,000	$28,000	$168,000	Inactive PSR		2
42	Merced	17.6/21.3		Black Rascal Creek to East Atwater OH	Widen from 4F to 6F	$90,000	$30,000	$20,000	$140,000			2
43	Merced	20.3/R23.8	10-0Q060K	Weber Canal to West Atwater OH	Widen from 4F to 6F	$60,000	$5,000	$14,000	$79,000	PSR in Prep		2
49	Stanislaus	R10.9/R13.2	10-0E560K	Mitchell Road to Hatch Road	Widen from 6F to 8F	$105,000	$25,000	$25,000	$155,000	Inactive PSR		2
52	Stanislaus	R13.2/R15.1	10-0E560K	Hatch Road to Tuolumne Blvd	Widen from 6F to 8F	$65,000	$0	$20,000	$85,000	Inactive PSR		2
54	Stanislaus	R15.1/R16.8	10-0E560K	Tuolumne Blvd to Kansas Avenue	Widen from 6F to 8F	$65,000	$15,000	$20,000	$100,000	Inactive PSR		2
56	Stanislaus	R16.8/R18.5	10-0E560K	Kansas Avenue to Carpenter Road	Widen from 6F to 8F	$35,000	$15,000	$10,000	$60,000	Inactive PSR		2
58	Stanislaus	R18.5/R24.7	10-0E560K	Carpenter Road to San Joaquin County Line	Widen from 6F to 8F	$55,000	$0	$18,000	$73,000	Inactive PSR		2
67	San Joaquin	28.3/38.8		Harney Road to Sacramento County Line	Widen from 4F to 6F	$140,000	$0	$40,000	$180,000			2
	Note: Data in this table should not be used to program projects.							**TOTAL**	**$2,329,400**			

Figure 3.7 Status of Priority Category 3 Projects: Major Operational Improvements

(Capital Costs Greater than $8 million) August 25, 2009

MAP PROJECT NUMBER	COUNTY	ROUTE 99 POSTMILE	EXPEND. AUTHORIZ.	LOCATION	PROJECT DESCRIPTION	CONSTRUCT. CAPITAL COST X $1,000	R/W CAPITAL COST X $1,000	SUPPORT COST X $1,000	TOTAL COSTS PER PROJECT X $1,000	DELIVERY STATUS	RTP STATUS	REGIONAL PRIORITY CATEGORY
3	Kern	22.7/23.2	06-46011K	Ming Ave to SR58	Construct Auxiliary Lane	$19,000	$1,100	$4,300	$24,400	10/18/05	In RTP	3
4	Kern	23.9/24.6	06-46012K	California Ave to SR58	Construct Auxiliary Lane	$21,800	$2,200	$4,800	$28,800	10/8/05	In RTP	3
5	Kern	27.8/28.1	06-49710K	Olive Dr. Interchange	Reconstruct Interchange	$36,000	$4,700	$10,800	$51,500	Inactive	In RTP	3
10	Tulare	27.6/28.0	06-33990K	Paige Ave Interchange	Reconstruct Interchange	$38,000	$6,000	$10,000	$54,000		In RTP	3
13	Tulare	36.1/36.8	06-48740K	Caldwell Interchange	Reconstruct Interchange	$25,000	$4,500	$7,300	$36,800	PSR Expired	In RTP	3
17	Fresno	6.5	06-0H410K	Floral Rd/SR 43 Interchange	Replace bridge structure and Floral Rd	$10,000	$0	$3,000	$13,000	Inactive	In RTP	3
18	Fresno	15.8		Central Ave/Chestnut Ave Interchange	Interchange Improvements	$42,000	$20,000	$12,600	$74,600		In RTP	3
20	Fresno	16.7/17.5	06-0H240K	Cedar Ave/North Ave Interchange	Interchange Improvements	$50,000	$18,000	$14,700	$82,700	PSR in Prep	In RTP	3
22	Fresno	20.3		Ventura Ave Interchange	Interchange Improvements	$42,000	$20,000	$12,600	$74,600			3
23	Fresno	20.7/24.4	06-39210K	Fresno St to Clinton Ave	Add NB and SB auxiliary lanes	$37,000	$69,000	$19,000	$125,000	PSR Expired	In RTP	3
24	Fresno	20.5/21	N/A	Toulumne St to Stanislaus St	Interchange Improvements	$10,000	$0	$3,000	$13,000		In RTP	3
26	Fresno	27.3/28.3	06-442700	Shaw Ave Interchange	Interchange Improvements	$29,000	$25,000	$8,700	$62,700	PSR Expired	In RTP	3
31	Madera	9.7/10.7		Route 99/145	Reconstruct Interchange	$32,000	$7,200	$7,500	$46,700		In RTP	3
34b	Madera	13.8/14.5	06-0H330K	Avenue 17	Modify Interchange	$56,000	$3,000	$15,000	$74,000		In RTP	3
36	Madera	21.7/23.7		SR 152 Interchange	Reconstruct Interchange and rail crossing	$69,400	$3,200	$18,200	$90,800		In RTP	3
37	Madera	26.3/26.8	06-0C920K	Route 99/233	Reconstruct Interchange	$36,000	$2,900	$7,000	$45,900	PSR in Prep	In RTP	3
46	Stanislaus	R1.4		SR99 @ SR165 (Lander Ave)	Modify Interchange	$35,000	$5,000	$12,000	$52,000	?		3
47	Stanislaus	R3.2/R4.0	10-0F410K	West Main Street	Reconstruct Interchange	$12,000	$5,000	$7,000	$24,000	2/1/06		3
50	Stanislaus	R11.3	10-0E560K	Pine Street	Reconstruct Interchange	$50,000	$25,000	$15,000	$90,000	Inactive		3
53	Stanislaus	R14.9/R15.6	10-0H770K	SR99 @ SR132 to SR132 East	New Freeway to Freeway Interchange	$70,000	$6,000	$20,000	$96,000	Inactive		3
57	Stanislaus	R19.9		SR99 @ Standiford	Modify Interchange	$75,000	$10,000	$20,000	$105,000			3
60	Stanislaus	R21.9/R23.2	10-0L330K	Kiernan Avenue/SR219	Reconstruct Interchange	$60,000	$10,000	$11,000	$81,000	6/4/09		3
61	Stanislaus	R23.8/R24.8	10-0L320K	Hammett Road	Reconstruct Interchange	$70,000	$3,000	$20,000	$93,000	PSR in Prep		3
	Note: Data in this table should not be used to program projects.							**TOTAL**	**1,439,500**			

Figure 3.8 Status of Priority Category 4 Projects: New Interchange Additions

								(Capital Costs Greater than $8 million)		August 25, 2009		
MAP PROJECT NUMBER	COUNTY	ROUTE 99 POSTMILE	EXPEND. AUTHORIZ.	LOCATION	PROJECT DESCRIPTION	CONSTRUCT. CAPITAL COST X $1,000	R/W CAPITAL COST X $1,000	SUPPORT COST X $1,000	TOTAL COSTS PER PROJECT X $1,000	DELIVERY STATUS	RTP STATUS	REGIONAL PRIORITY CATEGORY
9	Tulare	25.4/27.6	06-43040K	at Commercial Avenue at Agri-Center	Construct New Interchange	36,000	3,000	5,000	$44,000	Inactive	In RTP	4
27	Fresno	28.1/30.9	06-0H360K	at Veteran's Blvd	Construct New Interchange	55,000	18,000	17,000	$90,000	PSR in Prep	In RTP	4
33	Madera	R12.3/R14.3	06-48920K	at Ellis Avenue	Construct New Interchange	46,000	9,000	20,000	$75,000	PSR Expired		4
	Note: Data in this table should not be used to program projects.							**TOTAL**	**$209,000**			

3.4.3 All Projects Map

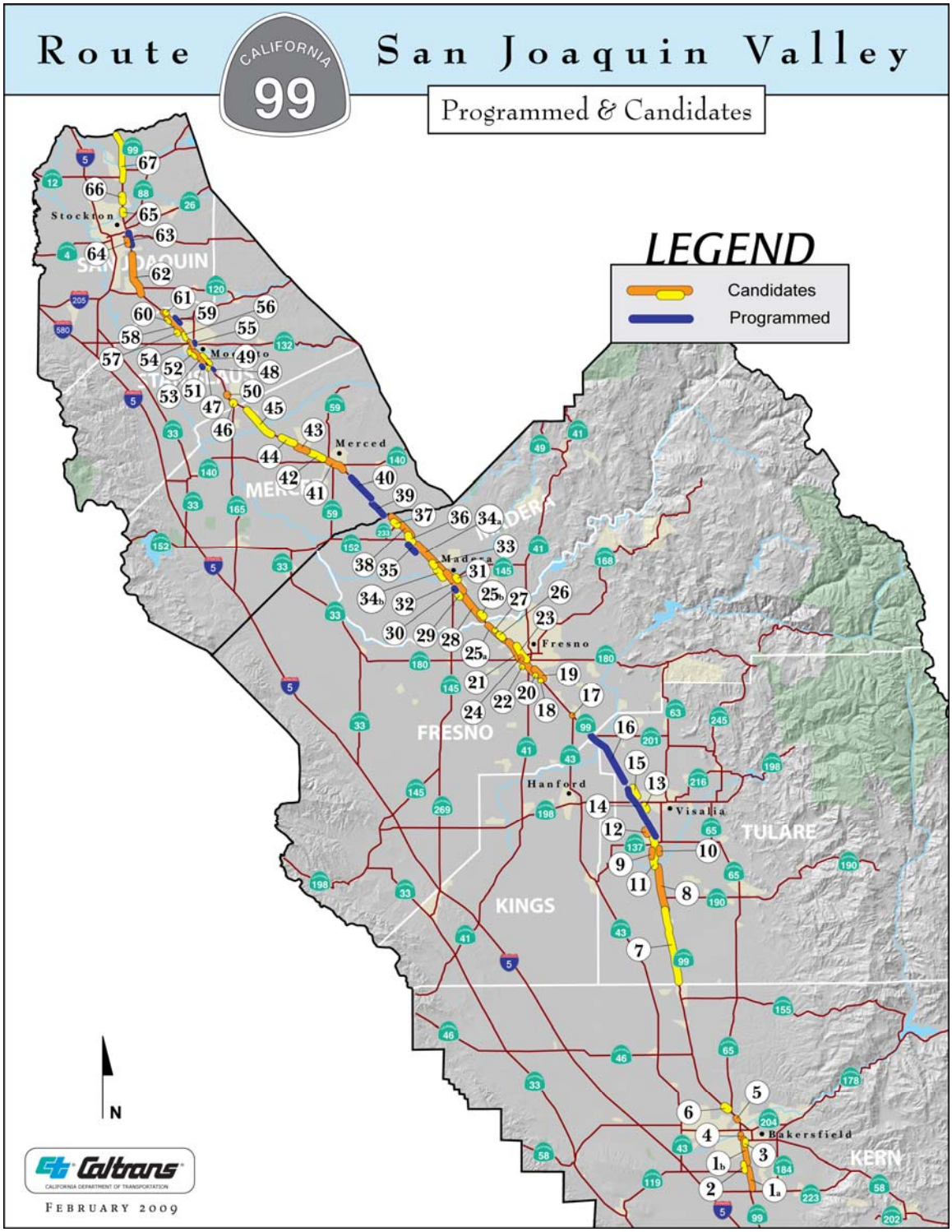


Figure 3.9 Map of All Programmed and Candidate Projects

3.5 Caltrans Design Standards: Background and Application

The American Association of State Highway and Transportation Officials (AASHTO) continually updates design guidelines for roads through the publication of *A Policy on the Geometric Design of Highway and Streets* (Green Book). These guidelines are created in cooperation with the Federal Highway Administration (FHWA) and State transportation agencies. The FHWA has adopted applicable parts of the Green Book as the national standard for roads on the National Highway System (NHS). NHS roads comprise all the Interstate system and some other primary routes. **While not an Interstate, Route 99 is included in the NHS. Although the standards contained in the Green Book also apply to the Interstate system, additional guidance applicable to the design of highways on the Interstate system is included in another AASHTO publication, *A Policy on Design Standards – Interstate System, dated January 2005.***

Caltrans typically adopts the guidelines established by AASHTO, including the Interstate System design standards, and incorporates them into Caltrans' Highway Design Manual (Black Book). The Black Book then serves as the basis for design standards for all State highways in California, Interstate and non-Interstate.

While new standards are periodically adopted, it does not imply that existing standards or highways are unsafe, nor does it mandate the initiation of highway improvement projects to meet these new standards. It is industry practice to compare existing features to the new standards whenever a highway improvement project is proposed. Specific investigations, accident history, and engineering analysis often indicate that existing non-standard features are performing in a satisfactory manner. These findings are documented in a Design Exception Fact Sheet and retained in the project files. These design exceptions are critical for the defense of tort liability cases filed against the State.

The FHWA has mandated that design exceptions be justified for 13 controlling criteria on State freeways. The authority to approve design exceptions for these 13 criteria has been delegated to Caltrans for non-Interstate freeways; however, FHWA retains approval authority for these 13 criteria on Interstate highways. FHWA's 13 controlling criteria are the following:

- Design speed
- Shoulder width
- Horizontal alignment
- Grade
- Cross slope
- Horizontal clearance
- Bridge structural capacity
- Lane width
- Bridge width
- Vertical alignment
- Stopping sight distance
- Superelevation
- Vertical clearance

All except bridge structural capacity are geometric design criteria. This Business Plan has considered, at least at a broad level, the compatibility of Route 99 with the 13 controlling criteria. Interchange spacing is an additional criteria included in *A Policy on Design Standards – Interstate System* that was not evaluated in detail, but is well known and discussed here briefly.

When considering the projects identified in this Business Plan, it is very difficult to generalize how each non-standard feature would be perpetuated or developed because these issues are typically part of detailed engineering studies. For the purpose of this report, the following features are major issues that will be encountered along Route 99.

- Interchange spacing: Operational deficiencies in highly developed areas are typically driven by the weaving movements created at interchanges by merging traffic or queues from departing traffic. This is particularly true at freeway-to-freeway interchanges where high traffic volumes negatively interact with adjacent local-street interchange traffic movements. Removing adjacent local road interchanges, as the standard calls for, is complicated, as businesses are dependent on the access from adjacent interchanges. The interchange spacing standard is 1 mile for urban local road interchanges, 2 miles for freeway-to-freeway interchanges, and 2 miles for rural local road interchanges. The FHWA Interstate Freeway System Standard is 3 miles for rural interchange spacing.
- Right and Left Shoulders: Shoulders provide a safe refuge for disabled motorists, emergency personnel, and maintenance workers. The shoulder standard is 10 feet on 6-lane freeways (3 lanes in each direction). This standard is typically not achieved next to bridge supports or in urban areas where right-of-way impacts would be very expensive or disruptive to the community. Caltrans would not typically replace a bridge merely to widen shoulders so long as an unobstructed path for emergency vehicles could be established.
- Vertical Clearance to Bridges: Vertical clearance, the distance between the roadway and the bottom of the bridge, determines the vehicle height that can pass under a bridge. Non-standard vertical clearance is perpetuated when it can be shown that the structure is not a constraint in the movement of oversized loads or does not have a history of being hit by oversized loads. Bridges are rarely replaced for non-standard vertical clearance alone. The trucking industry desires greater oversized load capacity as it builds more plant-site fabricators. The magnitude of this type of improvement, however, is cost prohibitive.
- Horizontal Clearance to Fixed Objects: The distance between the traffic lanes and a fixed object is the horizontal clearance. The most prominent fixed objects are bridge rails, bridge supports, and concrete barriers. The minimum horizontal clearance is equivalent to the shoulder standards, which is 10 feet for a 6-lane freeway. This standard provides for the safe operations of the through lanes, emergency vehicles, and maintenance work.
- Lane Width: Although 12-foot lanes are standard, in some stringent existing conditions, 11-foot lanes may be justifiable. In this case, the inside (median) lane would be narrower. The

wider lane on the outside provides more space for large vehicles that usually occupy that lane.

- Sight Distance (Caltrans and FHWA): Sight distance is the continuous length of highway visible ahead to the driver and is directly dependent on the design speed of the roadway. Two types of sight distance are considered on freeways: stopping and decision. Non-standard sight distance is common on older roadways and is caused by a number of factors. Vertical and horizontal curves, bridge abutments, and other objects can reduce sight distance. Non-standard sight distance may be perpetuated if there is no history of traffic collisions directly attributed to the non-standard feature. It is foreseeable that the addition of lanes in the median and a concrete median barrier may obstruct sight distance and create a new non-standard condition. Each instance must be evaluated separately to determine an appropriate solution.
- Design Speed: Design speed is a speed selected to establish specific minimum geometric design elements such as horizontal and vertical alignments, and sight distance. It is very difficult to correct these features because it usually involves reconstruction and realignment of the freeway. These features are studied and typically perpetuated unless accident history analysis warrants otherwise. Design speed on a freeway facility like Route 99 is 70 to 80 miles per hour. The majority of Route 99 meets this standard.
- Horizontal and Vertical Alignment: These two alignments provide for the safe and continuous operation at a uniform design speed. These alignments are co-dependent on design speed and sight distance. Modification of these design elements typically requires major reconstruction, such as of the pavement, bridges, and alignment. Most, but not all, of Route 99 meets the current design standards.
- Grade: The Central San Joaquin Valley is flat and as such provides for compliance with the grade standards, which are maximum slope or roadway profile. Highway undercrossings (the local road going under the freeway) is the location where grade is typically not met, leading to the need to comply with the more significant standards of design speed and sight distance. If it can be shown that an accident history is not associated with non-standard sight distance, the grade is not typically corrected.
- Pavement Cross Slope: The pavement cross slope standard is a minimum standard for the purpose of storm water drainage. The cross slope standard is met in the existing facility at 1.5 percent and would be improved upon reconstruction to the current standard of 2 percent.
- Superelevation: Superelevation (roadway banking) is the pavement cross slope through a horizontal curve that improves safety and drivability. This design feature would be corrected with pavement reconstruction or as part of maintenance overlays. Much of the existing facility is standard or only slightly below standard.
- Bridge Width: The bridge width should be equal to the standard width of the lanes and shoulders (roadway), with no reduction between the bridge and the approach or departing roadway width. This is not true for many undercrossing bridges on Route 99. Narrow

shoulders across bridges are common. Bridge width would be corrected with any lane addition project.

Some of the above non-standard features are commonplace along much of the route and will likely not be addressed until major reconstruction or realignment occurs. In the absence of complete reconstruction, it is likely that most of these non-standard features will be perpetuated. Many new non-standard features will be created as lane addition projects attempt to fit within the existing roadway prism. Every reasonable effort should be made to not create non-standard features and to correct existing non-standard features when possible.

3.6 Interstate Designation Proposal

Over the past several years there has been renewed interest by some constituents in the San Joaquin Valley to have Route 99 included in the federal system of Interstate highways and there has been significant effort dedicated to this cause since 2003. As a result of the August 10, 2005 Federal Transportation Act (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, or SAFETEA-LU, Appendix C), Route 99 has been designated a "future" part of the Interstate system. Under this condition, Route 99 would become a part of the Interstate system at such time as Caltrans submits an Interstate designation application to the Federal Highway Administration and the Secretary of the United States Department of Transportation determines that the corridor: (1) meets the Interstate system design standards approved by the Secretary under section 109(b) of title 23, United States Code; and (2) connects to an existing Interstate system segment.

As a result of the 2005 federal Transportation Act, SAFETEA-LU, and if the State of California decides to pursue official Interstate designation, Caltrans would be required to either a) substantially complete construction of Route 99 to Interstate system standards within 25 years, or b) seek design exceptions through established procedures for some of these design standards.

2007 California Stewardship and Oversight Agreement Between Caltrans and FHWA

If Route 99 were incorporated into the Interstate system, FHWA would become the agency with "Full Oversight" authority according to the 2007 California Stewardship and Oversight Agreement between Caltrans and the Federal Highway Administration (FHWA). This means that if Route 99 attains full Interstate status, projects that have "design exceptions" regarding the 13 Interstate controlling criteria, have new or modified access points (interchanges), or will use innovative contracting methods, FHWA would retain all federal approvals related to design and construction decisions. Since Route 99 currently is part of the National Highway System, but does not have full Interstate status, Caltrans under the stewardship agreement currently has been delegated authority for most engineering approvals during design and construction.

Roles and Responsibilities

The FHWA has determined that the standards Caltrans has adopted in the *Caltrans Highway Design Manual* substantially conform to the standards and policies set forth in publications from the American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, *A Policy on Design Standards-Interstate System*, and the *Roadside Design Guide*. When constructing freeway segments on new alignment, very few non-standard features are created, making any new facility predominately compliant with Interstate system standards. However, project improvements on the existing alignment will typically continue to have many non-standard Interstate features, primarily due to constraints existent along the corridor. If the highway were designated as an Interstate route, FHWA would assume authority of the Design Exception approval process instead of Caltrans. FHWA oversight would result in an additional level of review and it is expected that the approval process would likely result in a slight lengthening of the project delivery time.

It is important to note that given current funding constraints, Caltrans would typically continue to make improvements that are on the existing Route 99 alignment without major reconstruction of existing features. Only existing features that are central to a specific project's purpose and need would likely be corrected, leaving many existing features non-standard to the Interstate system remaining in place. The engineering studies needed to determine that an existing non-standard feature is performing satisfactorily are common to both Caltrans and FHWA. If the route were designated as part of the Interstate system, FHWA would assume authority of the Design Exception approval process.

Interstate Proposal Status

Caltrans discussions with Federal Highway Administration representatives in 2006 have indicated that there could be some latitude regarding compliance with some Interstate design criteria through an appropriate Design Exception justification process. Caltrans would submit an Interstate designation application, including appropriate design exception justifications, for FHWA consideration. As a result of those informal discussions Caltrans and FHWA have agreed, in concept, to an approach that could significantly reduce an initial 2003 cost estimate to meet all Interstate standards from about $14 billion down to about $1billion.

In mid-2009 the San Joaquin Valley Regional Planning Agencies Policy Council, representing the eight Metropolitan Planning Organizations in the Valley, took formal action in opposition to Interstate designation. As a result Caltrans' activities associated with Interstate designation became inactive pending a change in status.

One of the important factors leading to the San Joaquin Valley Regional Planning Agencies Policy Council decision related to whether Interstate designation would bring additional federal

funds to both pay for the required Interstate standard upgrades and future ongoing maintenance and rehabilitation needs. From a purely technical position, based upon past and current federal transportation law, there would be no additional funds coming to California as a result of Interstate designation. The Surface Transportation Assistance Act of 1978 provided full Interstate construction funding for all routes designated under previous System adjustments. Another provision of this Act prohibited the use of Interstate Construction funds for the construction of any new miles designated after passage of this Act. A total of 42,793 miles had been designated for development before this measure was enacted. In 1976, the Federal-Aid Highway Act established funding for maintenance activities. The prohibition of the use of Interstate Construction and Interstate Maintenance funds for added capacity projects applies to Route 99 and is continued unless changed by law.

> "The statutory criteria for eligibility of IMD projects is provided in Section 118(c)(1) of 23 U.S.C., as follows:
>
> > IMD funds are available for resurfacing, restoring, rehabilitating and reconstructing (4R) work, including added lanes, on the Interstate System. However, not eligible for allocation of IMD funds are projects on any highway designated as a part of the Interstate System under Section 139 of 23 U.S.C., as in effect before the enactment of TEA-21,June 9,1998, and any toll road on the Interstate System not subject to an agreement under Section 119(e) of 23 U.S.C., as in effect on December 17, 1991. Also not eligible are projects on any highway added to the Interstate System under Section 103(c)(4) of 23 U.S.C. and Section 1105(e)(5)(A) of ISTEA**. Any proposed or future Interstate route is also not eligible for IMD funds.**
>
> For FY 2008, the designated projects, in the Joint Explanatory Statement accompanying the Consolidated Appropriations Act, must meet the above statutory eligibility criteria in 23 U.S.C. 118(c)(1), because Congress did not include any "notwithstanding any other provision of law" eligibility provision this year."

3.7 State Highway Operation And Preservation Strategy

STRATEGY: *Monitor and preserve the constructed State Route 99 investment in safety, mobility and pavement service through traffic management strategies and timely implementation of maintenance, safety and roadway preservation improvements. Consider traffic management strategies such as HOV lane and ramp meter systems in high population areas when mainline and interchange projects are proposed.*

3.7.1 Roadway Safety and Preservation

The safety, mobility, and roadway preservation needs of Route 99 are addressed through the State Highway Operations and Protection Program (SHOPP). Projects from the SHOPP would be based on the priority needs of the State Highway, and would be coordinated with the State Transportation Improvement Program (STIP).

SHOPP projects on Route 99 would maintain or improve the condition, safety, and operation of the highway, and protect the investment that has been made on the facility. The SHOPP program includes six types of projects that would affect Route 99:

- Collision Reduction
- Roadway Preservation
- Bridge Preservation
- Roadside Preservation
- Mobility Improvements
- Mandates (storm water requirements and emergency type projects)

In each of these categories, the projects would compete for available dollars with other projects statewide. As an example, roadway preservation projects would be prioritized on a statewide basis by pavement condition, volumes of traffic, type of facility (freeway, expressway, highway), and amount of truck traffic, and then be funded based on this prioritization.

Safety improvements that meet a certain threshold of benefit-cost criteria are funded off the top of the SHOPP before other needs are addressed. They do not need to compete for funding on a statewide basis.

This Business Plan is built on the assumption that the SHOPP is adequately funded to meet the needs described previously. However, this is not an accurate assumption. Statewide, the SHOPP needs are estimated to be in excess of $30 billion for the next 10 years, while the revenues projected for that same period are approximately $11 billion. It is estimated that the 10-year SHOPP needs for this segment of Route 99 are $300 million. While beyond the scope of this Business Plan, adequate SHOPP funding is necessary to ensure that the route is adequately maintained and operated.

3.7.2 Traffic Management

Traffic management strategies represent relatively low cost responses to gradually increasing travel demand typically focused in or near urbanized areas (50,000 population) or larger along the Route 99 corridor. These strategies usually consist of ramp meters, high occupancy vehicle lanes (HOV), Traffic Management Centers, and new auxiliary lanes. Traffic management strategies

must be established and operated as a coordinated system to generate the most effective results. Therefore, the guiding principle underlying ramp meters and HOV lanes along the Route 99 corridor is that they be planned, implemented and managed as a coordinated system in and near these high population areas.

Ramp Meters and HOV Lane Guiding Principles:

1. *Ramp meters and HOV lanes along the Route 99 corridor should be planned, implemented and managed as a coordinated system in sub-areas such as in and near urbanized areas of 50,000 population or more.*
2. *In those areas that substantially meet the qualifying criteria HOV lanes and ramp meters should be considered when mainline lane additions, new interchanges or interchange modifications projects are proposed.*
3. *When major interchange or mainline work is proposed necessary HOV lane and ramp metering infrastructure should be installed.*

In 2005 Caltrans prepared the "High Occupancy Vehicle Lane Viability Study for the San Joaquin Valley"[2] to identify potential locations where HOV lanes might be applicable in the San Joaquin Valley. It indicated that there were several State Highway corridors, including the Route 99 corridor, where HOV lanes might be considered. In addition, several Metropolitan Planning Organizations (MPOs), have conducted more detailed studies[3] that identify specific locations where HOV lanes and ramp metering systems might be appropriate.

Criteria for HOV lane and ramp meter consideration have been established for this Business Plan as a result of Caltrans guidelines and various studies along the Route 99 corridor.

HOV Lane Criteria:

- Freeways not expressway or conventional highways.
- In and surrounding urbanized areas.
- Mainline recurring congestion (current and future)

Ramp Meter Criteria:

- Freeway segments with multiple interchanges.
- Peak hour mainline traffic volumes at volume to capacity ratio of 0.6 or higher.
- Mainline has recurring congestion (current and future).
- Segment immediately upstream or downstream of a bottleneck.
- Segments with a high number (density) of on-ramps.

[2] Caltrans District 6 and 10 jointly conducted the "High Occupancy Vehicle Lane Viability Study for the San Joaquin Valley" in 2005.

[3] The draft final "Northern San Joaquin Valley Regional Ramp Metering and High Occupancy Vehicle (HOV) Lane Master Plan" report of December 2008 covers San Joaquin, Stanislaus and Merced counties.

3.8 Long-Life Pavement Strategy

> ***STRATEGY:*** Since near-term SHOPP funds availability continues to be a major issue, current strategy is to only consider long-life pavement when there are extraordinary conditions or the cost difference is negligible.

Pavement service life is the period of time that pavement is intended to last before requiring major rehabilitation or reconstruction. Long-life pavement has an intended service life of not less than 40 years. This is double the original design life of the concrete pavements on Route 99, which was the standard until just a few years ago.

Indefinite Suspension – Long Life Pavement

Currently, the 10 year SHOPP is significantly under funded compared to critical needs, so much so that Caltrans has been forced to suspend indefinitely implementation of long-life pavement installations. Long-life pavement remains a cost-effective long-term strategy, but the higher initial capital cost does not allow its use under current funding conditions.

The single most important criterion for the use of long-life pavement is the projected truck traffic expected to occur during the pavement service life. Passenger cars, pickups, and two-axle trucks are considered to have a negligible affect on pavement life.

In June 2003, with the 5th edition of the *Caltrans Highway Design Manual*, Caltrans established the provisions for the use of long-life pavement on new construction and reconstruction projects. Long-life pavements are subject to a life cycle cost analysis, where the economic viability of long-life pavement is financially determined. Long-life pavement should be used when either of the following criteria is met:

- The projected or future Annual Average Daily Traffic (AADT) 20 years after completion of construction equals or exceeds 150,000.
- The projected or future Annual Average Daily Truck Traffic (AADTT) will equal or exceed 15,000 trucks 20 years after completion of construction.

The AADT and AADTT on Route 99 are provided in Figure 3.10 for each county. The traffic volumes are presented in broad ranges as traffic volumes vary within county limits.

Figure 3.10 Annual Average Daily Traffic and Truck Traffic

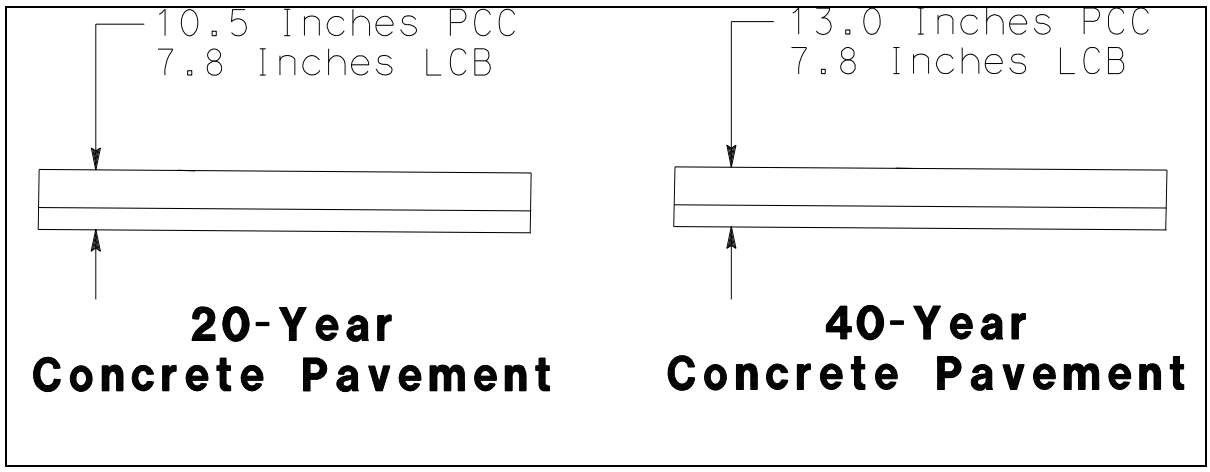
County	2006 AADTT	2030 AADTT	2006 AADT	2030 AADT
Kern	21,000	**32,000**	65,000 to 145,000	130,000 **to 250,000**
Tulare	15,000	**21,000**	40,000 to 50,000	60,000 to 80,000
Fresno	19,000	**25,000**	50,000 to 100,000	80,000 to 130,000
Madera	12,000	**22,000**	58,000 to 67,000	100,000 to 120,000
Merced	11,000	**23,000**	40,000 to 60,000	110,000 to 115,000
Stanislaus	13,000	**23,000**	70,000 to 125,000	**150,000 to 200,000**
San Joaquin	11,000	**18,000**	75,000 to 100,000	130,000 **to 150,000**

Source: Caltrans, District 6 and 10 Transportation Planning Branch data. Bold type indicates traffic volumes that would qualify for long-life pavement.

As the above table shows, every county qualifies for at least some lanes of long-life pavement. When the qualifying element is truck traffic (AADTT), then only truck lanes warrant the long-life pavement. When the AADT is greater than 150,000, as it will be in most counties, the non-truck lanes also qualify for long-life pavement.

The above guidelines are relatively simple to implement on new construction or full reconstruction. When adding lanes to an existing facility, however, a whole host of issues determines the feasibility of following the above guidelines. By way of example, one issue of concern is the remaining service life of the adjacent pavement and whether the existing concrete pavement has been overlaid with asphalt. This report cannot address this issue or the myriad of other issues that arise when considering long-life pavement on widening projects.

The cost for long-life pavement can at times be not much more than regular 20-year life concrete pavement. The cross sections below depict a long-life pavement and a 20-year concrete pavement. The Portland cement concrete (PCC) and lean concrete base (LCB) depths would be unique for each project and are presented for comparative purposes only.



The cost difference between 20-year and 40 year concrete pavement is approximately $25 per lineal foot of lane—considering structural elements only.

At this time, Caltrans has not had sufficient funding to fully implement long-life pavement strategies. While the focus of this Business Plan is on the safety, capacity, and operations of Route 99, implementation of a long-life pavement strategy for the route is a necessary element to ensure long-term performance of the route. For new construction, this strategy will be relatively easy in that new pavements will be built to long-life standards. The problem of how to deal with the existing pavements on reconstruction projects, especially with how to fund them, remains.

3.9 Median Barrier Strategy

> ***STRATEGY:*** Install median barrier it all locations that meet the criteria for median barriers or have an inordinate incidence of cross median accidents.

Median barriers are used on divided highways to reduce the risk of an out-of-control vehicle crossing the median and colliding with opposing traffic. The standard types of median barriers for new installation are concrete safety-shaped barriers and metal thrie-beam barriers. Temporary barriers (Type K) may be used under certain conditions. These three types of median barriers are capable of preventing nearly all cross-median accidents.

Caltrans devotes great attention to median barriers and is continually reviewing the criteria and aggressively developing projects for placement and replacement of these barriers. Within the limits of this Business Plan, Caltrans has identified 14 miles of locations where median barriers may be needed. Of these 14 miles, 8 miles of median barriers will be constructed by currently programmed projects (STIP and SHOPP). Roughly $4 million will need to be programmed in future years to construct median barriers for the remaining 6 miles.

3.10 Intelligent Transportation System Strategies

> ***STRATEGY:*** *Continue to expand the use of ITS technology along the Route 99 corridor and, when it is mutually beneficial, do so in partnership with other agencies as a cost effective tool to improve traffic management, safety and traveler information.*

Caltrans and its regional and local partners recognize that addressing congestion requires a multi-pronged approach that includes: adding new capacity, maintaining infrastructure, investing in and encouraging the use of alternate modes such as transit and rail, and using transportation management systems (TMS) and strategies.

Intelligent Transportation Systems (ITS) is a recognized strategy for improving the operation and efficiency of the transportation system. When integrated into the transportation system infrastructure, and in vehicles themselves, these technologies help monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity, and save lives, time, and money.

Intelligent transportation systems provide the tools for skilled transportation professionals to collect, analyze, and archive data about the performance of the system during the hours of peak use. Having this data enhances traffic operators' ability to respond to incidents, adverse weather, or other capacity-constricting events.

Traffic accidents and congestion take a heavy toll in lives, lost productivity, and wasted energy. ITS enables people and goods to move more safely and efficiently through a state-of-the-art, intermodal transportation system. The primary goal of the Traffic Management Centers (TMC) in Fresno and Stockton are to continually monitor traffic flow on the State Highway/Freeway system to facilitate a timely and appropriate response to unusual conditions that could adversely affect traffic or create a potentially hazardous situation. By using ITS and TMS strategies, Caltrans is better able to:

- Expedite the removal of major incidents to prevent secondary incidents and reduce delay.
- Control traffic demand and optimize the balanced usage of the regional transportation system.
- Facilitate the dissemination of transportation and traffic information to the traveling public.
- Provide a central hub for special event and emergency operations.
- Facilitate coordinated district communication services.
- Monitor and facilitate the coordination of planned lane closures.

The following table outlines the ITS elements planned for Route 99.

Proposed Investment Along Route 99 (District 6 only)			
	#	**Each**	**Total**
Closed Circuit TV	44	$ 60,000	$ 2,640,000
Changeable Message Sign	25	$ 175,000	$ 4,375,000
Ramp Metering System	60	$ 75,000	$ 4,500,000
Traffic Monitoring System	110	$ 40,000	$ 4,400,000
Highway Advisory Radio	8	$ 50,000	$ 400,000
Weather Information Systems	25	$ 65,000	$ 1,625,000
Fiber Optic Systems in miles	110	$ 200,000	$ 22,00,000
Central Control System	1	$ 500,000	$ 500,000
Total Proposed Investment			$ 40,440,000

ITS elements have historically been funded from the SHOPP; however, as SHOPP funding is inadequate to meet its many needs, it is important to consider funding these elements from the STIP or other funding sources. The SHOPP will continue to play a role, but by partnering with other funding sources, incorporation of these elements into the corridor becomes more achievable.

3.11 Land Use Strategy

> ***STRATEGY:*** *Caltrans will actively coordinate with local jurisdictions early in the General Plan update and land use development planning processes. Caltrans seeks to reduce vehicle trips associated with proposed new local development and recommends appropriate mitigation measures such as alternative mode choices and appropriate roadway improvements.*

Land use decisions along the Route 99 corridor directly affect future operation of the route as well as the local road circulation system. Route 99 is recognized as the primary north-south travel artery to access the population centers of the San Joaquin Valley. It is essential that the safety and operation of Route 99 be considered when General Plans and Circulation Elements are updated and more specifically, when individual land use decisions are made by local agencies. San Joaquin Valley MPO staff members recognize the importance of land use decisions and have noted the need for a stronger coordination of local land use decisions with the needs on Route 99.

Coordination with local agency General Plan and Specific Plan updates to incorporate elements of this Business Plan and the Route 99 Corridor Enhancement Master Plan are essential so their mission and objectives become part of community goals and objectives when land use decisions are being considered. This provides input during the initial planning and review of these critical documents, which in most cases make up the direction of anticipated growth and concentrated development along Route 99.

The land use strategy for the Route 99 corridor includes several elements, which will become most effective with strengthened collaboration. Descriptions of these strategy elements are shown below:

- Collaboration: First, establish interagency collaboration procedures between Caltrans, local agencies, and MPOs when development projects are initially proposed and continue them as projects proceed through the local approval process. Local agencies should bring Caltrans into the land use and development proposal process at the earliest point possible for consultation and review. Caltrans should work cooperatively with local agencies as land uses and development proposals are initiated adjacent to Route 99. The adoption of updated

general plans/specific plans is the most critical point for protecting State facilities, but an ongoing project-by-project collaborative effort is also needed.

- Corridor preservation: Caltrans and local agencies should work together to establish plan lines and interchange "footprints" so local agencies can apply their land-use authority toward preserving the necessary right-of-way for the corridor. Working with local jurisdictions, Caltrans should seek to have plan lines adopted into General Plan circulation elements. Caltrans and local agencies could work together to update the local circulation elements as they pertain to Route 99. The goal is to use local agency land-use authority in the preservation of the corridor and to accelerate the necessary environmental clearances. Caltrans and local agencies will work together to develop appropriate mainline and interchange footprints.

- Development Funding: There is recognition that the development community has a role toward funding a fair share of impacts to Route 99. Caltrans and local agencies should work together toward agreement on policies that address appropriate developer funding responsibility. The development community has a role in participating in the funding of mainline improvement needs as well as interchange needs of Route 99. This would be a fair share based upon analysis of direct impacts attributable to each new development. As an example, this could take the form of direct financial contribution, right-of-way dedication, or participation in a local or regional development fee program. These are details that will need to be refined on a local agency-by-agency basis.

- Enhance Corridor Appearance: Improve the appearance of the Route 99 corridor through local agency acceptance of the *Route 99 Corridor Enhancement Master Plan*. Local planning documents can be enhanced by applying the goals and strategies of the Master Plan, which support enhancing the appearance of roadway elements and the surrounding view. Local agency acceptance and application of these strategies is important to improving Route 99's appearance.

3.11.1 Corridor Right of Way Preservation Strategy

> ***STRATEGY:*** *Caltrans will actively work with local agencies to establish "plan lines" and interchange "footprints" so local agencies can apply their land-use authority to preserve the necessary right-of-way for the corridor from being infringed upon by new land development.*

Following completion of the 2005 Business Plan it became readily evident that an active and ongoing corridor right of way preservation strategy was essential. Decision-makers along the

corridor have voiced concerns about the need for right of way preservation. Recent history tells us that it is very likely that a progression of new and often unplanned land development activities adjacent to the corridor may constrain the best laid plans to meet our objective of a minimum six lane freeway and to make critical interchange improvements. Without such a universally accepted strategy the cheapest improvement alternatives, particularly in cities and communities, are likely to be lost as time passes. At a minimum, project costs would significantly increase higher than initially estimated and ultimately could increase to the point that widening projects become cost prohibitive to build. That would be a tragedy to the citizens and businesses of the San Joaquin Valley.

Corridor Right of Way Preservation Strategy: Caltrans and local agencies should work together to establish "plan lines" and interchange "footprints" so local agencies can apply their land-use authority toward preserving the necessary right-of-way for the corridor. Working with local jurisdictions, Caltrans should seek to have plan lines adopted into General Plan circulation elements. Caltrans and local agencies could work together to update the local circulation elements as they pertain to Route 99. The goal is to use local agency land-use authority in the preservation of the corridor and also to accelerate the necessary environmental clearances. Caltrans and local agencies will work together to develop appropriate mainline and interchange footprints.

City of Tulare Model

Caltrans has already begun an initial right of way preservation effort in Tulare County with the City of Tulare. This process can become the model for the remainder of the corridor. Conditions in Tulare offered a perfect opportunity. Following many years of only marginal new development growth activities in Tulare they began to escalate significantly. City staff recognized that interchange and mainline improvements were necessary to realize intended economic vitality, and they recognized that development proposals coming to the city would infringe upon property needed for future Route 99 improvements.

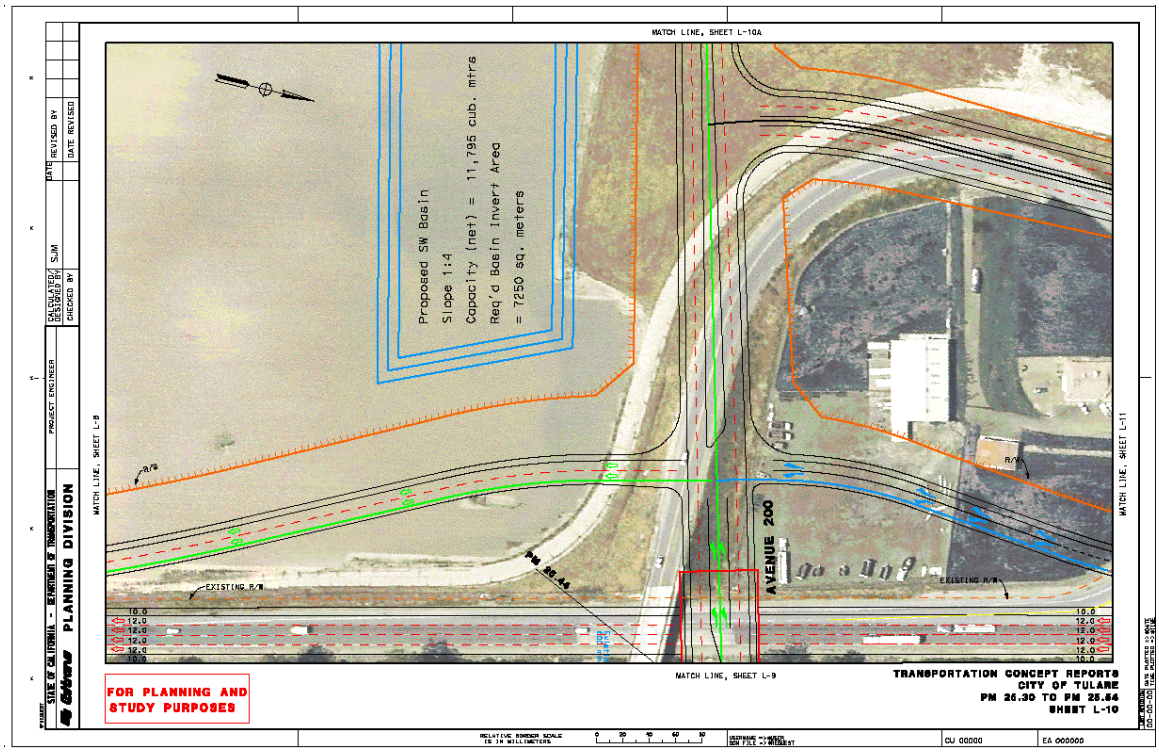
The City of Tulare model consists of the following:

- Caltrans established a team that field investigated conditions adjacent to Route 99 through the City of Tulare. Items such as existing buildings, canals, utility lines, storm basins, terrain, known environmental issues, etc.
- Established an ongoing partnership with City of Tulare staff in which a "picture of the future of Tulare" was established using the Tulare General Plan and the city staffs experience and expertise as a reality check for when key development projects might occur.

- Caltrans developed a set of quasi-design plans situated on aerial mosaics through the city that are suitable for plan line purposes. Typical cross sections were developed showing number of lanes shoulders, median, side slopes, drainage facilities, right of way lines, etc.
- The City of Tulare prepared the necessary ordinance and included the aerial mosaics as "plan lines" in their General Plan Circulation Element.

Figure 3.9.1 shows a segment of the aerial mosaic included in Tulare's General Plan. The Tulare Route 99 corridor preservation ordinance is included in the Business Plan as Appendix ____.

Figure 3.11 Example of Right of Way Preservation Detail



3.12 Roadside Planting and Preservation

STRATEGY: *Provide limited additional landscaping acreage focused primarily in urban settings where there is demonstrated citizen and community support and that is established in ways the reduces highway landscape worker exposure to traffic.*

As discussed in Section 2.2.4, two types of planting have occurred along the route—"Functional Planting" and "Highway Planting." The roadsides along the Route 99 corridor are a mix of these two planting types.

Functional Planting

"Functional Planting" is visible between communities along the rural segments of the Route 99 corridor. As the name indicates, "Functional Planting" is utilitarian and made up most of the original planting along the length of the corridor. These original plantings were comprised of mostly eucalyptus trees used to help delineate the route and identify structures or curves, and oleander shrubs used to provide a median headlight or glare screen. The purpose of the screen was to shield the driver's eyes at night from the tiring effect of the headlights of oncoming cars. The median oleander planting has come to symbolize Route 99. The trees also help to give some change and variety to the scene in the long stretches of rural freeway. Ground cover vegetation along the rural segments is comprised predominantly of non-native grasses, planted as erosion control during the roadway construction process.

Time and roadway construction have taken a toll on the original "Functional Planting" along the corridor. The once consistent pattern of tree groupings has been removed in areas by numerous construction projects along the corridor. Many trees have been removed as the roadway encroaches further into the right-of-way. In addition, the trees are reaching the end of their life span and have been affected by environmental conditions, disease, drought, and freeze. Some have died and been removed, and many others are no longer healthy and thriving.

The median oleander planting has experienced a similar fate. In recent years, many miles of this signature element have been removed by roadway construction projects. Many more miles have been identified for removal, to make way for additional lanes of traffic and concrete median barriers.

When existing planting is removed for roadway construction projects, "Replacement Planting" is identified and funded by these projects. This replacement planting has most often been installed closer to the urban areas, extending the existing "Highway Planting" area. The medians and rural roadsides are not replanted. The rural areas are quickly losing these signature landscape elements.

Highway Planting

Throughout the corridor, "Highway Planting" signifies the roadsides in the urban areas. "Highway Planting" goes beyond pure function. It improves aesthetics and makes the roadway more compatible with the surrounding urban environment of neighborhoods and businesses. Highway planting includes trees, shrubs, and groundcovers with automatic irrigation systems. This landscaping helps to blend the right-of-way into the adjacent community. Although aesthetic in nature, this landscape also serves many functional purposes, such as controlling dust and erosion, providing storm water treatment, fire and weed control, delineating the route, and providing headlight screening. Planting is also used to screen objectionable views of adjacent properties, as well as to screen the roadway from the community.

A variety of ornamental and California native plants are used in the landscape. The plants used on the Central Valley roadsides must satisfy very difficult requirements. The plant material must be drought tolerant, adaptable to difficult and varying soil conditions, able to take heat and exhaust fumes, and must require minimal maintenance.

The portions of the route that have "Highway Planting" areas are designated as "Landscaped Freeway." This designation is given to a section of freeway as a means to help regulate the installation of outdoor advertising displays, or "Billboards" (as defined in Chapter 6, Title 4, of the California Code of Regulations).

Most of the existing "Highway Planting" along the corridor has been rehabilitated in the last ten years. These areas were beyond their intended life span and had fallen into disrepair, creating voids in the landscape. With new construction projects, native oaks, the corridor theme tree, are being incorporated into the landscape. See Figure 3.12. This will help tie the rural and urban landscapes together. Like the eucalyptus trees of old, the oak theme is designed to create the corridor feeling for the entire stretch of freeway.

Roadside Safety Enhancement

Roadside preservation is now the primary focus. The goal of roadside preservation is to minimize the frequency and duration of highway worker exposure to traffic by reducing repetitive maintenance activities and providing safe access. Priorities for the roadside preservation include:

1. Relocation and clustering of existing facilities to safe work locations away from the travel way
2. Adding access gates, staircases, trails for light duty vehicles, and maintenance vehicle pullouts
3. Paving of areas beyond the gore, narrow areas, and slopes adjacent to bridge structures; treating low visibility areas and road edge
4. Adding vegetation control treatment under existing guardrail
5. Applying inert materials

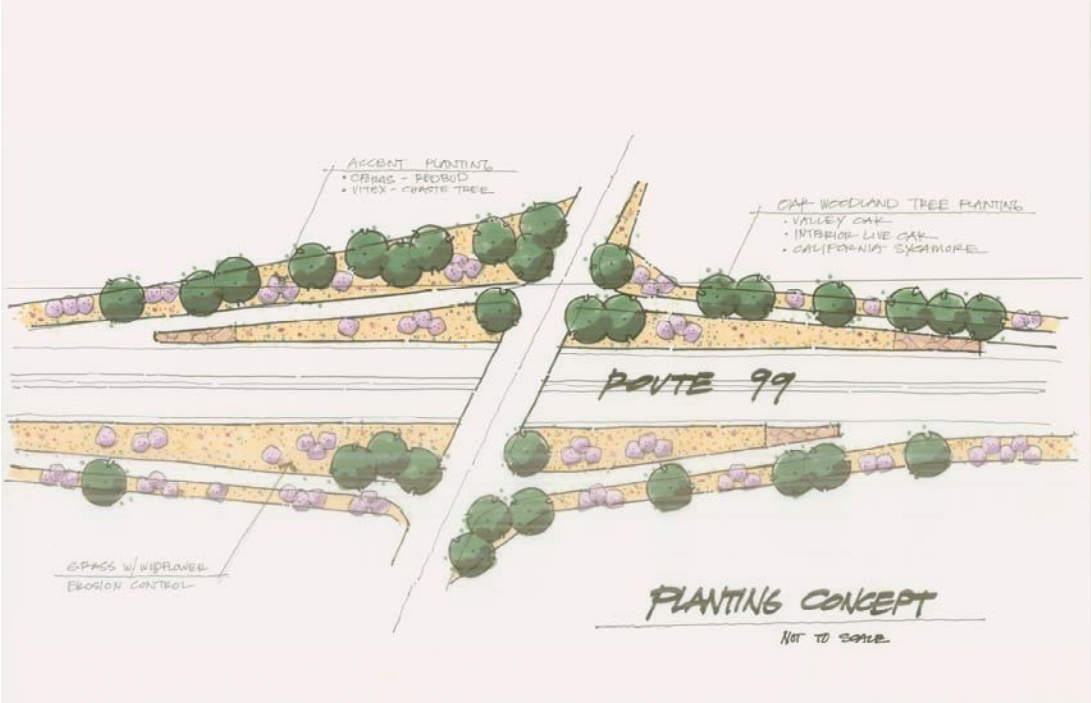


Figure 3.12 Highway Planting Concept

3.13 Safety Roadside Rest Areas

In 2000, a "Caltrans Safety Roadside Rest Area System Master Plan" was approved. Caltrans placed a priority on identifying new rest area sites that best address the trucking industry needs for safe stopping and rest. This Master Plan identified five new sites for the Route 99 corridor (see Figure 3.12). If completed, this would help to alleviate the current shortage.

The existing Safety Roadside Rest Areas (SRRA) are in need of major renovation and upgrading to sustain the high levels of use and to comply with requirements of the Americans with Disabilities Act (ADA).). The renovations of Enoch Christofferson and the Chester H. Warlow facilities are complete. The rehabilitation of Phillip S. Raine SRRA is scheduled for construction in 2010.

The development of new SRRA's is to be achieved through solicitation of a joint-development, privatized effort. It is hoped that through this process, public funding can be leveraged to maximize the availability and quality of safe roadside stopping opportunities. Caltrans' provision for rest stops promotes traffic safety and serves Caltrans goal to promote efficient goods movement for California's economic vitality.

Figure 3.13 Route 99 Safety Roadside Rest Areas

3.13.1 Driving toward a Sustainable Future; A GreenStop for California's Central Valley

The Great Valley Center (GVC) conducted a design competition in 2006 to develop a prototype rest area on Route 99. The design site was Philip S. Raine SRRA near Tipton in Tulare County. The purpose of the competition was to design a self-sustainable and solar-powered roadside "GreenStop." The GVC garnered support from Caltrans and other private organizations as partners in this effort. The sponsors viewed this as a unique opportunity to create a "green" rest area that is regionally relevant for the San Joaquin Valley, and that provides an image and identity reflecting this region of California's Central Valley.

The objective of the project was to set a standard of excellence for roadside rest areas. Goals included the following:

- Develop innovative and creative design solutions that demonstrate a greenstop—a rest area that is truly sustainable in terms of wastewater uses, recycling, and other operations to minimize the footprint on the environment.
- Create designs that meet the higher Leadership in Energy and Environmental Design (LEED) levels of Silver, Gold, or Platinum.
- Reflect the context of the region and include opportunities that highlight regional features.
- Establish a theme that reflects the Route 99 corridor.
- Provide safe and secure environments for all users.
- Follow CALTRANS and FHWA guidelines; be ADA and Cal OSHA compliant.
- Provide traditional rest area facilities (e.g. rest rooms, picnic areas, etc.).
- Ensure a maintenance friendly facility.
- Serve as a site-specific pilot project that can be replicated in other areas.

Funding for a complete GreenStop project is not available; however, portions of the concepts developed from the design competition are being included in the proposed Philip S. Raine SRRA rehabilitation project.

3.13.2 Route 99 Roadside Rest Area Wireless Internet

Caltrans joined with the Great Valley Center and its private partner, Coach Connect Corporation, in a public/nonprofit partnership to build a pilot project at two Route 99 rest areas. The pilot project installed value-added telecommunications at both the Philip S. Raine SRRA and Enoch Christoffersen SRRA on Route 99 in Tulare and Stanislaus counties, respectively.

Value-added communications are wireless Internet connections (Wi-Fi hotspots) via satellite or copper wire. Access points and antennae distribute the Internet signal across a specific radius.

These signals are received by hardware installed in laptop computers, personal data assistants, and cell phones within the specific radius. Travelers are becoming accustomed to and requesting Internet access whenever and wherever they stop. There is an increase in the number of business travelers driving California highways, thereby increasing the demand for Wi-Fi hotspots on their trips. The pilot project has installed Wi-Fi hotspots at both rest areas.

Installation was completed in early 2007. The prototype project is being evaluated for potential continuation and expansion to other rest areas in California. The pilot project is currently in the assessment phase.

3.14 Environmental Strategies

> ***STRATEGY:*** *Consider environmental issues such as air quality, endangered species, bio-habitat and water quality from a larger than project site specific perspective.*

Route 99 is the transportation backbone of the San Joaquin Valley, as well as many of the Valley communities it passes through. As projects are developed, the typical process for public involvement is on a project-by-project basis with public information meetings being held where the public or interest groups are invited to attend and provide comments on the project. An innovative way to improve communication and public participation with local partners along Route 99 would be to develop a systematic regional approach to public participation. This would include holding public information meetings early in the process in various locations along the route, which would benefit the public and streamline the process in several ways:

- Identify and involve stakeholders early in the process.
- Identify issues.
- Provide the opportunity for conflict resolution.
- Improve communication and partnerships efforts.
- Expedite the environmental review process.

Route 99 bisects a variety of habitats such as grasslands, vernal pool complexes, riparian corridors, wetlands, and agricultural lands. These areas provide potential habitat for many state and federal protected species including, but not limited to, San Joaquin kit fox, California tiger salamander, vernal pool fairy shrimp, Swainson's hawk, and valley elderberry longhorn beetle.

When viewing the entire Route 99 corridor, the opportunity presents itself to make some advances in mitigation strategy and implementation. From the perspective of strategy, the benefits could be immediate and have the potential to decrease project costs and expedite project delivery. From the perspective of implementation, the possibility exists to significantly improve the

environment along the corridor. Through some relatively minor alterations to project scope, the ecological payoff could be great over a long period of time.

3.14.1 "Pooled" Mitigation Funds

Each of the projects in the Business Plan will likely require species mitigation. Typical mitigation for these projects would occur on a project-by-project basis including acquiring a multitude of separate mitigation sites, which is usually expensive. An innovative approach early in the project delivery process focused on regional efforts to preserve and maintain large tracts of habitat with multi-species values would enhance and expedite the environmental process. By establishing a Memorandum of Understanding with federal and State agencies, the U.S. Fish and Wildlife Service, Federal Highway Administration, U.S. Army Corps of Engineers, Environmental Protection Agency, and Caltrans would allow the opportunity for early negotiation and agreements to be reached on mitigation for the Route 99 corridor. Mitigation ratios for plant and animal species, including habitat, could be established and location of replacement habitat could be determined early. It would be possible to set up a few large mitigation sites logically dispersed along Route 99. These mitigation sites would be established based on specific anticipated needs for species mitigation in that particular geographic area.

For example, a multiple project mitigation site could be set up in Madera County to mitigate for projects in Fresno, Madera, and Merced counties. At a minimum, 3 to 5 mitigation sites could be set up between the cities of Bakersfield and Stockton to address effects to special-status species. This effort could benefit the corridor in several ways:

- Increase quality of mitigation sites and provide better species protection.
- Reduce mitigation costs.
- Reduce acquisition efforts.
- Reduce agency consultation timelines.
- Expedite project delivery.

3.14.2 Enhancement by Design

Another opportunity to address possible environmental concerns lies in the design of the projects themselves. Major roads and associated features may restrict animal movements and consequently reduce genetic diversity, dispersal, and the resilience of animal populations. This has been a focus in recent years and many examples can be identified, including those found in current documents filed with the United States Fish and Wildlife Service and the California Department of Fish and Game. Maintaining habitat connectivity is identified as a primary recovery action for San Joaquin kit fox in the "Recovery Plan for Upland Species of the San Joaquin Valley, California." When feasible, wildlife crossings should be considered early during

the project development phase. Examples of elements that could be included in the project design to improve habitat connectivity are:

- Methods to eliminate aquatic passage barriers
- Wildlife crossings via properly placed large box culverts
- Wide riparian corridors (i.e. longer bridges)

3.14.3 Greenhouse Gas Response

The Route 99 Business Plan recognizes the current green house gas implications of transportation and considers opportunities that can be addressed along the corridor. In 2006 AB 32 was signed into law in California. AB32 established a target to reduce greenhouse gas emissions by 25% in California by the year 2020. In addition, SB 375 (2008) establishes transportation specific responses to greenhouse gas emission reduction goal by modifying transportation planning guidelines, travel demand models, supporting the sustainable communities strategy, environmental reviews, and establishing a process to establish emission reduction targets. This Business Plan supports that goal by:

3.15 Performance Measures

In order to better analyze proposed projects quantitatively, Caltrans has developed the Transportation System Performance Measures. They should be used to monitor existing performance, forecast future performance, build consensus decision-making information, provide and share modal-neutral customer information, and improve accountability. Working toward this end, Caltrans identified six Performance Measures to categorize the data collected under various scenarios for the District 6 and District 10 project lists. The Performance Measures categories are:

- Safety, measured by accident related data.
- Mobility, measured by traveler delay data.
- Reliability, measured by travel time variance caused by assorted non-recurring incidents.
- Productivity, measured by number of trips and delay data.
- System Preservation, measured by pavement condition data.
- Return on Investment-Life Cycle Cost, measured by benefit-cost data.

The performance scores for each project are shown in *Volume III: Updated Route 99 Business Plan - Appendices A, B, C, D, E*, Appendix B under the respective Performance Measure tables in Figures B.1 and B.3 (for District 6) and Figures B.2 and B.4 (for District 10). These performance scores are shown in this document for comparative purposes only. For example, data collected such as the "Annual Daily Vehicle Trips" or "Level of Service" is used to measure Productivity. The categories are also broken down to provide before and after construction analysis. Performance Improvement Indicators are assigned for each criterion, which illustrate the degree

of improvement for the facility after construction. For the Productivity performance measurement the score assigned is either Yes or No (Yes, the proposed facility will meet the LOS target, or No, it will not). For the criteria: Safety, Mobility, Reliability, and System Performance, scores of High, Medium, and Low are assigned. As an example, each project's safety score is determined as follows:

- LOW – Accident rate lower or equal to the expected rate
- MEDIUM – Accident rate less than one and one-half times the expected rate
- HIGH – Accident rate more than one and one-half the expected rate

> *This performance data is shown in this document only for broad corridor wide project by project comparison purposes. For more current or specific project data the reader should refer to detailed project development documents or an appropriate Corridor System Management Plan if one has been prepared.*

This performance data are shown in this document only for broad corridor wide project by project comparison purposes. For more current or specific project data refer to detailed Caltrans project development documents or an appropriate Corridor System Management Plan where one has been prepared.

3.16 Funding for Route 99 Projects

SAFETEA-LU is the Federal transportation act that will fund $286.46 billion of transportation investments. Within this amount, $18.4 million has been allocated for Route 99 projects. A list of projects with earmark funding is in *Volume III: Updated Route 99 Business Plan - Appendices A, B, C, D, E*, Appendix D. These earmarks only provide partial funding for the projects listed leaving the remaining balance to be funded from other sources.

> ***Volume II: Updated Route 99 Business Plan - Financial Program*** *provides more specific funding program details and a series of optional project funding approaches for completing partially funded and unfunded projects.*

In California, most State Highway System improvements are programmed through two documents, the State Transportation Improvement Program (STIP) or the State Highway Operation and Protection Program (SHOPP). State and federal fuel taxes generate most of the funds used to pay for these improvements. Funds expected to be available for transportation improvements are identified through a Fund Estimate prepared by Caltrans and adopted by the California Transportation Commission (CTC). These funds, along with other fund sources, are deposited in the State Highway Account (SHA) and Transportation Investment Fund (TIF) to be

programmed and allocated to specific project improvements in both the STIP and SHOPP by the CTC.

The STIP is built from Regional Transportation Improvement Programs (RTIPs) proposed by Regional Transportation Planning Agencies (RTPAs/MPOs) throughout California and the Interregional Transportation Improvement Program (ITIP) proposed by Caltrans. Of the funds made available by the CTC for the STIP, 25 percent is made available for Caltrans to propose expansion and capacity-enhancing improvements on the statutorily designated Interregional Road System. Seventy-five percent of the funds are made available to RTPAs/MPOs to propose all types of improvements on all other State Highway System roads, other non-State highway roads eligible to use federal funds, and on the Interregional Road System.

The SHOPP programs safety, rehabilitation, traffic management and operational improvements, and roadside rehabilitation (appearance) projects on the State Highway System. Caltrans, in cooperation with RTPAs/MPOs, identifies projects directed at responding to safety needs and protecting the multi-billion dollar investment in the existing highway system.

Transportation funds generally come from the following sources:

- State fuel taxes
- Federal fuel taxes
- Sales taxes on fuel
- Truck weight fees
- Roadway and bridge tolls
- User fares
- Local sales tax measures
- Development mitigation fees
- Bonds
- State and local general funds

Most of these funds are targeted for specific transportation purposes and are made available based on specific use or criteria through designated programs. Appendix C contains a chart that lists the most common programs that fund Route 99 highway improvements.

Typical categorical funding programs used for Route 99 are:

- National Highway System: Federal funding program for Interstate routes and major interregional highways of national significance. This is the primary federal funding program for Route 99 expansion, rehabilitation and safety improvement.

If Route 99 were to become a new Interstate route it would be excluded from access to Interstate Maintenance Discretionary (IMD) funds per current federal law. Section 118(c)(1) of Title 23 U.S.C. law specifically excludes routes added to the Interstate system after 1991.

- Bridge Replacement/Rehabilitation Program (HBRR): Under this program, bridges are nominated by local agencies and selected from the Division of Structures Eligible Bridge List.
- Transportation Enhancement (TE) Program: This is a competitive grant program to fund environmental and alternative transportation projects that preserves historical features and enhance appearance of the transportation system. There are target fund levels for RTPAs/MPOs and Caltrans to propose projects.
- Hazard Elimination and Safety Program (HES): For Route 99, this would fund highway safety improvement projects on the federal-aid system.
- Traffic Congestion Relief Program: This is a State funded program generated from the sales tax on fuel, which can be used for any type of transportation improvement. Existing projects were created by State legislation. At this time, it is unknown whether new projects will be selected by legislation or through the STIP process.
- Local Sales Tax Measure: This is a local sales tax for transportation purposes that must be voted on by local voters. Examples of this in the San Joaquin Valley include Tulare, Fresno, Madera, and San Joaquin County Local Sales Tax Measures.
- New Development Impact Mitigation Fees: This is a local source levied on development within a specific jurisdiction that may be used for transportation purposes.

3.16.1 Innovative Financing

Go California, introduced by the Business, Transportation and Housing Agency in 2005, announced California's transportation program targeted to improve mobility and accessibility throughout the State. Included in *Go California* is the use of innovative financing mechanisms that can help fund and advance important transportation system improvements.

Federal Highway Administration publications define innovative finance as:

> ***"Innovative Finance for transportation is a broadly defined term that encompasses a combination of specially designed techniques that supplement traditional highway financing methods. While many of these techniques may not be new to other sectors, their application to transportation is innovative."***

Innovative finance techniques essentially fall into one of two categories; accessing new non-traditional resources, or some form of managed financing of fund resources. These innovative finance techniques fall into four classifications:

- Innovative management of Federal funds
- Debt financing
- Credit assistance
- Highway tolls

Innovative Management of Federal Funds: This strategy consists of several specific programs including Advance Construction, Tapered Non-federal Match, Flexible Match, and Toll Credits.

Advance Construction allows a state to initiate a project using non-federal funds while preserving eligibility for future use of federal funds. This would allow California to move projects on Route 99 forward even if the annual federal obligation authority is insufficient to begin the project.
Tapered Non-federal Match allows the match to be varied across the several project phases over the life of the project. This is allowable as long as the total federal contribution does not exceed the specified federal participation limit. On a typical 80 percent federal, 20 percent non-federal project, the preliminary engineering through design could be 100 percent federal and 0 percent non-federal match. At the construction phase, the required dollar amount of non-federal match for the total project would then be committed, but typically this would be several years after the project is initiated. When non-federal funds are in short supply this would avoid a delay to project initiation.

Flexible Match allows a project sponsor to use non-federal match sources other than traditional cash. The source of the match could be public donations of cash, right-of-way, or materials and services.

Toll Credits is a provision in federal law applicable to toll roads. This could be applicable to Route 99 if it were to become a toll road. Through this technique, the State could request that tolls collected on a State highway be used as the non-federal match for projects.

Debt Financing: Provisions of this program allow bond financing if there is a source of ongoing funding to retire the bonds. California has used this technique through GARVEE bonds. Use of GARVEE funding would allow projects to move to construction sooner than the traditional pay-as-you-go approach. It would require a long-term, up to 15 years, multi-year annual commitment to retire the debt. This is a technique that could be used to finance projects on Route 99.

Credit Assistance: This program allows the use of federal funds for a public or private project sponsor to better access credit for transportation projects. Federal credit assistance can take one of two forms; loans, where a project sponsor borrows federal highway funds directly from a state or the federal government; and credit enhancement, where a state or the federal government makes federal funds available on a contingent (or standby) basis. Credit enhancement helps

reduce risk to investors and thus allows the project sponsor to borrow at lower interest rates. Loans can provide the capital necessary to proceed with a project or reduce the amount of capital borrowed from other sources. Credit Assistance consists of three primary techniques; Section 129 of Title 23 Loans, State Infrastructure Banks, and the Transportation Infrastructure Finance and Innovation Act (TIFIA).

Section 129 loans allow California to use regular federal-aid highway revenues to fund direct loans to projects with dedicated revenue streams such as toll facilities. The State Infrastructure Bank allows the use of regular federal-aid highway and State funds to offer loans or credit enhancement to both public and private project sponsors. TIFIA provides for direct loans, loan guarantees for project sponsors seeking other capital sources, or lines of credit for project sponsors.

Highway Tolls: More specific details regarding tolls as a fund source for Route 99 can be found in Volume II: Updated Business Plan – Financial Program. The use of tolls for highway transportation financing is common nationwide, however, in California, it would take special legislation to allow its use on State highways such as Route 99. There are only a few State highway toll roads that have been authorized through legislative action. Through appropriate California legislation, tolls could become a significant non-federal source of funds for Route 99 corridor improvement projects. Federal law includes provisions that can authorize tolls on federal-aid highways, and under recent federal law, tolls on federal-aid highways can be used as the non-federal match requirement for most programs.

These programs or techniques represent opportunities that might be explored to help finance and advance Route 99 improvements. Most would need to be evaluated for applicability on a project-by-project basis. Some could be applied on a corridor basis. Decisions on whether to proceed would also need significant discussion with stakeholders and MPOs along the corridor, as well as with the CTC.

3.17 Economic Benefits

The benefit of capital investments in transportation projects can be felt far more than simply through improved levels of service or aesthetic improvements. One of the most profound effects transportation projects have is the economic benefit they provide to the people and businesses within the eight county corridor region.

During Fiscal Year 2008-9 Caltrans commissioned Regional Economics Models, Inc. (REMI)[4], a

[4]"Economic Impact Analysis of Transportation Improvements and Interstate Designation to Route 99 in the San Joaquin Valley", by Regional Economic Models Inc. (REMI) dated July 2009.

notionally recognized economics analyses consultant, to conduct an analysis of the economic impact of full implementation of the project improvements contained in the State Route 99 Business Plan. In addition the study analyzed the economic impact if Route 99 were to be designated an Interstate route (Refer to Section 3.6).

The REMI study, "Economic Impact Analysis of Transportation Improvements and Interstate Designation to Route 99in the San Joaquin Valley Region", included three levels of economic analysis that are additive. The study analyzed the 2005 thru 2050 time period. These scenarios are:

- Scenario 1: Current (2006) economic baseline scenario
- Scenario 2: Implemented Business Plan scenario
- Scenario 3: Interstate designation increment scenario

To be able to compare the economic impact Scenario 1 established the economic baseline for the eight county San Joaquin Valley region. Scenario 2 analyzed the economic change that would occur with full implementation of Business Plan improvements. Scenario 2 benefits were analyzed in two analysis phases, construction phase and an access improvement phase. The construction phase encompasses all of the projects included in the Business Plan at an investment value of $6.4 billion including those projects already constructed since 2005. It covered years 2005 through 2029 with ancillary benefits through 2050. The access improvement phase represents the long term benefit that improvement in transportation access provides for travelers and businesses. It covered the 2015 to 2050 time period. Figure 3.14: Summary Comparison Between Scenarios, shows the economic results of the REMI study.

Figure 3.14 Summary Comparison Between Scenarios

Scenario	AVG Employm't Change (Jobs)	AVG Annual Change in Gross Reg'l Product (2006 $ billions)	AVG Annual Change in Output (2008 $'s billions)	AVG Annual Change in Disposable Personal Income (2008 $'s billions)	Avg Pop. Change	44 Year Benefit/Cost Ratio
Scenario 1 (2006 Baseline)	1,720,008	$122	$166	$94	3,819,735	NA
Scenario 2 (Business Plan)						
Construction Phase	1,746	$0.14	$0.21	$0.11	NA	
Access Improvement Phase	25,495	$3.58	$5.76	$1.56	36,704	
Scenario 2 Total	27,241	$3.71	$5.97	$1.67	36,704	5.25
Percent of Scenario 1	1.6%	3.0%	3.6%	1.8%	1.0%	
Scenario 3 (Interstate Desig.)						
*Applied 0.11% Growth	3,608	$0.40	$0.63	$0.20	5,171	3.6
Percent of Scenario 1	0.2%	0.3%	0.4%	0.2%	0.1%	

*An assumption used in the REMI economic study for comparison purpose, but was not substantiated by data.

The REMI study indicates that full implementation of the Route 99 Business Plan will have a profound effect on the San Joaquin Valley economy in terms of both job creation and Gross Regional Product. This is an average annual increase of over 27,000 jobs in the San Joaquin Valley region, an increase of 1.6% from the 2006 job level. The Gross Regional Product of the Valley would increase by $3.7 billion. This is an increase of 3.0% for the Valley economy. In addition there will be an increase in average annual Valley Output. Output is defined in terms of production or sales. Output manifests itself by an increase in market share or an increase in international exports. At nearly $6.0 billion the Average Annual Output would increase by a significant 3.6%.

3.18 Corridor System Management Plan Strategy

> ***STRATEGY:*** *The CSMP is in its formative stage, but is becoming a new business practice of Caltrans. The strategy from the Business Plan perspective is to address the CSMP activity from a total corridor perspective. In doing this the Business Plan provides broad policy guidance regarding opportunities for managing travel demand through consideration of the relationship of proposed improvements to one another, alternative mode opportunities, and coordination with parallel highways.*

Proposition 1B, authorizing $19.7 billion in transportation bonds, was approved by California voters in November 2006. State Route 99 enjoys a special earmark of $1 billion with over $800 million available to the San Joaquin Valley under an agreement between officials of the Sacramento Valley and the San Joaquin Valley. Corridor System Management Plans (CSMP) are required for use of these funds under provisions adopted by the California Transportation Commission. The Commissions' intent was to assure that benefits resulting from bond money investment would be maximized over time through thoughtful corridor management and investment strategies.

Caltrans intends to utilize the CSMP process as a continuing business practice in the future for all major transportation investments. Since the Route 99 Business Plan is a corridor improvement plan it also must be responsive to the CSMP process. To that end the Business Plan CSMP component consists of a set of guiding policies and does not supplant those CSMPs associated with the bond program projects. Instead these guiding policies serves as the overarching guidance associated with corridor wide ground travel demand management for people and goods movement.

The CSMP provides a unified approach for corridor improvement and travel demand management across highway and rail modes for the highest productivity, mobility, and

accessibility outcomes. The facility elements of the corridor encompass Route 99, I-5, Route 65, freight rail (Union Pacific Railroad, Burlington Northern Santa Fe Railroad and the short line rail connectors), Amtrak Passenger Rail Service (San Joaquin Service), and the proposed High Speed Passenger Rail service. These facilities together represent a major north-south travel path and an opportunity to balance travel demand and investment decisions across modes and sub-corridor elements.

Business Plan CSMP Guiding Policies:

- Travel demand management investment decisions should consider the perspective of the entire San Joaquin Valley corridor. If an individual sub-area CSMP has been prepared, whether covering a metropolitan area or county by county, it is the appropriate guidance document to address poor performance and respective site specific demand manage strategies. However, these sub-area CSMP investment decisions must be cognizant and respective of overall corridor CSMP guiding policies and objectives.
- Parallel State highway routes including I-5 and Route 65; Amtrak passenger rail service; high speed passenger rail; and, freight rail lines should all be considered sub - elements of a single unified corridor that together address people and goods movement travel through the San Joaquin Valley.
- Major transportation investment decisions should take into consideration their benefits to both the sub-corridor and main corridor.

Chapter 4 Implementing the Plan

4.1 Project Development Process

The project development process usually begins after a transportation need has been identified. The project initiation document (PID/PSR/PSSR) starts the process leading to the programming of funds. The process ends upon completion of the construction project. Figure 4.1 delineates the project development process.

The project development process is tied to the legal requirements of environmental laws and regulations, and it melds engineering requirements with local and regional plans.

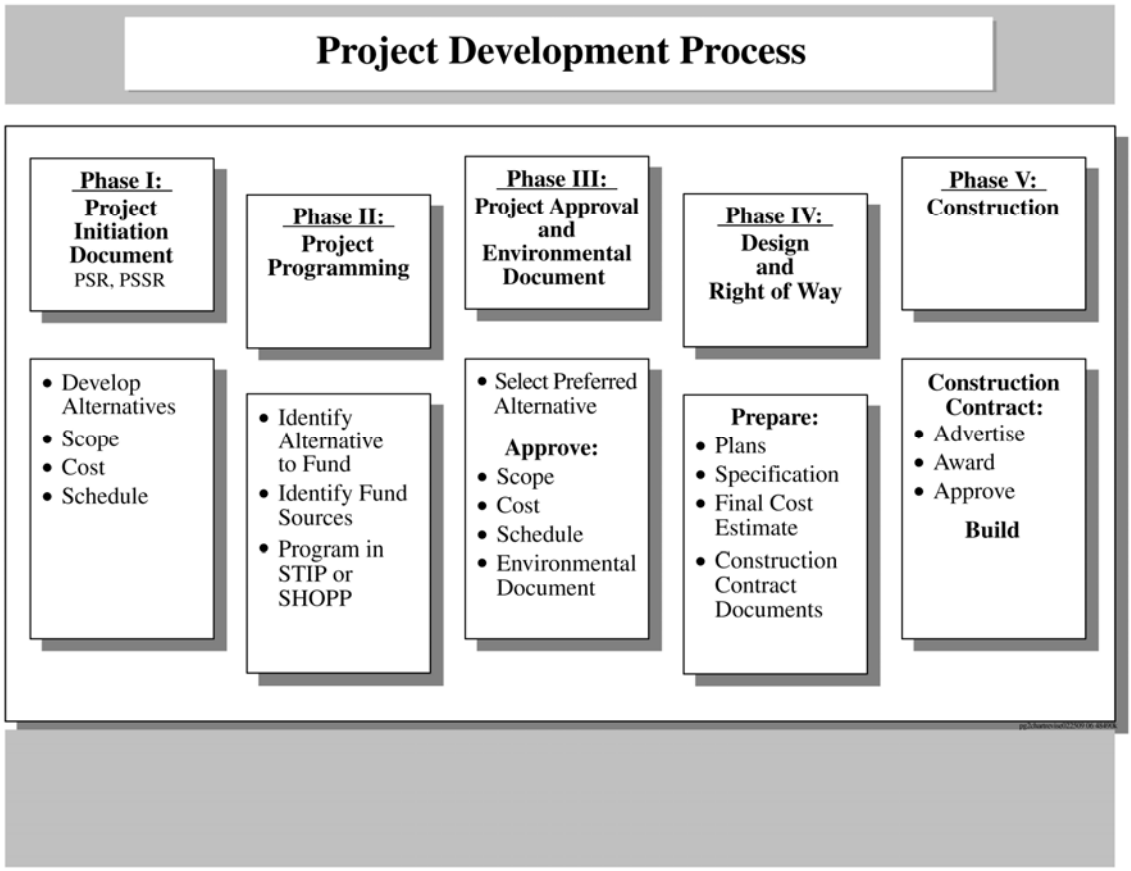


Figure 4.1 Project Development Process

Phase I: Project Initiation Document

The Project Initiation Document (PID) will either be a Project Study Report (PSR) for added travel capacity projects, or a Project Scope Summary Report (PSSR) for roadway rehabilitation and operational projects. The PIDs provide the purpose and need for an improvement, identify alternatives, and set the schedule and estimated cost of the project. Once the document has been approved, the project can be submitted for programming of funds.

To properly identify aesthetic elements of interest to a community, a community corridor beautification plan should be developed so the Route 99 Corridor Enhancement Master Plan can reference it. The *Route 99 Corridor Enhancement Master Plan* will track existing plans and add new plans as they are completed. It will also aid roadway designers in preparation of a PID.

PHASE II: Project Programming

Project programming could be considered a projects most important phase. Without funds to accomplish the project there could be no improvement constructed. Therefore, it is critical to find funds to commit to the project and that they are made available in a timely manner. Using the Project Initiation Document described in the Project Initiation Document Phase one of the project alternatives is refined and is used as the basis to determine the amount of funds needing to be programmed. In addition the programming phase identifies where these funds are to come from.

The purpose of identifying a project alternative at this point is strictly to determine the amount and source of funds to set aside for the project to be programmed in the SHOPP or STIP. The ultimate project that is built will be formally determined as part of both the Project Approval and Environmental Document and Design and Right of Way phases.

PHASE III: Project Approval and Environmental Document

Preliminary engineering studies and an environmental document are prepared to assure that a project complies with State and federal environmental laws. All project activities such as the development of project alternatives, public input, and selection of the Preferred Alternative are discussed in the Final Environmental Document (FED).

Selection of the Preferred Alternative occurs only after specific effects and reasonable mitigation measures have been identified for each alternative. The selection is made after comments are received from circulation of the Draft Environmental Document (DED) for public comment and from the public hearing process. These comments and the rationale for selecting the alternative are detailed in the Final Environmental Document and summarized in the Project Report (PR).

Selection of the Preferred Alternative authorizes final design to begin. The PR documents Caltrans' approval for most types of State highway projects. This includes new facilities, as well as improvements, modifications, or repairs to existing facilities—whether done by Caltrans or by

others under a Caltrans encroachment permit. "Project Approval" means approval by Caltrans, and where required, approval by the Federal Highways Administration and the California Transportation Commission. A Record of Decision provides the final approval of the project's Environmental Document.

It is very difficult to change the scope of the project once the PR has been approved. Changes to the project may cause a re-evaluation of the environmental document and require additional funds. Such changes may result in the demise of the project. Items such as aesthetic features would likely not be added after this phase if it meant that the project would be delayed, canceled, or the cost increased.

PHASE IV: Design and Right-of-Way

The design and right-of-way phase involves the preparation of Plans, Specifications, and Estimates (PS&E) for the construction of a transportation improvement project, and the acquisition of the right-of-way necessary to build the project. Because the development of estimates and final design alternatives is required for project approval, a significant portion of the project design is often completed before the formal initiation of the design phase. These activities are known as preliminary engineering.

The responsibilities during this phase of the project development process include the following:

- Prepare quality plans that meet Caltrans standards, practices, and policies.
- Prepare project cost estimates and monitor costs to keep the project within budget.
- Purchase right-of-way and relocate utilities if needed.
- Monitor the project scope to ensure consistency with previous approvals.
- Prepare final construction contract documents.

PHASE V: Construction

Advertising the construction contract is the first step in the construction phase. The contract is awarded to the lowest qualified bidder, provided that all procedures and legal requirements have been fulfilled. The contract is then approved, the contractor is notified, and the start of actual construction soon follows. Once the contract has been approved, there will be limited changes to the project. Upon completion of construction, the Resident Engineer recommends acceptance of the contract. With the exception of enhanced planting, gateway monuments, community identifiers, and highway art, maintenance of the facility typically reverts back to Caltrans following contract acceptance.

Local agency officials are continuously involved in the process, particularly for those projects financed or constructed by the local agencies. Acceptance rests with the State, however, for the

portion of the project that is within the State right-of-way. When the contract includes work on local agency facilities, the local agency officials must be involved in the acceptance reviews.

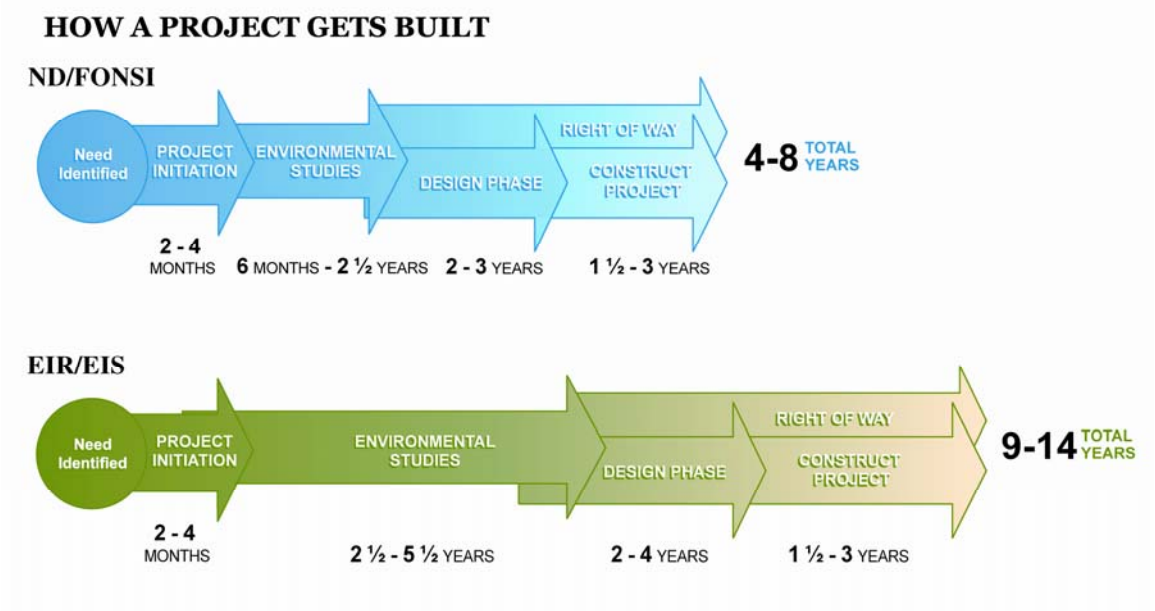
4.2 Sample Project Timelines

There are two different classifications of projects that are being proposed in this Business Plan. Their approximate timelines, in relation to each other, appear in Figure 4.2:

- Negative Declaration (ND)/Finding of No Significant Impact (FONSI): This is the shorter of the two timelines because it is a less complex environmental document that requires less time to complete and usually is not subject to the same level of public scrutiny as a higher level document would be. Therefore, the total project time for an ND/FONSI is four to eight years.
- Environmental Impact Report (EIR) / Environmental Impact Statement (EIS): This is the more complex and therefore longer of the two project types. It usually addresses projects that have a greater effect on the environment and therefore receives a great amount of public input. The average timeframe for this project is 9 to 14 years.

There is a third classification of transportation improvement project. Categorical exclusion/exemption (CE) projects typically have a simple scope and have limited environmental impacts that are excluded or exempt from consideration by law, and they can be delivered in a much shorter timeframe than an ND or EIR. While there are CE projects on the Route 99 corridor, they are typically SHOPP projects and not the type of project focused upon in this Business Plan.

Figure 4.2 Project Development Timeline



4.3 Financial Program Summary

The Route 99 corridor Financial Program is a new addition to this 2009 updated Business Plan. It is included as *Volume II: Updated Route 99 Business Plan - Financial Program.* It represents a guide for how remaining unfunded projects will be funded and implemented. It also charts the course toward completing full implementation of Business Plan improvements. Although there has been significant progress over the past three years toward meeting the corridor primary objective of a minimum 6-lane freeway there are many projects remaining to be implemented.

> *In 2005 42% of corridor centerline miles had satisfied the minimum 6-lane freeway objective. By 2012, considering all projects that have either been constructed or are fully funded, 175 miles (64%) of the corridor will have met this objective. That leaves 36 % yet to be upgraded.*

This Financial Program represents a valuable tool by which San Joaquin Valley decision makers can jointly progress most effectively and timely toward fully satisfying this objective.

4.3.1 Status of Business Plan Projects

Remaining unfunded and unconstructed project status has been provided in the Route 99 Corridor Financial Plan and will only be summarized here. For specific project status detail please refer to *Volume II: Updated Route 99 Business Plan - Financial Program*. Each of the original 67 projects (currently 70 projects since three of the original projects have been slit into two segments) have been updated with its current funding or delivery status. Also included is an additional list that includes a group of projects that were not included in the original list of 67 projects because they were already fully funded or under construction at the time the 2005 Business Plan was being prepared. These are now included in the Business Plan for information purposes so a complete picture of significant recent activity is documented.

4.3.2 Alternative Funding Approaches

Four alternative funding approaches are presented in the corridor Financial Program. They cover a wide spectrum and any or all of these approaches could be employed given specific circumstances. The four approaches are:

- Full corridor
- County by county
- Collaborative multi-jurisdictional
- Fund source specific

Examples of each of these approaches are included in Volume II: Updated Route 99 Business Plan - Financial Program and will not be repeated here. Underlying each of the following

descriptions is the understanding that Caltrans' State Transportation Improvement Program (STIP) funds are part of the funding mix.

In essence the **Full Corridor** approach applies the concept that every county has a stake in the improvement of the entire corridor, thus they also have a responsibility to participate financially.

The **County by County** approach applies the more traditional concept that each county need only participate financially for those improvements within its county boundary primarily because State transportation funding is allocated to them is based upon county population and road miles.

The **Collaborative Multi-Jurisdictional** approach represents a hybrid of the Full Corridor and County by County approaches. In this approach a geographic sub- area less than the full corridor, but greater than a county would enter into a multi-agency agreement with Caltrans to jointly fund one or more projects. Presumably there would be common interests and benefits to all jurisdictions that warrant such a funding arrangement.

The **Fund Source Specific** approach responds to situations in which the type of funds controls where and how they can be used. There could be a situation where a "third party" may need to be signatory to a joint agency agreement. For example development mitigation fees may have to be used at a specific location or for a specific improvement type.

4.3.3 Project Funding Prioritization Guiding Principles

Probably one of the more necessary elements of the corridor Financial Program is the establishment of a set of project funding guiding principles. As we move ahead with the Priority Categories established in the original Business Plan it is appropriate to establish a more refined project funding prioritization framework. These principles are intended to be the core factors by which candidate project improvements can be evaluated and their merits compared consistently. The project funding guiding principles fill that need for refinement.

Having an established set of project funding guiding principles does not exclude other project evaluation factors that stakeholders might choose to use. They would merely augment these six core evaluation factors.

The core Project Funding Prioritization Guiding Principles are summarized below in no particular priority order.

Project Funding Prioritization Guiding Principles

- **Realistic Funds:** There should be a realistic expectation that proposed funds are actually available.
- **Deliverability:** Projects that are partial funded or have near term delivery schedules should enjoy priority consideration.
- **Solves a Problem:** Projects proposed for funding should address a specific problem.
- **Leverage Funds:** Those projects that can leverage funds that ordinarily would not come to the Valley should enjoy priority consideration.
- **Collaborative Decisions:** Projects seeking the use of Caltrans' STIP IIP funds are to be prioritized collaboratively among the eight MPOs and Caltrans District 6 & 10.
- **Geographic Equity:** Everything else being equal geographic equity should be a consideration.

It would be appropriate that priority deliberations also consider whether projects support or are consistent with San Joaquin Valley Blueprint Plans and California Global Warming Solutions Act guidelines.

4.3.4 Financial Arrangements

One of the key elements of successfully moving forward with funding the remaining unfunded projects is to establish some form of financial understandings. These financial understandings represent the conclusion of joint discussions and decisions about funding specific projects or groups of projects within the Business Plan. The corridor Financial Program identifies two levels of financial arrangements and specific examples are included in that document and are summarized here.

This Business Plan and its Financial Plan appreciate the reality that decision makers at all levels cannot commit to funding projects in the future at an amount or timeline that is unknown today. However, resulting financial agreements are structured to represent an expression of intent not a legal commitment. These agreements, even with this caveat, are still valuable as they also provide an overarching backdrop against which funding that is available would not be withered away on other uses without at least considering prior intent first.

All financial agreements that are established as part of the Financial Plan will be reviewed annually and can be updated as appropriate consistent with the provisions of the agreement itself. This would likely be done in concert with the Corridor Annual Financial Review specified in the Financial Program.

Conceptual Understandings

The least formal type of agreement is the Conceptual Understanding. This agreement lays out the intent to participate financially in a specific project or group of projects between two or more

funding entities. It most likely would take the form of a Letter of Understanding jointly signed by the respective funding entities. An example of a Letter of Understanding is included as an Exhibit in the Financial Plan.

Formal Agreements

Formal agreements represent the strongest form of financial arrangement as to intent to fund a specific project or group of projects. This type of financial agreement would most likely take the form of a Memorandum of Understanding (MOU) again signed by the respective funding entities. These types of agreements are most appropriate when all of the fund sources are known and there is a strong certainty that they will available for the project(s) when needed. The MOU essentially serves as the documentation. MOUs, however, are not considered legally binding. An Example of an MOU is included in the Financial Plan.

There is a stronger type of formal agreement. Cooperative agreements are appropriate when all of the funding is secured and will be available when needed. Cooperative agreements can also serve as the authorization to proceed with work to design and deliver a specific project or group of projects. Cooperative agreements are considered legally binding.

4.4 Phasing Delivery of Projects

The 2005 Business Plan included a detailed discussion of the concept of phasing delivery and construction of the original 67 projects. It represented a "reality" scenario for undertaking the delivery and construction of a program of the magnitude of $6 billion. It is appropriate to include that discussion with its figures here in its original form for information purposes as the basic concept remains valid. *That original discussion is shown below in brown italics for ease of use.*

In the original 2005 Business Plan 13 of the original 67 projects were listed to either be constructed or will be in construction by the year 2012. The total cost of those projects totaled just under $1 billion. If we look at Figure 4.3 from the 2005 Business Plan, shown below, we see that within the first 5 Years (Phase I) the first $1 billion was expected to be delivered to construction. As can be seen the actual delivery of those projects appear to be very near that target.

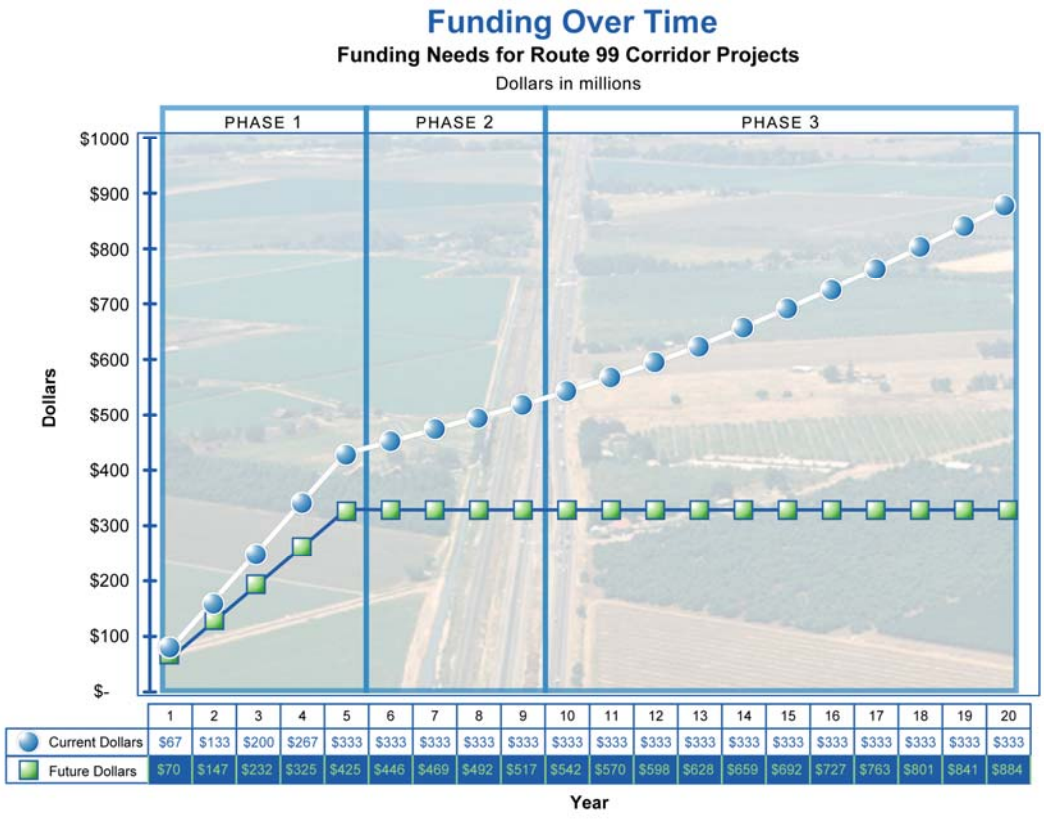
If we advance forward 3 1/2 years to this 2009 Business Plan update we find that we have delivered just over $1 billion of the $6 billion program of projects with about $4.9 billion remaining.

> *"The issue of phasing the delivery and construction of the remaining program as a response to the ability of the engineering and construction industries to accommodate up to about $330 million of work annually should probably be considered moot. More than likely the real control will be funds availability."*
>
> *"Nevertheless, the phasing concept presented in the 2005 Business Plan should be retained since it remains valid."*

The issue of phasing the delivery and construction of the remaining program as a response to the ability of the engineering and construction industry to accommodate up to about $330 million of work should probably be considered moot. More than likely the real control will be funds availability. Just deliver the first $1 billion worth of projects we saw non-traditional fund sources fill the funding gaps. We had an injection of over $800 million in Proposition 1B funds dedicated to Route 99 corridor. That kind of funding infusion above traditional STIP funding is very unlikely to continue. Nevertheless, the phasing concept presented in the 2005 Business Plan should be retained since it remains valid.

A consideration of phased delivery of the projects is critical to the successful completion of work on the Route 99 corridor. If all six billion dollars were allocated at one time, it would be impossible for Caltrans to complete the projects any faster than if they were allocated over a 20-year period. This section will discuss what Caltrans thinks would be the most successful and efficient way to allocate and expend all of the funding necessary to construct these projects.

Until this point, all dollars discussed have been in 2005 dollars. With the discussion of phasing, the issue of inflation must also be addressed. While a range of three to seven percent was discussed as possible rates of inflation, a more reasonable five percent was decided upon to illustrate what the overall cost of projects, by year, might look like over a 20-year period. As illustrated in Figure 4.3, Caltrans estimates it will take approximately 5 years to "ramp up" in order to accommodate the increased amount of workload planned for all phases. Starting in year five, the constant allocation of dollars would be approximately $333 million per year for the life of the plan (in 2005 dollars). When inflation is calculated into this equation, each subsequent year demands additional funds, finally topping out at approximately $884 million in year 20.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Current Dollars	$67	$133	$200	$267	$333	$333	$333	$333	$333	$333	$333	$333	$333	$333	$333	$333	$333	$333	$333	$333
Future Dollars	$70	$147	$232	$325	$425	$446	$469	$492	$517	$542	$570	$598	$628	$659	$692	$727	$763	$801	$841	$884

Figure 4.3 Concept of Phased Funding of Project

Figure 4.3 not only identifies the effect time has on the cost of projects, it also asks the question, "Can Caltrans and the construction industry reach and sustain an annual construction program on the route of $330 million per year for 15 years?" This year (fiscal year 2005/2006), Caltrans will have about $200 million in STIP projects under construction. This has occurred during a fiscally constrained period. It seems reasonable to assume that without fiscal constraint, a $330 million program is achievable.

Sustaining this level of delivery could present challenges to Caltrans and the construction industry. Further, since most of these projects will take two or more years to build, this would result in approximately $700 million of ongoing construction on the route every year. This could create traffic control–traffic management issues

Implementation of this plan has been broken down into three phases; Phase 1, the first billion dollars; Phase 2, the next two billion dollars; and Phase 3, the last three billion dollars. Figure 4.4 shows the route as exists today. Figures 4.5, 4.6, and 4.7 show the route upon completion of each additional phase.

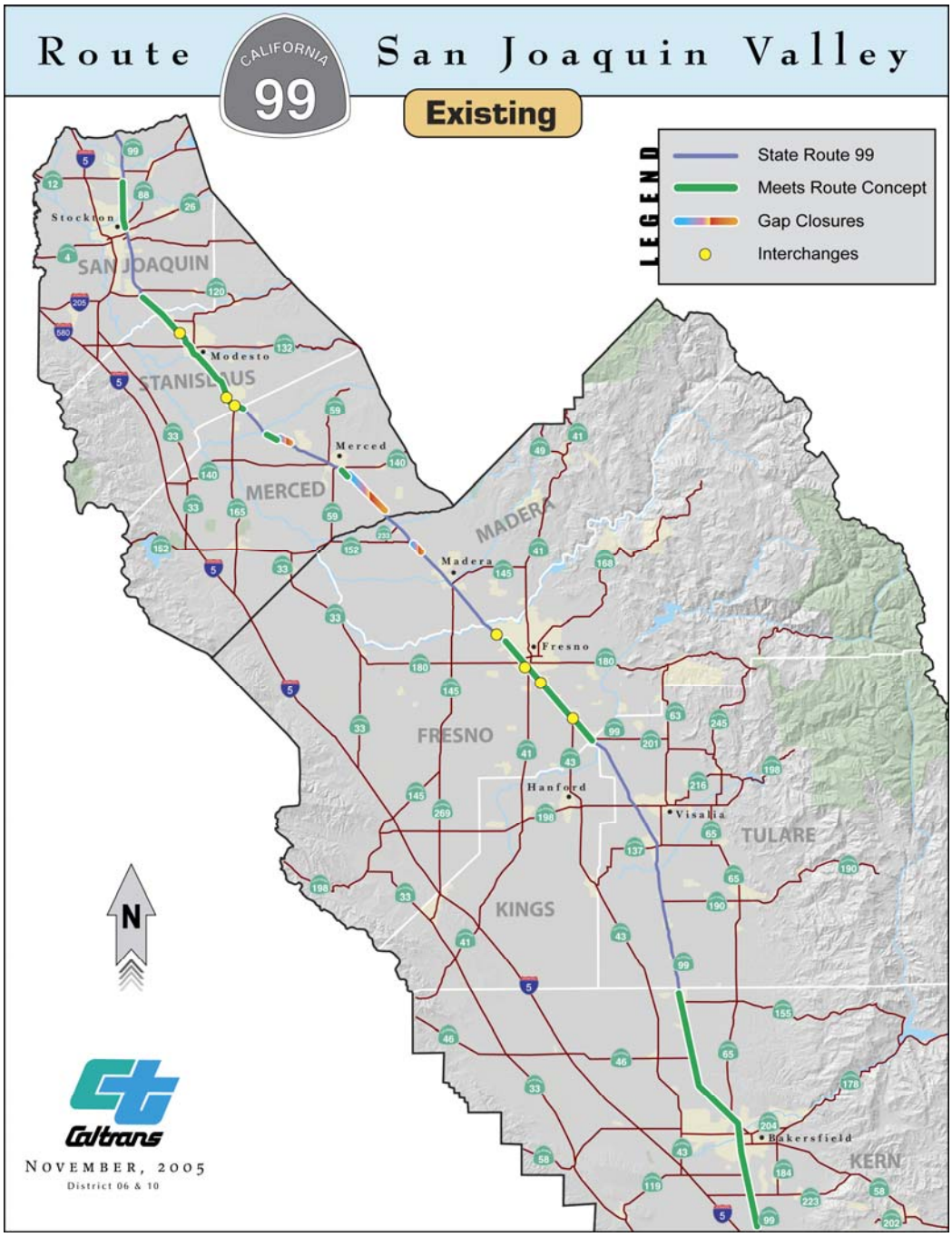


Figure 4.4 Existing Route Concept Compliance Map (2005)

4.4.1 –Phase 1

Phase 1 consists of the first $1 billion of funding. It coincides with the list of programmed projects contained in Figure 3.4. Approximately 20 percent of the first $1 billion is currently funded.

Phase 1 is made up of elements of Priority Category 1, Freeway Conversion; Priority Category 2, Capacity-Increasing Projects; and Priority Category 3, Major Operational Improvements. Phase 1 will complete all of Priority Category 1, three Priority Category 2 projects, and six Priority Category 3 projects. While Phase 1 does not complete projects in priority category order, it is prudent to complete the projects that are already in the delivery pipeline. However, as many of the Phase 1 projects are not yet fully funded, opportunity remains to add additional funding to these projects based on the priorities contained in this Business Plan.

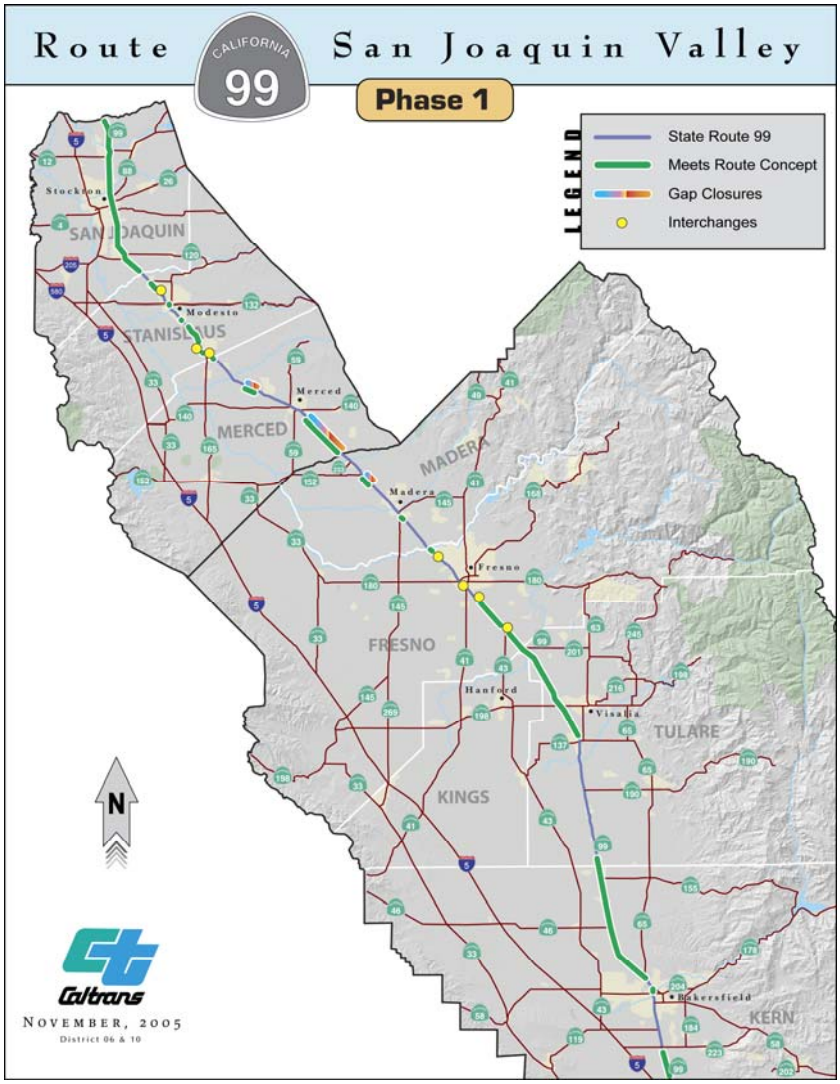


Figure 4.5 Post Phase 1 Route Concept Compliance Map

4.4.2 – Phase 2

Phase 2 allocates $2 billion dollars (current year dollars). With this second allocation, Caltrans would be able to complete the remaining 22 projects listed as Priority Category 2. See Figure 4.6. While it is possible to determine which categories will be fully or partially funded, this document is not intended to prioritize the individual list of projects. It will require extensive negotiations with all of the MPOs to arrive at a final prioritized list of the order in which projects will be funded. This document only seeks to give priority to categories of projects that will allow the decision-makers to arrive at their conclusions with the best available information. By the time Phase 3 begins, Caltrans should be adequately staffed and have the appropriate amount of contracting capacity available to handle this workload. It also seems reasonable to assume the contracting industry would, by this time, have adequate capacity to accomplish this work.

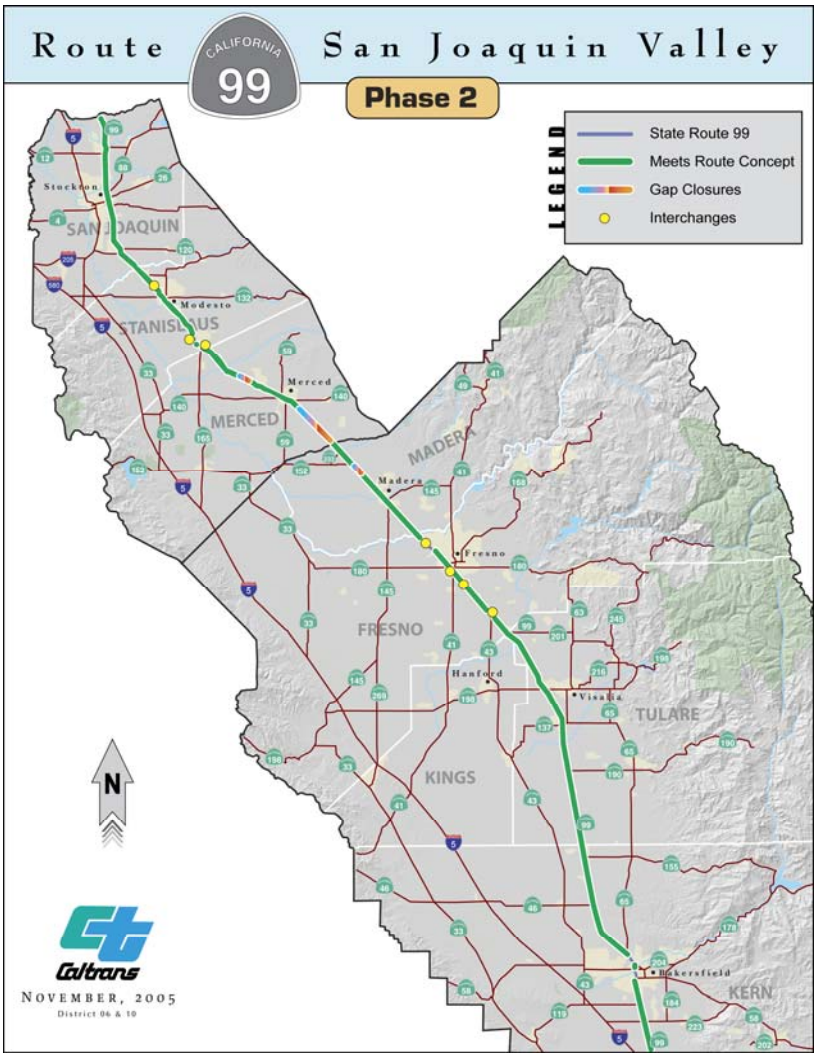


Figure 4.6 Post Phase 2 Route Concept Compliance Map

4.4.3 – Phase 3

The final phase of the Business Plan will be the complete funding of the remaining projects with an allocation of $3 billion. This would fund the remaining 27 projects in Priority Category 3 and all five projects in Priority Category 4. See Figure 4.7. With this last amount of funding, all of the prioritized projects will be fully funded and all identified goals will be met for the Route 99 corridor.

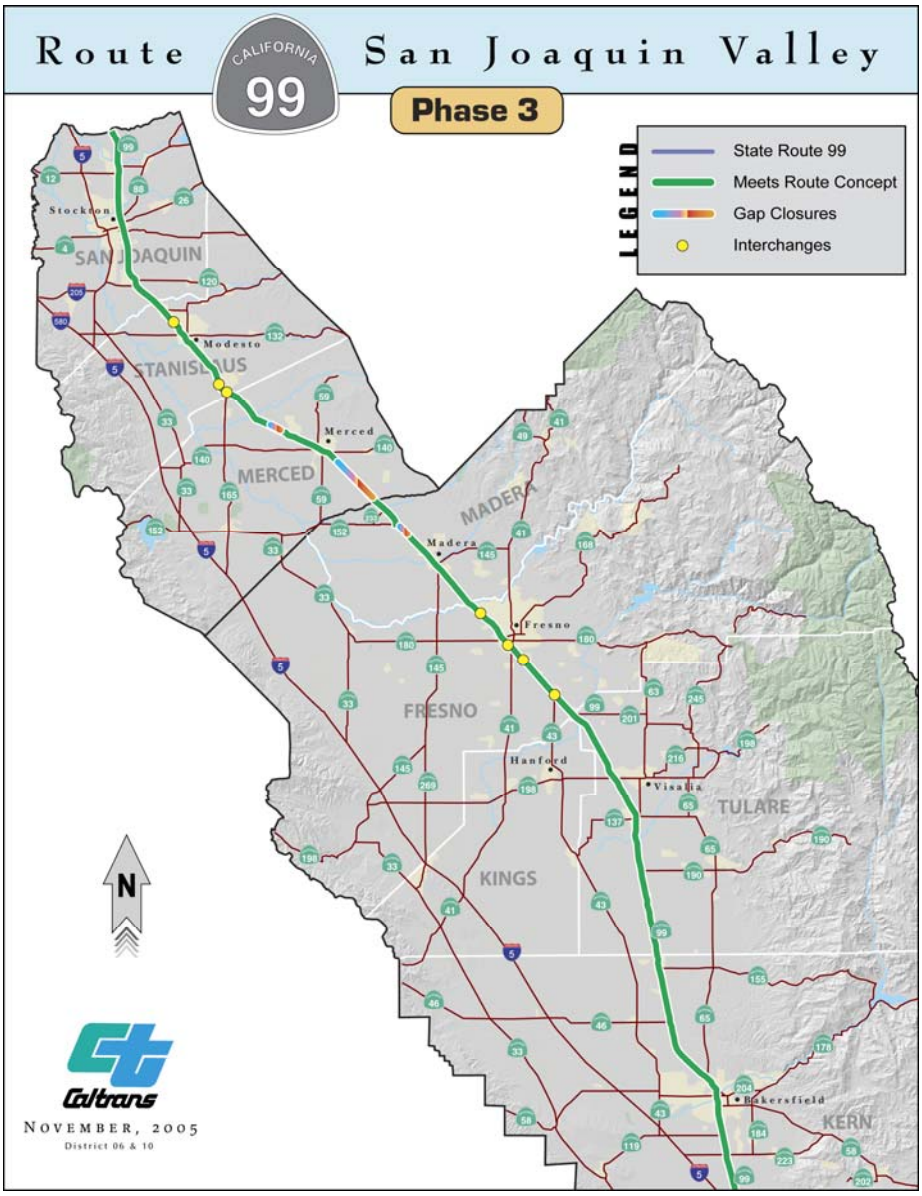


Figure 4.7 Post Phase 3 Route Concept Compliance Map

4.5 – Implementation

As discussed in this chapter, actual implementation of this plan will be influenced by many factors encompassing funding, deliverability, and if a glut of funding should become available the ability of Caltrans and the construction industry to "ramp up" to deliver a large magnitude of work. There is precedent for this of occurring. In 2006 Proposition 1B provided, among other transportation funds programs, $1 billion for major improvements along the State Route 99 corridor. Project funding eligibility required that projects be ready to go to construction by 2012. Another example is the more than $700 million in transportation funds earmarked for the Bakersfield Metropolitan Area as a result of the 2005 five year Federal Transportation Act known as SAFETEA-LU[5]. This unexpected influx of funds, while highly sought, places a tremendous burden on the project delivery and construction industry. In the real world of today's transportation funding, however, it is funding availability that will very likely drive the implementation of this plan.

Financial Program

The establishment of the corridor Financial Program to the Route 99 Business Plan represents a key strategic implementation document essential for timely project implementation. It has been more specifically detailed in Section 4.3. One of the more important implementation values is its use as a guide for all transportation funding decision makers of how project implementation is expected to occur.

As this Business Plan is implemented we have progressed through the first phase of Route 99 project improvements without the need for a long-term financial plan. However, it is now essential that a Financial Program be established to guide future project implementation decisions. The purpose of the Financial Program is to chart a course toward full implementation. It also serves as a guide to all entities with a role associated funding transportation projects. Implementation will more than likely be controlled by a combination of funds availability and individual project deliverability. San Joaquin Valley decision makers will need to "package" a broad range of fund sources to allow meaningful progress toward Business Plan implementation. *Volume II: Updated Route 99 Business Plan - Financial Program*, now established as part of this business plan update, will be the vehicle for such decision-making and implementation.

Corridor Financial Program Purpose

Chart a course toward full implementation of remaining unfunded Route 99 projects. It also serves as a reminder to all entities with a role associated funding transportation projects to consider dedicating funds to Route 99.

The Financial Program presents details related to funding sources and how they might be packaged to leverage additional funds to the San Joaquin Valley or from non-traditional sources. Financial Program content includes sections that address the following:

- Delivery status of each Business Plan project
- Fund sources details
- Alternative approaches for funding remaining projects
- Project funding guiding principles
- Financial arrangements
- Annual financial review

Also, a set of alternative funding partnership approaches are laid out with the intent of advancing the funding of remaining unfunded projects. Finally, financial agreement concepts are identified that lay out understandings of intent to fund projects among financial providers.

An essential part of the Financial Program implementation activity will be an ongoing annual financial review with an accompanying annual report. This provides both a current status of financial effort and an opportunity for all financial stakeholders to take appropriate action in response to changed conditions.

It is unnecessary to duplicate details contained in Volume II: Updated Route 99 Business Plan - Financial Program so this section presents only an overview of the Financial Program. Therefore, the reader is referred to the Financial Program for specific details.

Chapter 5 List of Abbreviated Terms

AADT	Annual Average Daily Traffic
AADTT	Annual Average Daily Truck Traffic
AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt concrete
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CSMP	Corridor System Management Plan
CTC	California Transportation Commission
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GVC	Great Valley Center
HDM	Highway Design Manual
ITIP	Interregional Transportation Improvement Program
ITSP	Interregional Transportation Strategic Plan
LCB	Lean concrete base
LOS	Level of Service
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
ND	Negative Declaration
NHS	National Highway System
PA&ED	Project Approval and Environmental Documentation
PCC	Portland cement concrete
PID	Project Initiation Document
PM	Post mile
PR	Project Report
PSR	Project Study Report
PS&E	Plans, Specifications, and Estimates
PSSR	Project Scope Summary Report
RTIP	Regional Transportation Improvement Program
RTPA	Regional Transportation Planning Agency
R/W	Right-of-way
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SHOPP	State Highway Operation and Protection Program
SRRA	Safety Roadside Rest Area
STIP	State Transportation Improvement Program
TCR	Transportation Concept Report