

FIX FIVE PARTNERSHIP PHASE 1 IMPACT FEE NEXUS STUDY

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TABLE OF CONTENTS

1. INTRODUCTION AND SUMMARY	1
Executive Summary	1
Background on the Fix Five Partnership	2
Fix Five Project Area	4
Approach	6
2. GROWTH PROJECTIONS AND NEED FOR TRANSPORTATION IMPROVEMENTS	13
Population, Employment, and Land Use	13
Projected Impact of New Development on I-5	16
3. NEXUS ANALYSIS	20
Facility Costs	20
Trip Generation and Equivalent Dwelling Units	23
External Trip Adjustments	25
Cost Allocation	29
4. ADDITIONAL FUNDING SOURCES.....	31
Available Non-Fee Funding Sources	31
Funding Scenarios and Fee Contributions	32
5. IMPLEMENTATION	34
Impact Fee Program Adoption Process	34
Fee Collection	34
Inflation Adjustment	35
Reporting Requirements	35
Fee Collection and Expenditure	35
Phase 2 Fee Analysis	36
6. MITIGATION FEE ACT FINDINGS	37
Purpose of Fee	37
Use of Fee Revenues	37
Benefit Relationship	38
Burden Relationship	38
Proportionality	38
APPENDIX 1 – FIX FIVE OUTREACH PROCESS	40
APPENDIX 2 - VOLUME-TO-CAPACITY ANALYSIS FOR SHASTA COUNTY....	42
APPENDIX 3 – DETAILED IMPROVEMENT COST ESTIMATES	43

APPENDIX 4 – FUNDING AWARD FOR COTTONWOOD TRUCK CLIMBING LANES.....	50
APPENDIX 5 – STATE AND FEDERAL FUNDING SOURCES	51

1 . INTRODUCTION AND SUMMARY

This report summarizes an analysis of the need for additional capacity on a 61-mile stretch of Interstate 5 to support future development within Tehama and Shasta Counties through 2030. This chapter provides a summary of the study's results and explains the background and purpose for the study.

EXECUTIVE SUMMARY

PURPOSE OF THIS STUDY

The Fix Five Partnership (Partnership) has undertaken a comprehensive study of Interstate 5 (I-5) in Shasta and Tehama Counties with the intent of assessing and alleviating congestion before the problem reaches serious levels. The Partnership, comprised of a diverse assortment of agencies, has reached consensus on a series of key point related to I-5.

The Partnership finds as follows:

- ♦ **I-5 Importance:** I-5 is vital to the local economy, mobility and goods movement. All Partnership jurisdictions have a vested interest in the Partnership effort. Congestion on I-5, if left unchecked, could have grave impacts on the local economy.
- ♦ **Congestion:** A variety of indicators and data sources show significant congestion within 20 years. For the first time in the region, substantial congestion is in the foreseeable future as vehicle trips begin to exceed I-5 capacity.
- ♦ **Funding:** State and federal resources are no longer adequate to fund needed improvements. Additional capacity on I-5 will not be possible without local contributions.
- ♦ **Accountability:** I-5 is a local problem as well as a state and federal problem. A key component of growing congestion is local development. By recognizing this local share of responsibility, local jurisdictions can successfully team with state and federal entities to complete a comprehensive funding plan.
- ♦ **Leveraging:** Projected improvement needs are substantial and can only be completed thru a local/state/federal partnership since all parties are seeking to leverage funds from one another. Local, state, and federal agencies are most willing to devote resources when they have confidence that those resources will be leveraged by other funding sources. Consequently, a comprehensive partnership is the most effective mechanism for assuring success of a regional infrastructure project of this nature.
- ♦ **Building Industry Participation:** Participation from new development to fund a minority of the improvement need is critical to the success of the Partnership, and necessary under the California Environmental Quality Act (CEQA). The Partnership intends to engage the local development communities to ensure that their feedback and concerns are integrated into the larger funding effort.

- ♦ **Efficiency:** The improvements to I-5 proposed by the Partnership are a cost-effective use of funds. Adequate right-of-way already exists, and such freeway improvements can move large volumes of local traffic at high speeds. Furthermore, improvements to I-5 have the highest potential in the region to leverage other funds since this is also a high priority for state and federal agencies.
- ♦ **Early Action:** Early action to finance I-5 improvements will result in a reduced burden to future development and public agencies in the long haul. Failure to act promptly will create system deficiencies that would severely hamper future efforts to improve I-5. Allowing the creation of deficiencies will limit future options for funding and force local agencies to shoulder a greater share of the cost burden.

PURPOSE OF THIS REPORT

Cities and Counties have the authority to impose impact fees under the *Mitigation Fee Act*¹. Counties have the same authority for their unincorporated areas. In doing so, each local agency is required to make findings demonstrating a reasonable nexus between the collection of fees, the need for facilities created by new development, and the expenditure of fee revenues to benefit new development.

The purpose of this report is to provide a single nexus analysis that all local agencies in Tehama and Shasta Counties can use to adopt an impact fee and ensure that development within their jurisdictions provide legally adequate mitigation of its impacts on Interstate 5 within the two Counties. This report documents the required statutory findings under California's *Mitigation Fee Act* (see Chapter 6). The nexus analysis presents a range of alternatives for the legally defensible development impact fee amounts allowed under the *Mitigation Fee Act* that can be charged under this Phase One scope. This report also contains an analysis of lower impact fee amounts that could be imposed depending on the amount of outside funding from state and federal sources that is secured.

The Partnership is intended to provide a comprehensive and proactive approach to addressing congestion on I-5. The development impact fee presented in this report is merely one piece of that approach and is not intended to provide the entirety, or even a majority, of the funding that will be needed for the planned improvements.

BACKGROUND ON THE FIX FIVE PARTNERSHIP

The Partnership is an inter-regional joint venture of public agencies in Tehama and Shasta Counties brought together by a common need to study and address the impending deterioration of traffic conditions on I-5.

The partnership is comprised of the following agencies:

- ♦ Shasta County Regional Transportation Planning Agency (RTPA)
- ♦ Tehama County Transportation Commission (TCTC)

¹ California Government Code, §§66000-66025.

- ♦ Caltrans District 2
- ♦ Federal Highway Administration (FHWA)
- ♦ Shasta County
- ♦ Tehama County
- ♦ City of Anderson
- ♦ City of Corning
- ♦ City of Red Bluff
- ♦ City of Redding
- ♦ City of Shasta Lake
- ♦ Redding Rancheria
- ♦ Paskenta Band of Nomlaki Indians

This study is funded by a grant from the State Planning and Research Program. All partner agencies provided letters of support for the grant to obtain that funding.

A regional partnership is the appropriate entity for addressing future conditions on I-5. Both the causes and solutions to the problem are regional by nature. Future congestion primarily will be caused by increases in traffic flows associated with new development. Furthermore, while individual jurisdictions are responsible for the construction and expansion of local transportation infrastructure, no one jurisdiction has the resources to fund meaningful improvements on a large stretch freeway common and critical to each jurisdiction.

The Partnership provides a vehicle for state and local agencies to fund a comprehensive program that adds capacity to I-5 and mitigates the impacts of growth. The stated goals of the Partnership are as follows:

1. Maintain an “acceptable and manageable” level-of-service standard;
 2. Enhance local, regional, and interregional economic opportunity by promoting access, mobility, and goods movement;
 3. Reduce vehicle collisions and improve safety;
 4. Engage the public regarding improvement needs;
 5. Establish a fair share funding strategy considering local, regional, state and federal resources;
 6. Maximize leverage of state and federal funds by showing a strong local consensus that I-5 is the backbone of our region, and a local commitment to I-5 improvements;
 7. Establish a framework for ongoing regional decision-making that actively involves transportation stakeholders, particularly the traveling public, development community, and civic leaders;
 8. Streamline and coordinate CEQA reviews regarding I-5 development impacts;
- and

9. Provide traffic data, design details, and funding information for use in several local efforts including general plans, transportation plans, redevelopment plans, the regional traffic model, CEQA studies, capital programs, blueprint studies, and performance indicators.

From the beginning the Partnership has been an open and transparent process. All of the agencies have reached out to stakeholders and the public during this study. The outreach process has, and will continue to involve, public open houses, creation of a Fix 5 website, presentations to elected officials during council and board meetings, presentations and regular updates during regional transportation planning agency meetings, power point presentations to various service clubs and organizations, a future transportation leadership summit, and Executive Committee and Technical Advisor Committee meetings.

See the Appendix for further detail on the Fix Five outreach process.

FIX FIVE PROJECT AREA

The study area for the Partnership is a 61-mile stretch of I-5 that runs from just south of the City of Corning in Tehama County to just north of the City of Shasta Lake in Shasta County. The Liberal Avenue interchange is the southern boundary of the project area and the northern boundary is the Mountain Gate interchange. A map of the project area is shown in **Figure 1**.

Of the project area, 36.2 miles are in Tehama County, and 24.8 miles are in Shasta County. Project costs are accordingly higher in Tehama County, both because of the increased section length and the need for several expensive bridge structures needed to support the widening of I-5. Please see Table 5 later in this report, as well as the Appendix, for more detail on project costs.

The two shaded colors shown for each city in the map below indicate the existing city boundaries and the adopted spheres of influence.

Figure 1: Fix 5 Partnership Project Area

The primary capacity-enhancing objective of the partnership is the construction of a third lane of traffic in each direction along the project span. Funding for the entire 61-mile stretch, however, will not be required. Some segments have already been expanded to six

lanes (three in each direction) through prior projects. One segment is slated for future construction but has already been fully funded due to Partnership efforts.

This report considers only the cost of mainline expansion of the project span of I-5. Interchange and parallel route improvements are not included in the report. They will receive some level of consideration in future work products (see Phase One and Phase Two discussion below). More detail on the planned improvements and project costs is presented in the next chapter.

APPROACH

Impact fees are calculated to help fund the cost of facilities required to accommodate growth. The four steps followed in any development impact fee study and described in detail in the sections that follow include:

1. Prepare growth projections;
2. Identify facility standards;
3. Determine the amount and cost of facilities required to accommodate new development based on facility standards and growth projections;
4. Identify alternative funding for impacts not related to new development;
5. Calculate the public facilities fee by allocating the remaining unfunded cost per unit of development.

This report relies primarily on level of service (LOS) standards to establish a nexus between projected new development in Shasta and Tehama Counties and the need for additional capacity in the form of a new lane on I-5. LOS is calculated based on the volume of traffic on a roadway or at an intersection compared to the capacity of the roadway or intersection. LOS “A,” “B,” and “C” suggest that delays are insignificant to acceptable. LOS “D” suggests tolerable delays though traffic is high and some short-term back-ups occur. LOS “E” and “F” suggest restricted speeds and significant delays as traffic volumes meet or exceed the capacity of the facility. Minimum acceptable LOS standards vary by agency within the Partnership but are generally with the C-D range.

In general, the project span is presently meeting the adopted LOS standards of the partner agencies at this time. Given the projected impacts of new development, however, I-5 is forecast to fail to meet local and Caltrans LOS standards by 2030.

PHASE ONE AND PHASE TWO IMPACT FEES

The impact fee presented in this report constitutes the first component of a two-phased approach. Though entirely defensible and in compliance with the *Mitigation Fee Act*, this analysis will be generally uncomplicated and straightforward. While additional refinements and complexities will be considered for later iterations of this impact fee, the intent of the Phase One fee program is to institute a defensible fee in a timely manner so that the region can begin to realize many of the objectives laid out by the Partnership.

Specifically, the Phase One fee program is intended to:

- ♦ Initiate a local funding source that can be used to leverage increased state and federal funding for I-5 improvements;
- ♦ Streamline the development process by providing a uniform analysis that new development projects can rely on to guide their mitigations of impacts on I-5;
- ♦ Ensure that new developments that begin construction in the near-term are held accountable for mitigating their impacts; and
- ♦ Reduce the fee amount in the long-term by collecting and leveraging funds now.

The Phase One fee analysis relies primarily on existing data sources for demographic and LOS data. The Phase Two analysis will incorporate more sophisticated traffic modeling that will enable consideration of a nexus-based zone structure for fee calculation and implementation.

Although the Phase Two fee will include a more involved consideration of the interplay between interchanges and parallel routes, and I-5, the Fix Five impact fees will not be used to fund improvements beyond the mainline expansion of I-5.

A second set of key differences between the Phase One and Phase Two fee programs involves the guidelines that will be determined for collection and expenditure of impact fee revenues. Because the Phase One fee is not expected to generate sufficient revenue to initiate any construction projects in the short term, it is not necessary for the Partnership to reach a consensus on all of those issues at this time. Under the Phase One program, local agencies will collect fees from development within their borders and will maintain fee revenue accounts locally. Fee revenue accounts will be dedicated to the projects outlined in this report. Implementation guidelines for the Phase One fee will be governed by a memorandum of understanding (MOU) agreed to by all agencies in the Partnership. In this document, Caltrans will note that the payment of Fix Five mitigation fees by new development is deemed an acceptable mitigation of cumulative impacts on I-5 by new development.

Implementation of the Phase Two program will require all partner agencies to reach agreements on policies for local control and spending of fee revenues through an update and revision of the MOU. Implementation of the Phase One program enables the Partnership to begin collecting revenue and realizing other benefits of the program prior to having completed the full implementation process (Phase Two).

Analysis for the Phase Two program is expected to be completed in early 2008 and the proposed program will then be vetted through a public outreach process and subsequently taken to the elected bodies of the partner agencies for adoption.

Figure 2 below presents a summary of key differences between the Phase One and Phase Two fees.

Figure 2: Phase 1 vs. Phase 2 Fee Approaches

Item	Phase I	Phase II
Modeling Approach	Shasta traffic model & Caltrans estimates for Tehama	Validate Shasta model and extend to Tehama County
Benefit Zones	One zone for each county	Consider smaller zones based on benefit received
Route Analysis	Focus on I-5 widening	May include high-level consideration of parallel routes and interchanges*
Programming Improvements	2030 planning horizon only	Develop CIP for five-year intervals as part of comprehensive financing plan
Implementation	Agreement on basic approach, e.g. local control over revenues	Develop guidelines, e.g. fee discounts, developer credits fee collections, spending, project phasing, etc.

* Review of parallel routes and interchanges in the Phase Two study will focus on the impacts of I-5 congestion on local roads and the inter-relationships between the local street systems and I-5.

DETERMINATION OF IMPACT FEE ZONES

The Partnership does not anticipate implementing countywide impact fees that would be charged to all new development throughout both Counties. Rather, the Partnership proposes to limit the Fix Five fee to those portions of Shasta and Tehama Counties that are most dependent on I-5 and that will generate substantially all regional growth.

Typically, impact fee zone boundaries are designed to achieve the following objectives:

1. Encompass the vast majority of projected development that is expected to generate the need for the traffic improvements outlined in this report;
2. Avoid arbitrary boundary effects that would cause adjacent and presumably similar developments to pay fees at vastly different rates; and
3. When reasonable, conform to existing local planning area boundaries to simplify fee analysis and implementation.

To achieve these objectives, MuniFinacial established the boundaries of the Fix Five fee zones to capture the maximum share of trips from new development along the project span while imposing a fee on the smallest possible geographic area. As a rule of thumb, it is desirable to capture at least 90 percent of the new development trips (net of external, interregional travel) within the project area. In the case of the Fix Five program, this entails 90% of the trips on I-5 generated by new development between 2007 and 2030.

For Shasta County, the fee zone is contiguous with the County's South Central Region (SCR). The SCR encompasses all three incorporated cities in the County (Anderson, Redding, and Shasta Lake) and their spheres of influence. The area will contain approximately 88 percent of projected population growth through 2030. Most importantly, the SCR zone will capture over 97 percent of I-5 trips from new development generated within the County.

Because the SCR covers less than a fifth of the land area in the County and captures the overwhelming majority of projected growth, it is an ideal fee zone for the Partnership. Imposing the impact fee only in the SCR enables the Partnership to recoup virtually all of new development's fair share mitigation without having to burden outlying areas with an impact fee. The SCR is also desirable as a fee zone because it coincides with an existing planning area boundary and therefore will simplify fee implementation and collection.

Tehama County's current General Plan update has led to the creating of five planning areas. Of those areas, three comprise the north, central and south sections of what is called the "I-5 corridor." The two remaining areas cover the eastern and western areas of the County that are likely to see very little new development. Consequently, the three I-5 corridor planning areas, when combined into one zone, form a fee zone that conforms to the objectives outlined above. The Tehama County fee zone is estimated to capture roughly 95% of new development in the County based on estimates from County staff.

Although the Tehama County fee zone extends further to the east than the Shasta County SCR, it otherwise fulfills a similar purpose in capturing the vast majority of projected new development and eliminating the need to implement and collect a fee in outlying areas that have an insignificant impact on I-5. Relative to the nexus between development and the mitigation fees, the variation between the widths of zones is not significant because both zones will capture the overwhelming majority of projected growth in the two counties. In terms of area, the I-5 corridor zone in Tehama County covers about a third of the County's land area.

A map of the impact fee zones in each County is shown below in **Figure 3**. The figures that follow show more detailed depictions of the fee zones using materials from each county's General Plan. **Figure 4** is a conceptual General Plan map of the Shasta County SCR and **Figure 5** shows the five planning areas defined in the Tehama County General Plan.

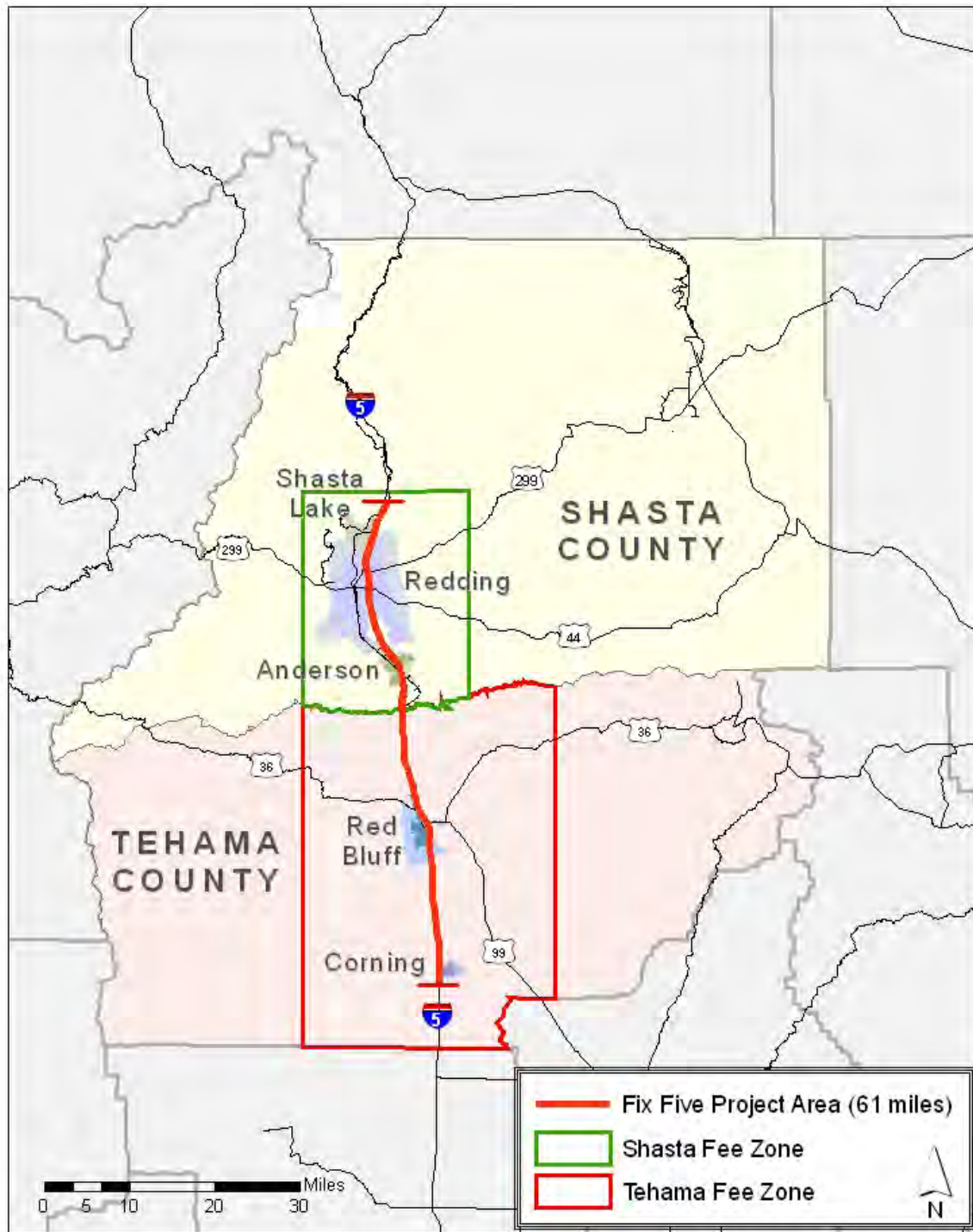
Figure 3: Fix Five Impact Fee Zones

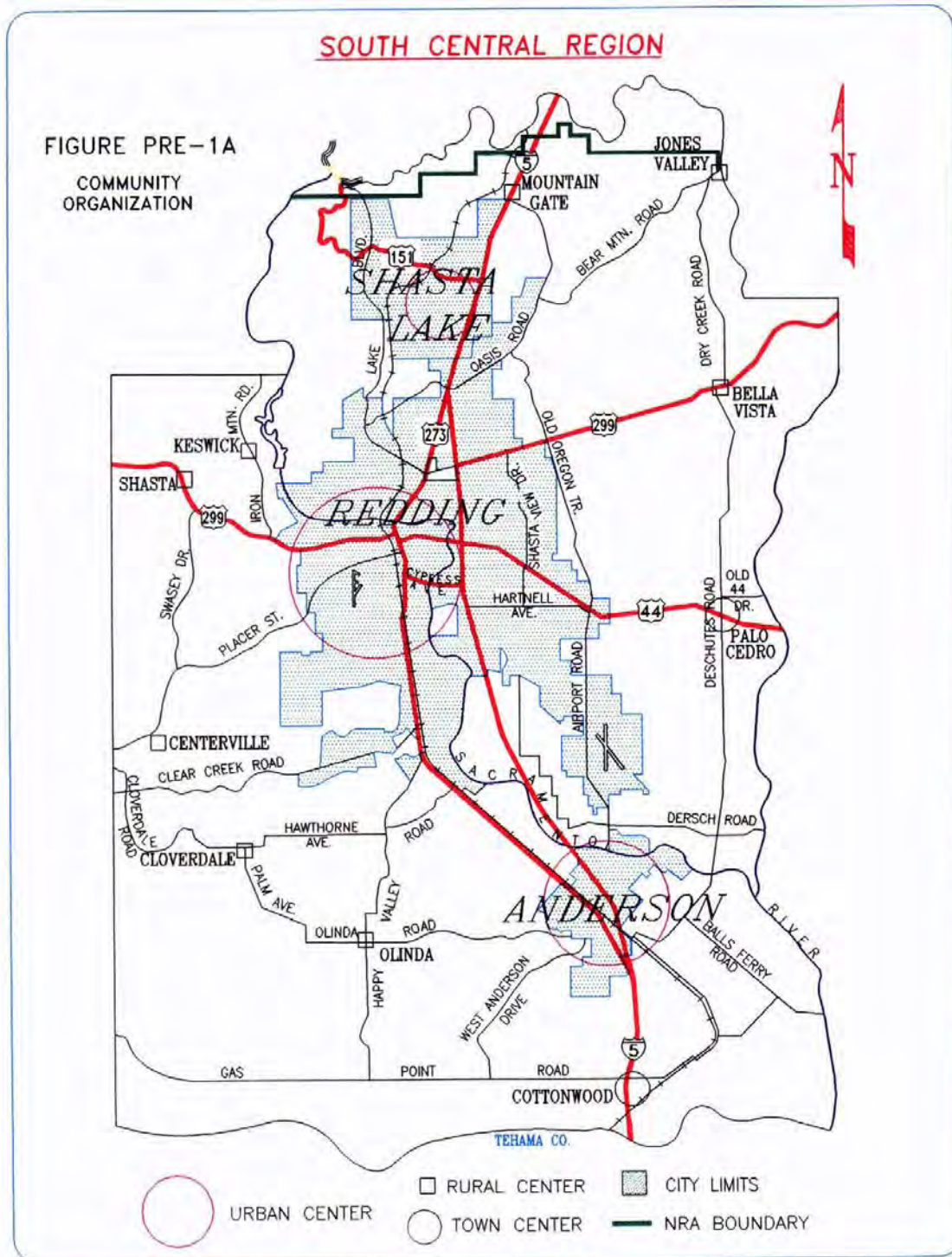
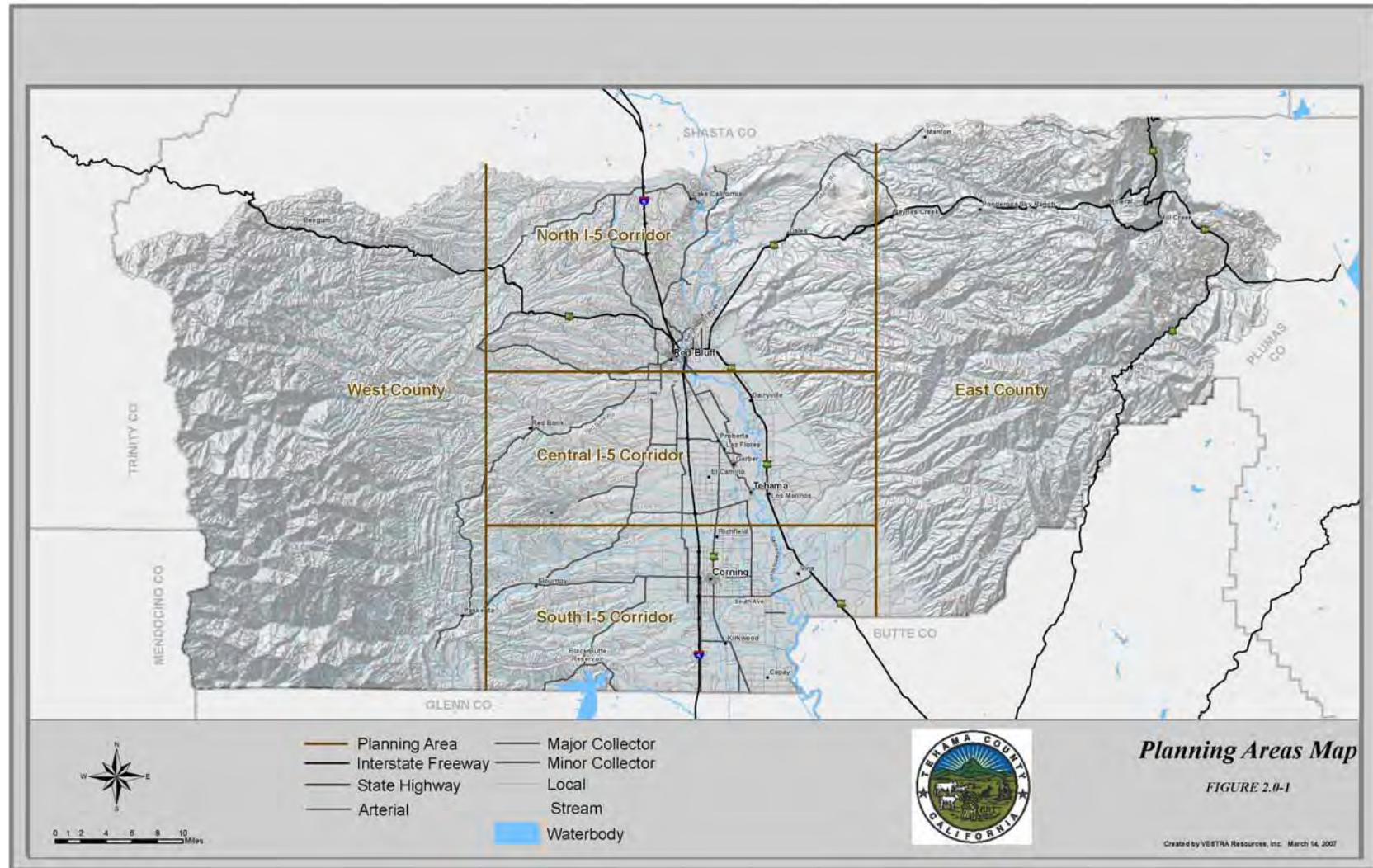
Figure 4: Conceptual General Plan Map of Shasta County SCR

Figure 5: Tehama County Planning Areas (fee zone is the three I-5 Corridor Planning Areas)



2. GROWTH PROJECTIONS AND NEED FOR TRANSPORTATION IMPROVEMENTS

This section describes the forecast for population and employment, and estimates of land use in terms of dwelling units and nonresidential building square feet. Land use forecasts are converted to vehicle trips to provide a measure of travel demand (further discussed below).

POPULATION, EMPLOYMENT, AND LAND USE

The planning horizon for this analysis is 2030. The nexus analysis uses forecasts of dwelling units and employment to estimate new development demand for transportation improvements. Estimates of existing development are based on data from the California Department of Finance and the California Employment Development Department. Existing and future demographics cover only the Shasta County SCR and the Tehama County I-5 Corridor, which constitute the Fix Five impact fee zones, rather than the entire counties.

Shasta County forecasts for 2030 are from the RTPA's recently completed Traffic Demand Forecasting Model (TDFM). The TDFM is used by the RTPA to project land use and transportation for the region. The TDFM allocates changes in the region's economic and demographic characteristics to jurisdictions and other geographic areas within the region. The model is based on the spatial interrelationships among economic factors, housing and population factors, land use patterns, and the transportation system. Forecasts for 2030 by traffic analysis zones are inputs to the transportation modeling process. The TDFM complies with federal mandates that transportation plans consider the long-range effects of the interaction between land uses and the transportation system.

Growth in Shasta County is forecast to occur at rates ranging from 0.78% to 2.24% annually depending on the development type.

Tehama County is presently in the process of updating the County's General Plan. Given the unavailability of current General Plan demographic projections and the lack of a traffic demand model for the County, growth projections for Tehama County are based on an estimated annual growth rate of 1.75%. This represents an approximate midpoint between the historical rate of growth (roughly 1.5% from 2000 to 2007) and the current pipeline of proposed developments that suggests that actual growth could be as high as 2.0% if all potential development were to come to fruition by 2030. Growth projections for Tehama County will be revisited in further detail in the Phase Two study.

This report estimates that 95% of current and future development in Tehama County lies within the fee zone. That proportion was determined using input from County staff and may be revised pending further progress in the General Plan update.

The employment estimates and projections used in this study are converted to building square footage shown in Table 2 using occupant densities factors shown in **Table 2**. These factors are derived from a study of employment, building square feet, and land use conducted by the Natelson Company. The density factors were derived from a random sample of 2,721 parcels drawn from across five California counties. Although the survey was conducted in southern California, employment density factors do not tend to vary significantly by geography. The Natelson study's density factors are based on the largest

sample of properties that we are aware of, and are used in development impact fee studies throughout the State.

The density factors shown below are used to generate estimates of building square footage but do not impact the derivation of equivalent dwelling unit (EDU) factors that are used later in this report to allocate improvement costs by land use category.

Table 2: Occupancy Density Assumptions

Retail	2.00	Employees per 1,000 sq. ft.
Office	1.52	Employees per 1,000 sq. ft.
Industrial	0.90	Employees per 1,000 sq. ft.

Source: The Natelson Company, Inc., Employment Density Study Summary Report, prepared for the Southern California Association of Governments, October 31, 2001; MuniFinancial.

Table 3 lists the 2007 and 2030 land use assumptions used in the nexus analysis. Table 3 also shows compound annual growth rates by development type.

Table 3: Development Projections within Fee Zones

	<u>Dwelling Units</u>		<u>Number of Jobs</u>			<u>Building Square Feet (thousands)</u>		
	Single Family	Multi-Family ¹	Commercial	Office ²	Industrial	Commercial	Office ²	Industrial
<u>Shasta County SCR</u>								
Current Development (2007)	45,500	20,500	13,100	33,500	12,300	6,500	22,000	13,600
Total Projected Development (2030)	65,600	24,500	20,100	55,800	16,900	10,000	36,600	18,700
Projected Growth (2007-2030)	<u>20,100</u>	<u>4,000</u>	<u>7,000</u>	<u>22,300</u>	<u>4,600</u>	<u>3,500</u>	<u>14,600</u>	<u>5,100</u>
Compound Annual Growth Rate	1.60%	0.78%	1.88%	2.24%	1.39%	1.89%	2.24%	1.39%
<u>Tehama County I-5 Corridor</u>								
Current Development (2007) ³	15,500	9,900	5,500	4,800	7,700	2,700	3,100	8,500
Total Projected Development (2030) ^{3,4}	23,100	14,800	8,200	7,200	11,500	4,100	4,700	12,700
Projected Growth (2007-2030)	<u>7,600</u>	<u>4,900</u>	<u>2,700</u>	<u>2,400</u>	<u>3,800</u>	<u>1,400</u>	<u>1,600</u>	<u>4,200</u>
Compound Annual Growth Rate	1.75%	1.76%	1.75%	1.78%	1.76%	1.83%	1.83%	1.76%
<u>Total Fix 5 Fee Area</u>								
Current Development (2007)	61,000	30,400	18,600	38,300	20,000	9,200	25,100	22,100
Total Projected Development (2030)	88,700	39,300	28,300	63,000	28,400	14,100	41,300	31,400
Projected Growth (2007-2030)	<u>27,700</u>	<u>8,900</u>	<u>9,700</u>	<u>24,700</u>	<u>8,400</u>	<u>4,900</u>	<u>16,200</u>	<u>9,300</u>
Compound Annual Growth Rate	1.64%	1.12%	1.84%	2.19%	1.54%	1.87%	2.19%	1.54%

¹ Single family attached dwelling units included in DOF figures are classified as multi-family in this analysis for consistency with RTPA projections.

² Excludes local government employment.

³ Assumes that 5% of countywide development is outside of the I-5 Corridor and excluded from the Tehama County Fix 5 fee zone.

⁴ Based on an assumed countywide growth rate of 1.75% annually. Actual projected rates vary slightly due to rounding. Projection will be revisited in the Phase Two fee analysis.

Sources: Table 3; State of California Department of Finance (DOF); State of California Employment Development Division (EDD), Labor Information Division; Shasta County Regional Transportation Planning Agency (RTPA) Traffic Demand Model; Tehama County Department of Planning; MuniFinancial.

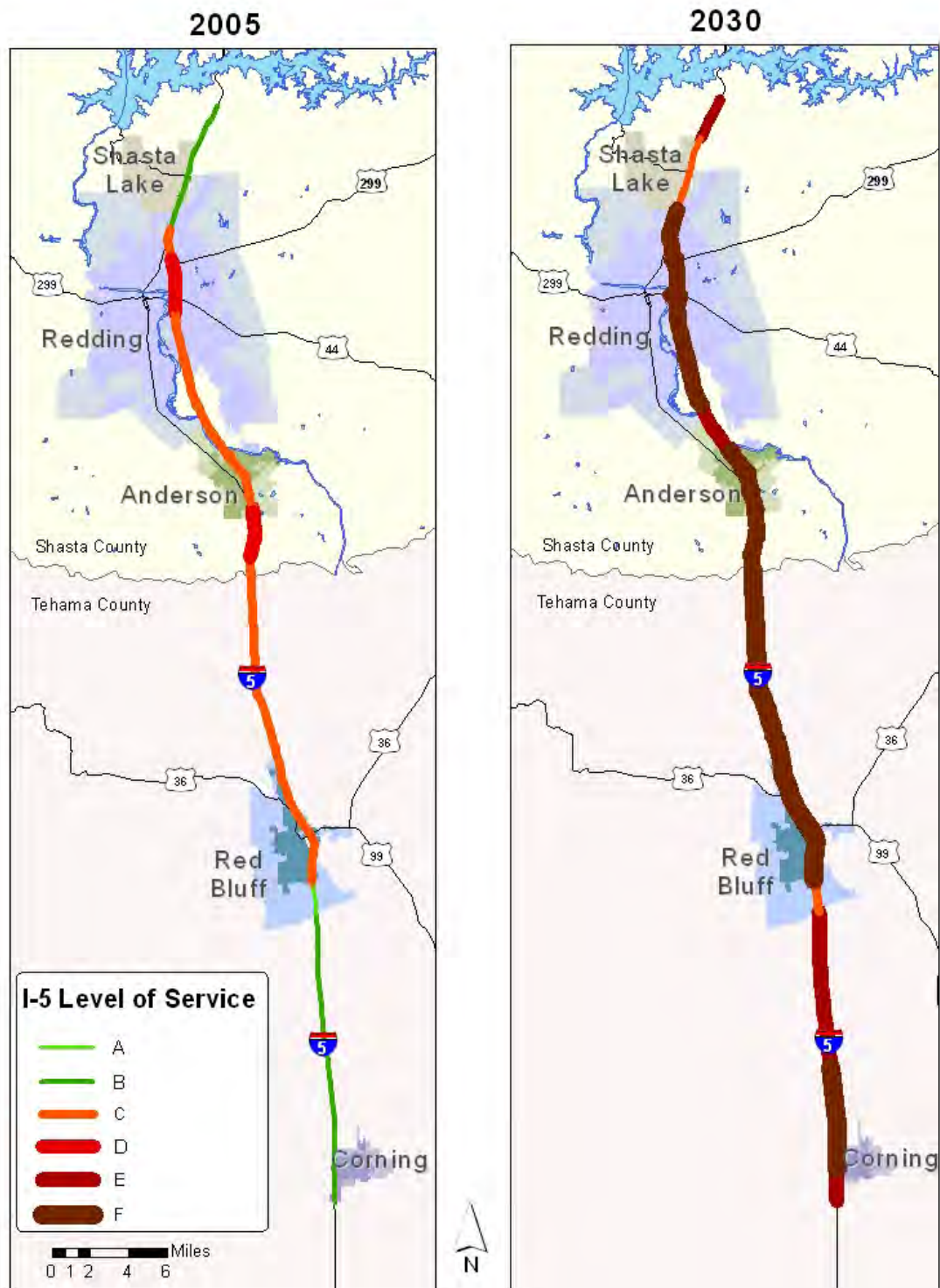
PROJECTED IMPACT OF NEW DEVELOPMENT ON I-5

As noted in the Introduction, the impetus for the formation of the Partnership is the growing understanding that peak hour gridlock traffic conditions are now foreseeable in the near future for Shasta and Tehama Counties. Without any additional capacity on I-5, several segments along the project span will experience failing levels of service within the next decade as new development strains the highway's capacity. By 2030, nearly all of the project span would experience failing conditions without capacity-enhancing improvements.

Figure 6 below shows current and future LOS on I-5 assuming no change in the existing capacity, based on data from Caltrans. By 2030, almost all segments are expected to exceed capacity and LOS will fail to meet local standards.

The two shaded colors shown for each city in the map below indicate the existing city boundaries and the adopted spheres of influence.

An additional figure displaying changing in volume-to-capacity ratios along highways in Shasta County is in the appendix.

Figure 6: I-5 LOS for 2005 and 2030

The need for additional capacity can also be expressed in terms of levels of service (LOS) along the project span. **Table 4** below shows current and projected average daily LOS (assuming no capacity enhancements) for both counties. In general, the I-5 presently yields acceptable LOS but is projected to almost uniformly fail to meet acceptable levels in 2030. The deterioration of LOS results from the addition of higher trip volumes to the road system generated by the new development shown in Table 2.

While the table below depicts average daily LOS, the need for transportation improvements is sometimes based on peak-hour LOS that relates to traffic conditions during the most congested period of the day. Peak-hour traffic ultimately dictates that amount of road capacity required to serve the busiest times. For purposes of analysis, this study relies on average daily LOS to give the broadest the depiction of traffic conditions during a wide-range of times. Both measures, however, are reasonable representations of traffic conditions.

The data in Table 4 suggests that the project span is predominantly free from deficiencies at this time and that the degradation of LOS will be the result of additional trips added to the roadways by new development.

Table 4: Average Annual Daily Level of Service

Postmile Ahead	Segment Description	Level of Service ¹	
		2005	2030
R5.769/R7.486	Liberal Avenue to South Avenue	B	E
R7.486/R8.975	South Avenue to Corning Road	B	E
R8.975/R13.965	Corning Road to Gyle Road	B	F
R13.965/R19.781	Gyle Road to Flores Avenue	B	E
R19.781/R22.224	Flores Avenue to South Red Bluff	B	E
R22.224/R24.871	South Red Bluff to South Main Street	A	C
R24.871/R26.525	South Main Street to Central Red Bluff	C	F
R26.525/R27.472	Central Red Bluff to Adobe Road	C	F
R27.472/36.371	Adobe Road to Nine Mile Hill-NB	B	F
36.371/R27.472	Nine Mile Hill to Adobe Road-SB	C	E
36.371/42.115	Nine Mile Hill to Tehama/Shasta County Line	C	E
R0.00/R0.909	Shasta County Line to Gas Point Road	C	F
R0.909/R4.289	Gas Point Road to Deschutes Road	D	F
R4.289/R6.743	Deschutes Road to Riverside Ave	C	F
R6.743/R9.772	Riverside Ave to Knighton Road	C	E
R9.772/R12.152	Knighton Road to South Bonnyview	C	F
R12.152/R14.443	South Bonnyview to Cypress Ave	C	F
R14.443/R15.429	Cypress Ave to SR 44 Separation	D	F
R15.429/R17.303	SR 44 Separation to SR 299E Separation	D	F
R17.303/R18.481	SR 299E Separation to SR 273N Separation	C	F
R18.481/R19.402	SR 273N Separation to Oasis Road	C	F
R19.402/R20.995	Oasis Road to Pine Grove	B	C
R20.995/R22.144	Pine Grove to SR 151	B	C
R22.144/R26.035	SR 151 to Fawndale (Mountain Gate)	B	D

Note: Based on annual average daily trips.

¹ 2030 LOS assumes no improvements made to I-5.

Source: Caltrans District 2, Office of System Planning; Shasta County Regional Traffic Demand Model.

3. NEXUS ANALYSIS

This chapter documents a reasonable relationship between increased travel demand from new development within the project area, the cost of I-5 improvements needed to accommodate that growth, and an impact fee to fund those investments.

FACILITY COSTS

As noted in the introduction, the primary objective of the Fix Five Partnership is to alleviate future congestion on I-5 by adding two additional lanes (one northbound, one southbound) to a 61-mile span in Tehama and Shasta Counties. Over the years, numerous plans and studies have stated the need for I-5 to become a six-lane facility. The improvements planned do not cover the entirety of the project span because some segments have already been expanded to six lanes. Additionally, one segment is already funded and three will not be fully programmed until the next update of this fee program. The section provides greater detail on the planned improvements and a summary of estimated project costs.

UNIT COST ESTIMATES AND TOTAL FACILITY COSTS

Table 5 below shows total projected Phase One costs for the impact fee program. The cost estimates were prepared by Caltrans and reviewed by Willdan, an engineering firm. Planned improvements include increasing I-5 capacity by adding a third lane. These improvement costs are identified as roadway improvements. Structure improvements include items such as bridges replacements that are required to support the additional lanes being added. The cost estimates, broken down by sections along the project area, include both construction and support costs for roadways and structures. Interchange improvements are not included in Table 5 and are not incorporated into the Fix Five fee program. The cost estimates include only the minimum improvements required to add the additional northbound and southbound lanes.

Four sections are not shown with full costs. For three sections in southern Tehama County (#1B, 2, and 3, post-mile 9.0 to 22.5) the only cost component shown is an initial Project Summary Report (PSR). Given current forecasts of future traffic generation and LOS, those sections have a less imminent need for a capacity enhancement. While a third travel lane will eventually be needed in those locations, only the initial project planning has been included in this version of the fee study in an effort to minimize the cost burden on new development in Tehama County. The inclusion of the PSRs ensures that the widening of these sections will remain a component of the regional planning process, and the full cost of those improvements will be considered in the next required update of the Fix Five fee program.

One section (#8), near Cottonwood in Shasta County, is excluded from the project cost estimates because full funding for this project has already been secured through the State's Proposition 1B bond funding. The successful funding of this project through the competitive 1B bond process is indicative of the Partnership's ability to leverage state and federal funding sources through regional planning efforts. A letter confirming the award of this funding is contained in the Appendix.

As shown below, the total cost of the remaining project sections is approximately \$560 million. This total represents the entirety of project costs. The share that will be recovered through development impact fees will be substantially lower and is addressed in the next chapter.

Project costs are considerably higher in Tehama County than in Shasta County. This disparity is attributable to the increased length of the I-5 project span in Tehama as well as the need for several expensive bridge structures in Tehama. For example, two bridges over the Sacramento River (listed in section 4) will cost a combined \$86 million.

A more detailed breakdown of project cost estimates is shown in the Appendix.

Table 5: Fix 5 Project Costs (2007\$)

Section	Location	Postmiles ¹	Miles	Roadway		Structures		Total
				Construction	Support	Construction	Support	
Tehama County								
1A	Corning/Tehama Co.	5.8 to 9.0	3.2	\$ 20,000,000	\$ 6,000,000	\$ 10,000,000	\$ 3,000,000	\$ 39,000,000
1B	Corning/Tehama Co.	9.0 to 12.1	3.1	Project Study Report and Environmental Clearance Only				270,000
2	Tehama County	12.1 to 16.9	4.8	Project Study Report and Environmental Clearance Only				530,000
3	Tehama County	16.9 to 22.5	5.6	Project Study Report and Environmental Clearance Only				700,000
	Red Bluff/Tehama Co.	22.5 to 24.5	2.0	I-5 Already Six Lanes -- Additional Capacity Not Needed				
4	Red Bluff/Tehama Co.	24.5 to 28.4	3.9	25,000,000	7,400,000	94,000,000	28,200,000	154,600,000
5	Red Bluff/Tehama Co.	28.4 to 32.2	3.8	25,000,000	7,400,000	3,000,000	900,000	36,300,000
6A	Tehama County	32.2 to 36.4	4.2	24,000,000	7,200,000	-	-	31,200,000
6B	Tehama County	36.4 to 38.7	2.3	14,000,000	4,200,000	-	-	18,200,000
6C	Tehama County	38.7 to 41.5	2.8	16,000,000	4,800,000	-	-	20,800,000
7(T)	Tehama County	41.5 to 42.0	0.5	4,000,000	1,200,000	11,500,000	3,450,000	20,150,000
Subtotal			36.2	\$ 128,000,000	\$ 38,200,000	\$ 118,500,000	\$ 35,550,000	\$ 321,750,000
Shasta County								
7(S)	Shasta County	0 to 0.9	0.9	\$ 6,000,000	\$ 1,800,000	\$ 11,500,000	\$ 3,450,000	\$ 22,750,000
8	Shasta County	0.9 to 3.6	2.7	Funded by Proposition 1B				
9	Anderson/Shasta Co.	3.6 to 6.7	3.1	25,000,000	7,500,000	30,000,000	9,000,000	71,500,000
10	Shasta County	6.7 to 12.2	5.5	30,000,000	9,000,000	-	-	39,000,000
11	Redding/Shasta Co.	12.2 to 15.6	3.4	25,000,000	7,500,000	10,000,000	3,000,000	45,500,000
12	Redding/Shasta Co.	15.6 to 18.8	3.2	20,000,000	6,100,000	7,000,000	2,100,000	35,200,000
	Shasta Lake/Shasta Co.	18.8 to 22.2	3.4	I-5 Already Six Lanes -- Additional Capacity Not Needed				
13	Shasta Lake/Shasta Co.	22.2 to 24.8	2.6	16,000,000	5,000,000	2,000,000	1,000,000	24,000,000
Subtotal			24.8	\$ 122,000,000	\$ 36,900,000	\$ 60,500,000	\$ 18,550,000	\$ 237,950,000
Total Fix 5 Project Costs			61.0	\$ 250,000,000	\$ 75,100,000	\$ 179,000,000	\$ 54,100,000	\$ 559,700,000

Notes:

* Add a third lane northbound and southbound (most locations).

* All lanes will be added in the median unless otherwise noted.

* Outside widening for Segments 1, 2, 3, and 13, which have a narrow median, would cost about the same as median widening, plus right of way costs.

* Includes full replacements of the Sacramento River bridges at South Red Bluff (\$50 million) and North Red Bluff (\$40 million) and at Deschutes UC (\$15 million) interchange.

* Estimates do not include any capacity-increasing work at the interchanges.

* Does not include rehabilitation needs for any structures or regular mainline I-5.

* Support costs estimated at 30% of construction costs.

¹ Postmile 0 is the south border of each county.

Sources: Caltrans, MuniFinancial.

TRIP GENERATION AND EQUIVALENT DWELLING UNITS

The critical policy issue in a development impact fee nexus study is the identification of a facility standard. The facility standard determines the need for new facilities to serve new development. The facility standard is also used to evaluate the existing level of facilities to ensure that new development non-fee sources fund infrastructure needed to serve interregional travel or correct existing deficiencies.

The facility standard used by this nexus analysis is average weekday vehicle trips on I-5. Daily vehicle trips provide a reasonable system-wide measure of the impact of new development on congestion and mobility. Vehicle trips are directly related to LOS and the need for capacity enhancements. As new development generates increased vehicle trips on I-5, capacity will be increasingly strained prompting the need for the improvements described in this report.

Another reasonable facility standard is peak-hour vehicle trips. This study relies on daily trip volumes because that indicator better captures the system-wide impacts of inter-regional traffic. Local traffic makes up a higher percentage of overall traffic during peak hours. The approach used in this report, therefore, is favorable to local jurisdictions because it is best able to identify capacity needs resulting from non-local traffic.

Trip generation rates are applied to development projections to allocate improvement costs by land use type. The trip generation rates used for this analysis are based on a study that provides data by five major land use categories. The trip generation rates are comparable to the national trip generation rates published by the Institute of Transportation Engineers. This data is solely used to allocate costs between land uses and not to determine the scope or cost of needed improvements.

The following two adjustments are made to vehicle trip generation rates to better estimate travel demand by type of land use:

- ♦ Pass-by trips are deducted from the trip generation rate. Pass-by trips are defined as intermediate stops between an origin and a final destination that require no diversion from the route, such as stopping to get gas on the way to work.
- ♦ The trip generation rate is weighted by the average length of trips for a specific land use category compared to the average length of all trips.

These factors vary by land use category. To estimate total demand for new traffic facilities across all land use types, this report uses an “equivalent dwelling unit (EDU)” factor that sets the demand from a single-family dwelling unit at 1.00 EDU. EDU factors for all other land uses are calculated relative to the demand for a single-family unit.

Table 6 show trip generation rates and EDU factors by land use. The EDU factors incorporate daily trip generation rates, relative shares of pass-by and diverted trips, and average trip length by land use. These factors may be further refined in Phase Two. For Phase One it would be reasonable for individual jurisdictions to use slightly different EDU factors or land use categories so long as the cost per EDU is that same as that which is

documented later in this report. The EDU factors are used solely to allocate costs between land use categories and not to determine the share of costs that can be recovered with impact fees.

Table 6: Trip Rate Adjustment Factor

Trip Rate Adjustment Factor						Average Daily Trips ⁴	Trip Demand Factor ⁵	Equivalent Dwelling Units (EDUs)
Primary Trips ¹	Diverted Trips ¹	Total Excluding Pass-by ¹	Average Trip Length ²	Adjust- ment Factor ³				
<u>Residential (per dwelling unit)⁶</u>								
Single Family	86%	11%	97%	7.9	1.11	10	11.10	1.00
Multi-family	86%	11%	97%	7.9	1.11	8	8.88	0.80
<u>Nonresidential (per 1,000 building square feet)⁷</u>								
Commercial	47%	31%	78%	3.6	0.41	68	27.88	2.51
Office	77%	19%	96%	8.8	1.22	20	24.40	2.20
Industrial	79%	19%	98%	9.0	1.28	7	8.96	0.81

¹ Percent of total trips. Primary trips are trips with no midway stops, or "links". Diverted trips are linked trips whose distance adds at least one mile to the primary trip. Pass-by trips are links that do not add more than one mile to the total trip.

² In miles.

³ The trip adjustment factor equals the percent of non-pass-by trips multiplied by the average trip length and divided by the systemwide average trip length of 6.9 miles.

⁴ Trips per dwelling unit or per 1,000 building square feet.

⁵ The trip demand factor is the product of the trip adjustment factor and the average daily trips.

⁶ Trip percentages, average trip lengths, and average daily trips based on "residential" category.

⁷ Trip percentages, average trip lengths, and average daily trips for commercial based on "community shopping center" category, for office based on "standard commercial office" category, and for industrial based on "industrial park (no commercial)" category.

Source: San Diego Association of Governments; MuniFinancial.

Based on the EDU factors generated in Table 5, **Table 7** shows the projected EDU growth in the Shasta and Tehama fee zones from 2007-2030. These EDU totals are calculated by multiplying the EDU factors shown above by the development projections from Table 3.

Table 7: Growth in EDUs

EDUs	Shasta County SCR		Tehama County I-5 Corridor		Total Fee Zone	
	Net Growth 2007-2030	EDU Growth	Net Growth 2007-2030	EDU Growth	Net Growth 2007-2030	EDU Growth
<u>Dwelling Units</u>						
Single Family	1.00	20,100	20,100	7,600	7,600	27,700
Multi-family	0.80	4,000	3,200	4,900	3,900	8,900
<u>Building Square Feet (000s)</u>						
Retail	2.51	3,500	8,800	1,400	3,500	4,900
Office	2.20	14,600	32,100	1,600	3,500	16,200
Industrial/Other	0.81	5,100	4,100	4,200	3,400	9,300
Total EDU Growth (2007-2030)		68,300		21,900		90,200

Sources: Tables 2 and 5, MuniFinancial.

EXTERNAL TRIP ADJUSTMENTS

To ensure compliance with the *Mitigation Fee Act*, the nexus established in this report between new development and the facilities required to serve new development includes an accounting of external trips that both begin and end outside of the region. These trips cannot be attributed to local development, and therefore the cost basis associated with these trips is excluded from the share of project costs eligible for funding with- the Fix Five fee.

To determine the share of total trips that will be classified as external, this report relies on a variety of sources including:

- ♦ An Origin and Destination Survey of travel on state highways in Shasta County prepared by DKS Associates in February 1995.
- ♦ An Origin and Destination Traffic Study (O&D Study) covering Shasta and Tehama Counties prepared by Kimley Horn and Associates, Inc. for Caltrans in May 2007.
- ♦ Output from the Shasta County Traffic Demand Model for select segments on I-5 in Shasta County

The 2007 O&D Study surveyed vehicular traffic in the region over a three-day period from October 3-5, 2006 by employing license plate recognition technology at six gateway locations. The results of the survey were compiled to determine the share of trips that passed through one or more of the gateways during a twelve-hour period.

Once processed, the study enabled the categorization of all trips into one of three categories:

- ♦ **Inter-regional trips:** trips found to have passed through two gateways to both enter and exit the study area;
- ♦ **Intra-regional trips:** trips found to begin or end their trip within the study area, passing through only one gateway, or trips that pass twice through the same gateway; and
- ♦ **Local trips:** trips that both begin and end within the study area. Because these trips did not pass through any gateways, counts of local trips were based on Caltrans permanent vehicle count stations that were employed on the same days as the study.

Though defined in various ways, these three trip types are common to most traffic surveys and require careful allocation in all traffic impact fee studies. None of the data sources employed revealed any significant inconsistencies in their results.

The handling of inter-regional and local trips is fairly straightforward in a nexus study. Local trips that lie entirely within the project area are tied to local responsibility and are not excluded from the study. An example of a local trip would be a trip from a residence in Red Bluff to a retail development also in Red Bluff. It is worth noting that longer trips could also be classified as local in this study. For example a trip from Red Bluff to Shasta Lake would both begin and end in the study area even though it may not meet a more conventional definition of a local trip, given its length. A more detailed consideration of how I-5 impacts might vary based on the location of new development within the project area will accompany more extensive traffic modeling in the Phase Two fee program.

Inter-regional trips represent a share of the traffic in the region that has neither an origin nor destination within the study area. These trips include truck and recreational travelers that travel from north of Shasta County to south of Tehama County, or vice versa. Because inter-regional trips are not related in any way to new development within the project areas, it is not reasonable to impose a fee in the two counties for the share of project costs associated with inter-regional trips.

There is a range of reasonable approaches to the handling of intra-regional trips in a nexus study. Intra-regional trips are those that pass through only one gateway and can therefore be equated with trips that have either an origin or destination in the fee zone, but not both.² An example of an intra-regional trip would be a commute from a residence in Burney to an employment site in Redding.

This study considers three possible approaches to accounting for intra-regional trips:

1. **Minimum External Trip Adjustment:** All intra-regional trips are treated as local trips. This approach assigns the responsibility for all intra-regional trips to the fee zones. This methodology discounts the external trip ends for intra-regional travel and is commonly used in traffic fee studies. For this approach to be justified, one must determine that intra-regional trips predominantly result from development inside the fee zones rather than development outside of the zones. In the case of the Tehama and Shasta Fix Five fee zones, this approach could be justified because the fee zones comprise the bulk of urbanized land in the region and most trip attractors, such as employment and retail centers, are likely to be within the zones.
2. **Moderate External Trip Adjustment:** Fifty percent of intra-regional trips are treated as local trips. This is the most intuitive option for handling intra-regional trips because, for a trip with one end in the fee zones and one end outside, the responsibility is essentially split evenly between the local and external regions.
3. **Maximum External Trip Adjustment:** All intra-regional trips are treated as external trips. In effect, this approach implies that local partners will not be held responsible for any share of a trip that either originates or ends outside of the fee zones. This approach is the most favorable to local jurisdictions because it assigns the largest cost burden to external funding sources, but presents significant challenges in justifying that any new trip with an end outside of the zone is not the responsibility of local development.

Table 8 below shows the allocation of project costs between internal and external responsibility for each of the three scenarios described above.

Because the traffic studies listed above study did not provide a breakdown of local, intra-regional, and inter-regional trips for each section of the project area, each section has been

² Because the O&D Study surveyed traffic at gateways but did not provide data on precise origins and destinations, it is not possible to conclude that all intra-regional trips have exactly one trip end within the fee zones. Nevertheless, the gateways equate closely enough with the fee zone boundaries that it is reasonable to assume that the total number of intra-regional trips roughly correlates to the number of trips with one end in the zones.

categorized, for the purposes of this study, as either urbanized or non-urbanized and assigned an external trip share representative of that area. This assumption is used because the available data sources do not provide external trip rates by segment on I-5. The studies do, however, suggest, approximate rates by region. From that analysis, two distinct categories emerged relative to the share of trips that are intra or inter-regional.

Urbanized sections are those located within the most densely developed portion of the project area, stretching from the south end of Red Bluff to the City of Shasta Lake. Non-urbanized areas are the four southernmost sections and the furthest section to the north. This simplifying assumption follows a general trend that emerged from the O&D Study; that outlying non-urbanized areas at the southern and northern ends of the project span have higher percentages of inter- and intra-regional trips than the middle portions of the project span.

For each approach, Table 8 shows external trip adjustments by section, as well as the component of the \$560 million total project cost that can be assigned to development within the fee zones. The remaining share of the cost cannot justifiably be charged to new development within the zones and will need to be funded with non-fee revenues.

Table 8: External Trip Adjustment

				Scenario 1 - Minimum		Scenario 2 - Moderate External		Scenario 3 - Maximum	
				External Trip Adjustment ¹		Trip Adjustment ²		External Trip Adjustment ³	
Section	Postmiles ¹	Total	I-5 Use Classification	External Trips	Fee Area Cost Share	External Trips	Fee Area Cost Share	External Trips	Fee Area Cost Share
<u>Tehama County</u>									
1A	5.8 to 9.0	\$ 39,000,000	Non-Urbanized	25%	\$ 29,250,000	50%	\$ 19,500,000	75%	\$ 9,750,000
1B	9.0 to 12.1	270,000	Non-Urbanized	25%	202,500	50%	135,000	75%	67,500
2	12.1 to 16.9	530,000	Non-Urbanized	25%	397,500	50%	265,000	75%	132,500
3	16.9 to 22.5	700,000	Non-Urbanized	25%	525,000	50%	350,000	75%	175,000
	22.5 to 24.5	-	Non-Urbanized	25%	-	50%	-	75%	-
4	24.5 to 28.4	154,600,000	Urbanized	10%	139,140,000	25%	115,950,000	40%	92,760,000
5	28.4 to 32.2	36,300,000	Urbanized	10%	32,670,000	25%	27,225,000	40%	21,780,000
6A	32.2 to 36.4	31,200,000	Urbanized	10%	28,080,000	25%	23,400,000	40%	18,720,000
6B	36.4 to 38.7	18,200,000	Urbanized	10%	16,380,000	25%	13,650,000	40%	10,920,000
6C	38.7 to 41.5	20,800,000	Urbanized	10%	18,720,000	25%	15,600,000	40%	12,480,000
7(T)	41.5 to 42.0	20,150,000	Urbanized	10%	18,135,000	25%	15,112,500	40%	12,090,000
Subtotal		\$ 321,750,000			\$ 283,500,000		\$ 231,187,500		\$ 178,875,000
<u>Shasta County</u>									
7(S)	0 to 0.9	\$ 22,750,000	Urbanized	10%	\$ 20,475,000	25%	\$ 17,062,500	40%	\$ 13,650,000
8	0.9 to 3.6	-	Urbanized	10%	-	25%	-	40%	-
9	3.6 to 6.7	71,500,000	Urbanized	10%	64,350,000	25%	53,625,000	40%	42,900,000
10	6.7 to 12.2	39,000,000	Urbanized	10%	35,100,000	25%	29,250,000	40%	23,400,000
11	12.2 to 15.6	45,500,000	Urbanized	10%	40,950,000	25%	34,125,000	40%	27,300,000
12	15.6 to 18.8	35,200,000	Urbanized	10%	31,680,000	25%	26,400,000	40%	21,120,000
	18.8 to 22.4	-	Urbanized	10%	-	25%	-	40%	-
13	22.2 to 24.8	24,000,000	Non-Urbanized	25%	18,000,000	50%	12,000,000	75%	6,000,000
Subtotal		\$ 237,950,000			\$ 210,555,000		\$ 172,462,500		\$ 134,370,000
Total		\$ 559,700,000			\$ 494,055,000		\$ 403,650,000		\$ 313,245,000

¹ External trips classified as all interregional trips. See Origination & Destination Study for details.

² External trips classified as all interregional trips plus 50% of intraregional trips. See Origination & Destination Study for details.

³ External trips classified as all interregional trips plus all intraregional trips. See Origination & Destination Study for details.

Sources: Table 7; *Origination & Destination Traffic Study Final Study Results*, Caltrans; MuniFinancial.

COST ALLOCATION

This section details the range of justified costs per EDU of new development resulting from the three external trip scenarios described above. These factors do not influence the proposed fee schedules shown in the next chapter, but rather are used to determine the maximum costs that can be associated with new development for the purposes of this nexus analysis. The following section will present proposed fee schedules that are based on availability of external funding sources rather than the EDU and external trip data considered in this chapter.

The EDU factors described in the *Trip Generation and Equivalent Dwelling Units* section, above, provide a means to allocate a proportionate share of total Fix Five improvements to each new development project. EDUs are a reasonable measure of each development project's demand on the regional transportation system. New development's share of total improvements is divided by total EDUs generated by new development to calculate a cost per EDU. The cost per EDU multiplied by the EDUs generated by a particular development project determines that project's fair share of total planned improvements.

Table 9 below shows the calculation of cost per EDU for each of the three external trip adjustment scenarios described in the previous section. Costs are shown separately for each county as well as combined for the entire region. Costs per EDU are lowest for Scenario 3 because that approach involves shifting the highest share of the cost burden to external sources.

This table shows highest justified costs attributable to new development but is **not a proposed fee schedule**. The Partnership and its core committees intend to implement the lowest possible fee. Those calculations are contained in the next chapter.

Table 9: Costs per EDU Attributable to New Development

	Tehama	Shasta	Combined
<i>Scenario 1 (Minimum External Trip Adjustment)</i>			
Fee area share of planned improvement costs	\$ 283,500,000	\$ 210,555,000	\$ 494,055,000
EDU growth (2007 - 2030)	21,900	68,300	90,200
Cost per EDU	\$ 12,945	\$ 3,083	\$ 5,477
<i>Scenario 2 (Moderate External Trip Adjustment)</i>			
Fee area share of planned improvement costs	\$ 231,187,500	\$ 172,462,500	\$ 403,650,000
EDU growth (2007 - 2030)	21,900	68,300	90,200
Cost per EDU	\$ 10,557	\$ 2,525	\$ 4,475
<i>Scenario 3 (Maximum External Trip Adjustment)</i>			
Fee area share of planned improvement costs	\$ 178,875,000	\$ 134,370,000	\$ 313,245,000
EDU growth (2007 - 2030)	21,900	68,300	90,200
Cost per EDU	\$ 8,168	\$ 1,967	\$ 3,473

Sources: Tables 7 and 8, MuniFinancial.

Costs per EDU in Table 9 are higher for Tehama County because Tehama has a higher improvement cost basis than Shasta County, along with considerably less projected development. While it is not the intent of the Partnership to have a higher fee in Tehama County, it is unlikely that any implementation scenario will facilitate the use of revenues collected in one County for improvements in the other (with the possible exception of select projects that cross the county line). Consequently, the final fees in the two counties may not be equal at the time of implementation.

The review of external funding sources in the next chapter is important to the ultimate share of costs collected through impact fees and will effect the fee amounts and the relative differences between the two counties.

4. ADDITIONAL FUNDING SOURCES

The previous chapter described maximum defensible fees that could be charged to new development to fund I-5 improvements under the *Mitigation Fee Act*. The agencies that make up the Fix Five Partnership desire to work with the development community to arrive at the smallest fee possible while still providing full funding for the needed improvements. This chapter, therefore, shows a range of potential alternative funding scenarios and the resulting impact fee amounts, all of which are lower than the maximum justified amounts shown in the last chapter.

AVAILABLE NON-FEE FUNDING SOURCES

Historically, improvements to the state highway system have been funded by state and federal, rather than local, sources. Although the Partnership was formed largely in response to an increasing scarcity of non-local funds to fund highway system projects, it is still reasonable to expect a significant amount of non-impact fee revenues for the I-5 widening project.

The following is a survey of funding sources that may be available to contribute to the Partnership, categorized by the agency with discretion over spending:

SHASTA COUNTY RTPA AND TEHAMA COUNTY TRANSPORTATION COMMISSION

- ♦ The **Regional Improvement Fund (RIP)** provides funding for regional improvements and consists of money from the State Transportation Improvement Program (STIP) that is allocated to regional transportation planning agencies. The regional agencies have discretion over expenditure of these funds and may opt to allocate a portion to I-5 improvements, based on locally determined priorities.

CALIFORNIA TRANSPORTATION COMMISSION (CTC)

- ♦ The share of the STIP not allocated to the RIP funds the **Interregional Improvement Program (IIP)**. This funding source is controlled by the CTC and is dedicated to interregional improvements such as the I-5 capacity expansion. Given its focus on interregional improvements, the IIP is an appropriate funding option for the share of I-5 improvement costs associated with non-local travel.
- ♦ The CTC also controls the **State Highway Operation and Protection Plan (SHOPP)**. The SHOPP funds the maintenance of the state highway system through rehabilitations (roadways and bridges), capital maintenance, safety, storm damage, and other maintenance programs. The SHOPP is a likely funding source for several of the bridge structures that are included in the Fix Five project list.

STATE LEGISLATURE

- ♦ The Highway Safety, Traffic Reduction, Air Quality, and Port Security Fund of 2006 (**Proposition 1B**) provided about \$20 billion from bond sales, much of which was devoted to transportation projects. Proposition 1B funded one segment along the Fix Five project span, but additional funds are largely committed at this time. Additional bond offerings remain a potential revenue source for the future, but cannot be relied upon.
- ♦ The state legislature may also provide future funding opportunities through earmarks for specific projects.

FEDERAL LEGISLATURE

- ♦ Federal Grant Funding is available to fund selected transportation improvements. An example of a federal grant program is the Corridors of the Future Program (CFP), which provides funding for corridor improvements for the purposes of reducing congestion.
- ♦ Like the state, the federal legislature may also provide future funding opportunities through earmarks for specific projects as part of independent legislation.

Two local funding sources that are not being considered at this time are self-help county sales tax measures and toll roads. Voters in nineteen California counties have passed sales tax measures to fund transportation improvements. Some regions in southern California have elected to implement toll roads to fund capacity enhancements. Neither of these options is being considered in Shasta and Tehama Counties because the Partnership intends to implement a fully funded program using the sources described in this report.

Please see the appendix for additional data on state and federal funding sources.

FUNDING SCENARIOS AND FEE CONTRIBUTIONS

Given the ability of a regional fee program to leverage additional funding from state and federal sources, the Partnership is optimistic that a majority of project costs will ultimately be funded by non-local sources. While the costs per EDU in the previous chapter would be defensible under the *Mitigation Fee Act*, the Partnership expects be able to charge lower fees and still maintain a fully funded program given sufficient revenues from other sources.

Table 10 below shows the costs per EDU that result from preliminary assumptions on outside funding contributions. The Partnership intends, if feasible, to charge comparable fee amounts in both counties. For this goal to be achieved, Tehama County needs to identify a higher percentage of projected funding from non-fee revenue sources because project costs are higher in Tehama, particularly for construction of structures.

Part of the gap between non-fee contributions in the two counties is attributable to the presence of several project components in Tehama County that are particularly well suited to SHOPP funding. For example, the Partnership believes that a majority of project costs for three bridge structures in Section 4 (see table 5 for detail) may ultimately come from SHOPP funds. Similarly, road segment improvements between Red Bluff and the Bowman

interchange all likely to receive significant SHOPP funds due to the hilly terrain in those areas. SHOPP funding for these cost components are shown separately from additional estimates of outside funding shown in Table 10. These cost shares represent study assumptions and not funding commitments. Even with these SHOPP contributions, Tehama will need a higher share of outside funding on net project costs to achieve an equal cost per EDU to that of Shasta County.

Only the cost share that is left unfunded after accounting for state and federal grants is applied to new development. The costs per EDU in Table 10 result in lower costs per EDU than those shown in the previous chapter.

Table 10: Potential Outside Funding Scenarios

	Tehama County	Shasta County	Combined
Total Fix 5 Cost	\$ 321,750,000	\$ 237,950,000	\$ 559,700,000
Potential SHOPP Funding for Bridges ¹	116,090,000	-	116,090,000
Potential SHOPP Funding for Tehama Hills ²	52,650,000	-	52,650,000
Fix Five Cost Net of SHOPP Funds	\$ 153,010,000	\$ 237,950,000	\$ 390,960,000
Projected Funding from Other Non-Fee Sources	75%	50%	60%
Outside Funding	\$ 114,757,500	\$ 118,975,000	\$ 233,732,500
Impact Fee Revenue Required	\$ 38,252,500	\$ 118,975,000	\$ 157,227,500
New Development EDUs (2007-2030)	21,900	68,300	90,200
Fee per EDU	\$ 1,747	\$ 1,742	\$ 1,743

Note: Potential non-fee funding sources include state and federal grants. Contributions shown represent hypothetical funding scenarios. Actual funding has not yet been secured.

¹ Anticipated funding for construction of bridges in Section 4 near Red Bluff. Assumes 95% of structure costs from SHOPP (total construction and support costs for the bridges is \$122,200,000). See Table 5 for more detail on these cost components.

² Anticipated funding for Sections 6A, 6B, and 6C between Red Bluff and the Bowman interchange. Assumes 75% of section costs from SHOPP (total construction and support costs for these sections totals \$70,200,000). See Table 5 for more detail on these cost components.

Sources: Tables 5 and 7; MuniFinancial.

It will be impossible to accurately predict the amount of non-fee funding for the entire I-5 widening project prior to implementing the Phase One or Phase Two impact fees. The participating jurisdictions, therefore, will need to base the Fix Five funding program on a non-fee funding estimate that is agreed upon as a reasonable estimate and set the fee amounts accordingly.

The Partnership will also need to determine an appropriate response to the fee differential between Shasta and Tehama Counties. To achieve comparable fee levels, the two Counties may need to make different assumptions regarding availability of outside funding and commitment of locals funds.

5. IMPLEMENTATION

This chapter provides guidance on use of this nexus study by local agencies to implement the Fix Five Partnership development impact fee. “Local agencies” includes the cities of Corning, Red Bluff, Anderson, Redding, and Shasta Lake, and the counties of Tehama and Shasta.

The guidance provided in this study is not a substitute for legal advice and all local agencies should consult with their legal counsel regarding compliance with the *Mitigation Fee Act (Act)*.

IMPACT FEE PROGRAM ADOPTION PROCESS

Impact fee program adoption procedures are found in the *California Government Code* section 66016. Adoption of an impact fee program requires the city councils and boards of supervisors to follow certain procedures including holding a public meeting. Fourteen day mailed public notice is required for those registering for such notification. Data, such as an impact fee report, must be made available at least 10 days prior to the public meeting. After adoption there is a mandatory 60-day waiting period before the fees go into effect. This procedure must also be followed for fee increases in the future.

FEE COLLECTION

To ensure a reasonable relationship between each fee and the type of development paying the fee, growth projections distinguish between different land use types. The land use types used in this analysis are defined below.

- ♦ **Single family:** Attached and detached one-family dwelling units; and
- ♦ **Multi-family:** All attached single-family dwellings such as duplexes and condominiums, plus mobile homes, apartments, and dormitories.
- ♦ **Commercial:** All commercial, retail, educational, and hotel/motel development.
- ♦ **Office:** All general, professional, and medical office development.
- ♦ **Industrial:** All manufacturing development.

Some developments may include more than one land use type, such as an industrial warehouse with living quarters (a live-work designation) or a planned unit development with both single and multi-family uses. In these cases the public facilities fee would be calculated separately for each land use type.

The cities and counties should have the discretion to impose the public facilities fee based on the specific aspects of a proposed development regardless of zoning. The guideline to use is the daily trip generation, adjusted for trip length and pass-through rates. The fee imposed should be based on the land use type that most closely represents the trip generation of the development.

INFLATION ADJUSTMENT

Appropriate inflation indexes should be identified in a fee ordinance including an adjustment to the fee annually. Separate indexes for land (for right-of-way acquisition) and construction costs should be used. Calculating the land cost index may require the periodic use of a property appraiser. The construction cost index can be based on the region's recent capital project experience or can be taken from any reputable source, such as the *Engineering News-Record*. To calculate prospective fee increases, each index should be weighed against its share of total planned facility costs represented by land or construction, as appropriate.

While fee updates using inflation indexes are appropriate for periodic updates to ensure that fee revenues keep up with increases in the costs of transportation improvements, the cities and counties will also need to conduct more extensive updates of the fee documentation and calculation when significant new data on growth projections and/or improvement project plans become available.

REPORTING REQUIREMENTS

The cities and counties should comply with the annual and five-year reporting requirements of the *Act*. Because a combination of development impact fees and other revenues will fund the planned improvements, identification of the source and amount of the non-fee revenues is essential. Identification of the timing of receipt of other revenues to fund the facilities is also important.

FEE COLLECTION AND EXPENDITURE

Fees will be collected at the time of the issuance of a building permit. All impact fee collection will be conducted by the local governing agencies. Fee revenues will likewise be held and controlled by the collection agencies. It is not anticipated that sufficient revenues will be collected during the Phase One fee program to initiate any project construction, however these revenues are essential to leveraging state and local funds. Prior to adoption of the Phase Two impact fee program, all agencies will need to reach an agreement on the regulations governing pooling and expending for impact fee revenues.

MEMORANDUM OF UNDERSTANDING

Implementation guidelines for the Phase One fee will be governed by a memorandum of understanding (MOU) agreed to by all agencies in the Partnership. In this document, Caltrans will note that the payment of Fix Five mitigation fees by new development is deemed an acceptable mitigation of cumulative impacts on I-5 by new development.

Implementation of the Phase Two program will require all partner agencies to reach agreements on policies for local control and spending of fee revenues through an update and revision of the MOU.

PHASE 2 FEE ANALYSIS

Concurrent with the Phase One fee adoption process, the Partnership will be initiating Phase Two fee analysis. This work is expected to take roughly one year and will involve more complex traffic modeling and implementation procedures than those outlined in this report.

6. MITIGATION FEE ACT FINDINGS

Development impact fees are one-time fees typically paid when a building permit is issued and imposed on development projects by local agencies responsible for regulating land use (cities and counties). To guide the widespread imposition of public facilities fees, the State Legislature adopted the *Mitigation Fee Act (Act)* with Assembly Bill 1600 in 1987 and subsequent amendments. The *Act*, contained in *California Government Code* Sections 66000 through 66025, establishes requirements on local agencies for the imposition and administration of fee programs. The *Act* requires local agencies to document five findings when adopting a fee.

Sample text that may be used for the five statutory findings required for adoption of the Fix Five Partnership impact fee are presented in this chapter and supported in detail by the *Nexus Analysis* chapter of this report. All statutory references below are to the *Act*.

PURPOSE OF FEE

For the first finding the local agencies must:

Identify the purpose of the fee. (§66001(a)(1))

The purpose of this fee is to ensure that new development shall contribute toward the cost adding additional capacity to Interstate 5 in Tehama and Shasta Counties to mitigate expected congestion. The purpose of the Fix Five impact fee is to implement this policy. The fee advances a legitimate public interest by enabling the Partnership to fund improvements to transportation infrastructure required to accommodate new development. The purpose of the fee is consistent with one of the Fix Five Partnership's stated goals: "Establish a fair share funding strategy considering local, regional, state and federal resources."

USE OF FEE REVENUES

For the second finding the local agencies must:

Identify the use to which the fee is to be put. If the use is financing public facilities, the facilities shall be identified. That identification may, but need not, be made by reference to a capital improvement plan as specified in Section 65403 or 66002, may be made in applicable general or specific plan requirements, or may be made in other public documents that identify the public facilities for which the fee is charged. (§66001(a)(2))

- ♦ The Fix Five impact fee will fund expanded capacity along a 61-mile stretch of Interstate Five in Tehama and Shasta Counties running from the Liberal Avenue interchange in the south to the Mountain Gate interchange in the north.

Costs for planned traffic facilities are preliminarily identified in this report. Costs funded by the Fix Five impact fee may include project administration and management, design and engineering, right-of-way acquisition, and construction. Fee revenues will be used for the sole purpose of expanding capacity on I-5 to accommodate new development. The share of

project costs representing external, inter-regional traffic will be funded with non-fee revenues from other sources. The Fix Five impact fee will not be used for the purpose of correcting existing deficiencies in the roadway system.

BENEFIT RELATIONSHIP

For the third finding the local agencies must:

Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed. (§66001(a)(3))

The local agency will restrict fee revenues to capital projects that expand capacity to serve new development. Improvements funded by the Fix Five impact fee will expand a stretch of Interstate 5 accessible to the additional residents and workers associated with new development. It has been determined that the planned projects identified in this report will expand the capacity of Interstate 5 to accommodate the increased trips generated by new development. Thus, there is a reasonable relationship between the use of fee revenues and the residential and nonresidential types of new development that will pay the fee.

BURDEN RELATIONSHIP

For the fourth finding the local agencies must:

Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed. (§66001(a)(4))

New dwelling units and building square footage are indicators of the demand for transportation improvements needed to accommodate growth. As additional dwelling units and building square footage are created, the occupants of these structures generate additional vehicle trips and place additional burdens on the transportation system.

The need for the Fix Five impact fee is based on projections of growth that show an increase in trip generation and a decrease in level of service primarily as a result of new development. The estimated impacts from new development are based on EDU factors that vary by land use category, providing a reasonable relationship between the type of development and the need for improvements.

PROPORTIONALITY

For the fifth finding the local agencies must:

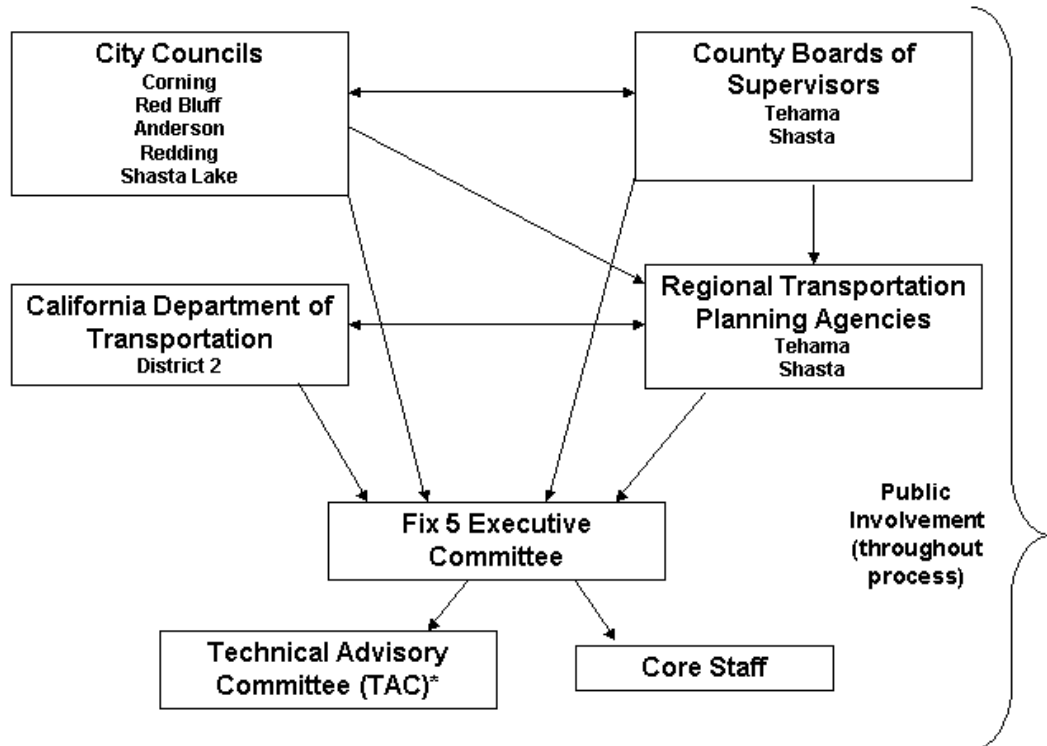
Determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed. (§66001(b))

This reasonable relationship between the Fix Five impact fee for a specific development project and the cost of the facilities attributable to that project is based on the estimated vehicle trips the project will add to Interstate 5. The total fee for a specific residential

development is based on the number and type of new dwelling units multiplied the EDU factor, which is based on the trip generation rate for the applicable residential land use category. The fee for a specific nonresidential development is based in a similar manner on the amount of building square footage by land use category. Larger projects generate more vehicle trips and pay a higher fee than smaller projects of the same land use category. Thus, the fee schedule ensures a reasonable relationship between the Fix Five impact fee for a specific development project and the cost of the Interstate 5 improvements attributable to the project.

APPENDIX 1 – FIX FIVE OUTREACH PROCESS

FIX FIVE ORGANIZATION CHART



* The TAC is open to all interested stakeholders including community based organizations, tribal governments, business associations, Economic Development Corporations, advocacy agencies, and the general public.

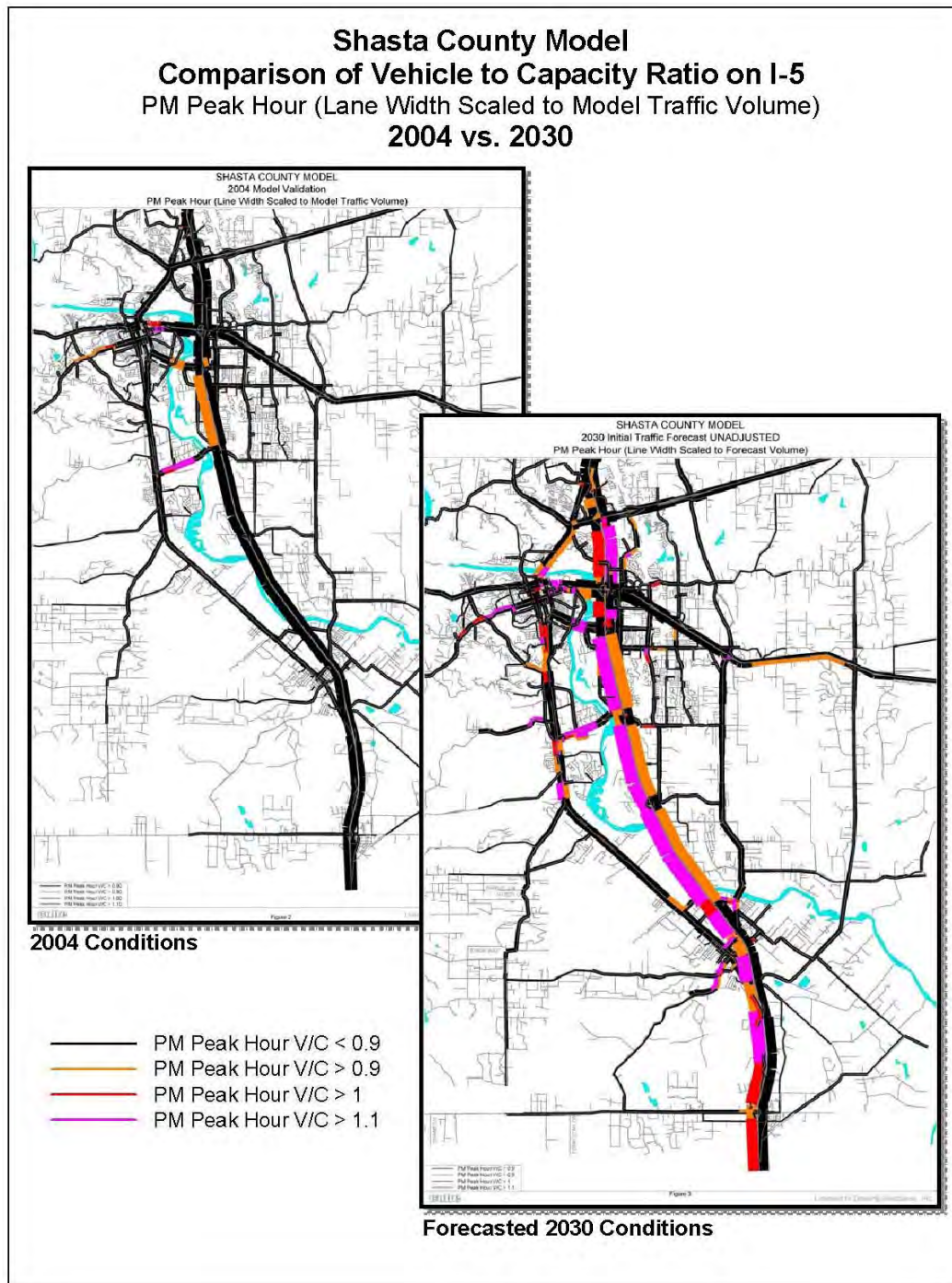
PHASE ONE MEETING SCHEDULE

Revised: 6/5/07

Fix 5 Partnership Interstate 5 Fee Program Calendar

Month	Day of Week	Event	Description	Time	Physical Location
23	Friday	Executive Committee	#2 - introduce consultant and outline scope and schedule of work	2pm	Redding City Hall
Month	Day of Week	Event	Description	Time	Physical Location
3	Tuesday	TCTC	Report	8am	Red Bluff
16	Monday	Shasta Public Mtg	Introduce project scope & objectives, obtain public & stakeholder feedback	4:30pm - 6:30pm	Redding Library
17	Tuesday	Shasta County	Informational presentation of Phase 1 TIF program	9am	Redding
		SCRTPA	Report	4pm	Redding
		Anderson	Informational presentation of Phase 1 TIF program	7pm	Anderson
19	Thursday	Core Workgroup Mtg	Assist in preparations for Phase 1 TIF presentations	tbd	tbd
24	Tuesday	Corning Public Mtg	Introduce project scope & objectives, obtain public & stakeholder feedback	6pm	Corning City Hall
25	Wednesday	Red Bluff Public Mtg	Introduce project scope & objectives, obtain public & stakeholder feedback	6:30pm	Red Bluff Senior Community Center
Month	Day of Week	Event	Description	Time	Physical Location
1	Tuesday	Tehama County	Informational presentation of Phase 1 TIF program	10am	Red Bluff
		City of Shasta Lake	Informational presentation of Phase 1 TIF program	7pm	Shasta Lake
8	Tuesday	Corning	Informational presentation of Phase 1 TIF program	7:30pm	Corning
15	Tuesday	Redding	Informational presentation of Phase 1 TIF program	7pm	Redding
		Red Bluff	Informational presentation of Phase 1 TIF program	7pm	Red Bluff
23	Wednesday	Core Workgroup Mtg	Review progress and plan next steps	1:30 to 3pm	D2 Exec Conf Rm
30	Wednesday	TAC #1	Review progress and plan next steps	10am to noon	Redding Library
June	Day of Week	Event	Description	Time	Physical Location
13	Wednesday	Shasta Builder's Exchange	Stakeholder consultation	11:30am	Redding - Shasta Builder's Exchange
		Phase 1 Administrative Draft Due	Muni to provide Administrative Draft		
15	Friday	Core Workgroup Mtg	Review and prepare for TAC #2 and Executive Committee	2:30pm	Caltrans District 2
19	Tuesday	Phase 1 Final Draft Due	Muni to provide final draft		
22	Friday	Core Workgroup Mtg	Review and prepare for TAC #2 and Executive Committee	tbd	tbd
25	Monday	TAC #2	Review and approve Final Draft Phase 1 TIF Program Report	9:30am to Noon	Red Bluff Community Center
26	Tuesday	Shasta RTPA	Review and approve Final Draft Phase 1 TIF Program Report	4pm	Redding (Shasta BOS)
27	Wednesday	Executive Committee	Review and recommend Phase 1 TIF Program for uniform adoption by Fix 5 Partnership	2pm	City of Redding Community Room
Phase 1 TIF Finalized and 30 Day Notice					
July	Day of Week	Event	Description	Time	Physical Location
tbd		Tehama Public Meeting	Phase 1 TIF Program for public review period	pm	Shasta County
tbd		Shasta Public Meeting	Phase 1 TIF Program for public review period	pm	Tehama County
17	Tuesday	TCTC (Moved from June)	Review and approve Final Draft Phase 1 TIF Program Report	8:30am	Red Bluff
August	Day of Week	Event	Description	Time	Physical Location
14	Tuesday	Corning	Present Phase 1 TIF program for adoption	7:30pm	Corning
21	Tuesday	Anderson	Present Phase 1 TIF program for adoption	7pm	Anderson
		City of Shasta Lake	Present Phase 1 TIF program for adoption	7pm	City of Shasta Lake
28	Tuesday	Shasta County	Present Phase 1 TIF program for adoption	9am	Redding
		Tehama County	Present Phase 1 TIF program for adoption	10am	Red Bluff
Sept	Day of Week	Event	Description	Time	Physical Location
4	Tuesday	Redding (meeting date confirmed)	Present Phase 1 TIF program for adoption	7pm	Redding
18	Tuesday	Red Bluff	Present Phase 1 TIF program for adoption	7pm	Red Bluff

APPENDIX 2 - VOLUME-TO-CAPACITY ANALYSIS FOR SHASTA COUNTY



APPENDIX 3 – DETAILED IMPROVEMENT COST ESTIMATES

COST ASSUMPTIONS

Mostly median widening of I-5 in Shasta and Tehama County - Median Option from Corning to Red Bluff

Assumed roadway construction:	New structural section of 22-feet added to the median for each direction (12-foot lane plus a 10-foot shoulder)
Assumed bridge construction:	Widen bridge in the median by 20-feet each direction (12-foot lane, plus 5-foot wider shoulder, plus 3-feet for new rail and tie in to existing steel) Where existing median is 60-feet or less, then widened bridge must span the entire median (total of 54-feet of widening)
Assumed bridge widening unit costs:	Cast in Place / Post Stressed Box or Slab (CIP/PS) over Creeks \$350 /Sq Ft Cast in Place / Post Stressed Box (CIP/PS) over River \$400 /Sq Ft Pre-Cast Concrete Girder (PC/PS I) over active roadway \$450 /Sq Ft

Each roadway segment is rated as a base Level 1 through Level 5 based on expected cost in Sep. 2005 due to terrain, drainage, room to work, location, and traffic volumes.	Level 1	\$2.2 mil / mile	Factors applied to the base values are used to further define the segment. The unit cost per mile is then adjusted based on the other factors.	Factors a add ~15% Estimate adjusted to 2008 b add ~5% Heavy staging or traffic control c add ~20% Paved median w/ barrier or d add ~5% Tight working conditions e add ~5% Misc other factors
	Level 2	\$2.8 mil / mile		
	Level 3	\$3.6 mil / mile		
	Level 4	\$4.6 mil / mile		
	Level 5	\$5.8 mil / mile		

Segment Number	Begin PM	End PM / Bridge Number	Roadway Length (Miles)	Bridge Length (Ft)	Total Bridge Area (Length x 20' Wide x 2) (Sq Ft)	Unit cost (\$ per mile) or (\$ per Sq Ft)	Cost	Roadway Total (rounded)	Structure Total (rounded)
This segment has an existing median width of 60'.									
Adding median lanes here will also require that the median be paved in the same plane as the roadway, it must include a concrete barrier, and all bridges must span the median.									
Segment - Level 1		Added factors - a, c, e		Net unit costs - \$3.1 mil / mile					
1A - M	Roadway							\$20,000,000	
	Northbound	5.8	9.0	3.2		\$3,100,000	\$9,920,000		
	Southbound	5.8	9.0	3.2		\$3,100,000	\$9,920,000		
	Structures		Figure out whether Thomes Creek is in or out; make structures cost consistent with Table 7.						\$12,000,000
	Hall Creek	08-0119R/L		114	6156	\$350	\$2,154,600		
	Burch Creek	08-0122 R/L		234	12636	\$350	\$4,422,600		
	Jewett Creek	08-0130 R/L		158	8532	\$350	\$2,986,200		
	Thomes Creek Overflow	08-0107 R/L		60	3240	\$350	\$1,134,000		

Segment Number	Begin PM	End PM / Bridge Number	Roadway Length (Miles)	Bridge Length (Ft)	Total Bridge Area (Length x 20' Wide x 2) (Sq Ft)	Unit cost (\$ per mile) or (\$ per Sq Ft)	Cost	Roadway Total (rounded)	Structure Total (rounded)
This segment has an existing median width of 60'.									
Adding median lanes here will also require that the median be paved in the same plane as the roadway, it must include a concrete barrier, and all bridges must span the median.									
Segment - Level 1		Added factors - a, c, e		Net unit costs - \$3.1 mil / mile					
2 - M	Roadway							\$30,000,000	
	Northbound	12.1	16.9	4.8		\$3,100,000	\$14,880,000		
	Southbound	12.1	16.9	4.8		\$3,100,000	\$14,880,000		
	Structures								\$26,000,000
	Thomes Creek		08-0085R/L		1026	55404	\$350	\$19,391,400	
	South Fork McClure Creek		08-0083 R/L		65	3510	\$350	\$1,228,500	
	North Fork McClure Creek		08-0074 R/L		149	8046	\$350	\$2,816,100	
	Truckee Creek		08-0020 R/L		65	3510	\$350	\$1,228,500	
	This segment has an existing median width of 60'.								
Adding median lanes here will also require that the median be paved in the same plane as the roadway, it must include a concrete barrier, and all bridges must span the median.									
Segment - Level 1		Added factors - a, c, e		Net unit costs - \$3.1 mil / mile					
3 - M	Roadway							\$35,000,000	
	Northbound	16.9	22.5	5.6		\$3,100,000	\$17,360,000		
	Southbound	16.9	22.5	5.6		\$3,100,000	\$17,360,000		
	Structures								\$19,000,000
	Elder Creek		08-0084R/L		466	25164	\$350	\$8,807,400	
	Willow Creek		08-0110 R/L		119	6426	\$350	\$2,249,100	
	Oat Creek		08-0117 R/L		162	8748	\$350	\$3,061,800	
	Coyote Creek		08-0111 R/L		169	9126	\$350	\$3,194,100	
	South Fork McClure Creek		08-0083 R/L		65	2600	\$350	\$910,000	
	North Fork McClure Creek		08-0074 R/L		149	5960	\$350	\$2,086,000	
Truckee Creek		08-0020 R/L		65	2600	\$350	\$910,000		
Gyle Road OC		08-0116		2	Tie Back Wall	\$500,000	\$1,000,000		
Tehama Ave OC		08-0099		2	Tie Back Wall	\$500,000	\$1,000,000		

Segment Number	Begin PM	End PM / Bridge Number	Roadway Length (Miles)	Bridge Length (Ft)	Total Bridge Area (Length x 20' Wide x 2) (Sq Ft)	Unit cost (\$ per mile) or (\$ per Sq Ft)	Cost	Roadway Total (rounded)	Structure Total (rounded)
This segment has an existing median width of 60'.									
Adding median lanes here will also require that the median be paved in the same plane as the roadway, it must include a concrete barrier, and all bridges must span the median.									
Segment - Level 1		Added factors - a, b, c, e			Net unit costs - \$3.2 mil / mile				
4	Roadway							\$25,000,000	
	Northbound	24.5	28.4	3.9		\$3,200,000	\$12,480,000		
	Southbound	24.5	28.4	3.9		\$3,200,000	\$12,480,000		
	Structures								\$94,000,000
	Sacramento River	08-0095 R/L	Replace	937	123684	\$400	\$49,473,600		
	Sacramento River	08-0096 R/L	Replace	700	92400	\$400	\$36,960,000		
	Dibble Creek	08-0028 R/L		191	10314	\$350	\$3,609,900		
Segment - Level 3		Added factors - a			Net unit costs - \$4.1 mil / mile				
5	Roadway							\$25,000,000	
	Northbound	28.4	32.2	2.0		\$4,100,000	\$8,200,000		
	Less Wilcox PL		-1.8						
	Southbound	28.4	32.2	3.8		\$4,100,000	\$15,580,000		
	Structures								\$3,000,000
	Blue Tent Creek	08-0026 R/L		155	6200	\$350	\$2,170,000		
Segment - Level 2		Added factors - a, e			Net unit costs - \$3.2 mil / mile				
6A	Roadway							\$24,000,000	
	Northbound	32.2	36.4	2.9		\$3,200,000	\$9,280,000		
	Less part 9-Mile PL		-1.3						
	Southbound	32.2	36.4	4.2		\$3,200,000	\$13,440,000		
	Structures								\$0
	None				0	\$0	\$0		
Segment - Level 2		Added factors - a, e			Net unit costs - \$3.3 mil / mile				
6B	Roadway							\$14,000,000	
	Northbound	36.4	38.7	1.8		\$3,300,000	\$5,940,000		
	Less part 9-Mile PL		-0.5						
	Southbound	36.4	38.7	2.3		\$3,300,000	\$7,590,000		
	Structures								\$0
	None				0	\$0	\$0		

Segment Number	Begin PM	End PM / Bridge Number	Roadway Length (Miles)	Bridge Length (Ft)	Total Bridge Area (Length x 20' Wide x 2) (Sq Ft)	Unit cost (\$ per mile) or (\$ per Sq Ft)	Cost	Roadway Total (rounded)	Structure Total (rounded)
6C	Segment - Level 2		Added factors - a, e		Net unit costs - \$3.4 mil / mile				
	Roadway		End PM is actually 0.9 in SHA County					\$16,000,000	
		Northbound	38.7	41.5	2.8	\$3,400,000	\$9,520,000		
		Southbound	38.7	41.5	1.8	\$3,400,000	\$6,120,000		
		Less T. Scales PL		-1.0					
	Structures		None		0	\$0	\$0		\$0
7	Segment - Level 3		Added factors - a, b, e		Net unit costs - \$3.3 mil / mile				
	Roadway		End PM is actually 0.9 in SHA County					\$10,000,000	
		Northbound	41.5	42.9	1.4	\$3,400,000	\$4,760,000		
		Southbound	41.5	42.9	1.4	\$3,400,000	\$4,760,000		
	Structures								\$21,350,000
		Cottonwood Creek		06-0204	1525	61000	\$350	\$21,350,000	
7 - Tehama	Roadway							\$3,400,000	
		Northbound	41.5	42	0.5	\$3,400,000	\$1,700,000		
		Southbound	41.5	42	0.5	\$3,400,000	\$1,700,000		
	Structures								\$10,675,000
		Cottonwood Creek		06-0204	762.5	30500	\$350	\$10,675,000	
								\$6,120,000	
7 - Shasta		Northbound	0	0.9	0.9	\$3,400,000	\$3,060,000		
		Southbound	0	0.9	0.9	\$3,400,000	\$3,060,000		
	Structures								\$10,675,000
		Cottonwood Creek		06-0204	762.5	30500	\$350	\$10,675,000	
	Segment - Level 2		Added factors - a, b		Net unit costs - \$3.0 mil / mile				
	Roadway							\$16,200,000	
8		Northbound	0.9	3.6	2.7	\$3,000,000	\$8,100,000		
		Southbound	0.9	3.6	2.7	\$3,000,000	\$8,100,000		
	Structures								\$2,700,000
		North Cottonwood UC		06-0038R/L	150	6000	\$450	\$2,700,000	

Segment Number	Begin PM	End PM / Bridge Number	Roadway Length (Miles)	Bridge Length (Ft)	Total Bridge Area (Length x 20' Wide x 2) (Sq Ft)	Unit cost (\$ per mile) or (\$ per Sq Ft)	Cost	Roadway Total (rounded)	Structure Total (rounded)
This segment has an existing median width of 60'.									
Adding median lanes here will also require that the median be paved in the same plane as the roadway, it must include a concrete barrier, and all bridges must span the median.									
9	Segment - Level 2		Added factors - a, b, c, d, e		Net unit costs - \$3.2 mil / mile				
	Roadway							\$25,000,000	
		Northbound	3.6	6.7	3.1	\$3,200,000	\$9,920,000		
		Southbound	3.6	6.7	3.1	\$3,200,000	\$9,920,000		
	Extra staging at Deschutes						\$5,000,000		
	Structures		Note - All structures must span the gap in the median. Therefore each structure is 54' wide.						\$30,000,000
		S Anderson Sep	06-0139 R/L		160	8640	\$350	\$3,024,000	
		Deschutes UC	06-0145 R/L	Replace	101	23400	\$450	\$10,530,000	
		S Anderson OH	06-0098 R/L		220	11880	\$350	\$4,158,000	
		Anderson Creek Overflow	06-168 R/L		30	1620	\$350	\$567,000	
10	Segment - Level 1		Added factors - a, c, d, e		Net unit costs - \$3.0 mil / mile				
	PM 6.7/8.5		Segment - Level 1		Added factors - a, e				
	PM 8.5/12.2				Net unit costs - \$2.5 mil / mile				
	Roadway							\$30,000,000	
		Northbound	6.7	8.5	1.8	\$3,000,000	\$5,400,000		
		Southbound	6.7	8.5	1.8	\$3,000,000	\$5,400,000		
		Northbound	8.5	12.2	3.7	\$2,500,000	\$9,250,000		
		Southbound	8.5	12.2	3.7	\$2,500,000	\$9,250,000		
	Structures								\$0
		None			0	0	\$0	\$0	
11	Segment - Level 3		Added factors - a, b, e		Net unit costs - \$3.4 mil / mile				
	Roadway							\$25,000,000	
		Northbound	12.2	15.6	3.4	\$3,400,000	\$11,560,000		
		Southbound	12.2	15.6	3.4	\$3,400,000	\$11,560,000		
	Structures								\$10,000,000
		Cypress UC	06-0125 R/L		170	6800	\$450	\$3,060,000	
		SR44 Sep	06-0126 R/L		200	8000	\$450	\$3,600,000	
		SR 44 Ramp	06-0127 R/L		131	5240	\$450	\$2,358,000	

Segment Number	Begin PM	End PM / Bridge Number	Roadway Length (Miles)	Bridge Length (Ft)	Total Bridge Area (Length x 20' Wide x 2) (Sq Ft)	Unit cost (\$ per mile) or (\$ per Sq Ft)	Cost	Roadway Total (rounded)	Structure Total (rounded)
12	Segment - Level 3		Added factors - a, b, e		Net unit costs - \$3.2 mil / mile				
	Roadway							\$20,000,000	
	Northbound	15.6	18.8	3.2		\$3,200,000	\$10,240,000		
	Southbound	15.6	18.8	3.2		\$3,200,000	\$10,240,000		
	Structures								\$7,000,000
	SR 299 Sep	06-0129 R/L		195	7800	\$450	\$3,510,000		
	Twin View UC	06-0143 R/L		105	4200	\$450	\$1,890,000		

This segment has an existing median width of 36'.

Adding **OUTSIDE** lanes here will also require that the overcrossing structures be modified by adding a tie-back wall. Entrance and exit ramps will need to be modified and additional right of way will :

Estimate does not include any right of way costs.

13	Segment - Level 2		Added factors - a, e		Net unit costs - \$3.3 mil / mile				
	Roadway							\$16,000,000	
	Northbound	22.2	24.8	2.6		\$3,300,000	\$8,580,000		
	Southbound	22.0	23.9	1.9		\$3,300,000	\$6,270,000		
	Modify I/C Ramps @ Exit 685, 687			4	Each	\$250,000	\$1,000,000		
	Structures								\$2,000,000
	Route 151/5 Separation	06-0156		1	Tie Back Wall	\$500,000	\$500,000		
	Union School Road OC	06-0015		2	Tie Back Wall	\$500,000	\$1,000,000		
	Mountain Gate OC	06-0154		1	Tie Back Wall	\$500,000	\$500,000		

PROJECT STUDY AND ENVIRONMENTAL COST ASSUMPTIONS FOR SECTIONS 1B, 2 AND 3

Section	Begin PM	End PM	Length	Structures			Total Cost Per Segment	Rounded
				Structures Less than \$5 Million	Between \$5m and \$10m	Structures Greater Than \$10 million		
Section 1 A	9	12.1	3.1	1	0	0	\$273,000	\$270,000
Section 2	12.1	16.9	4.8	3	0	1	\$534,000	\$530,000
Section 3	16.9	22.5	5.6	8	1	0	\$698,000	\$700,000
							\$1,505,000	\$1,500,000

Cost Breakdown

- \$80,000 per mile
- \$25,000 per structure < \$5,000,000
- \$50,000 per structure \$5,000,000 - \$10,000,000
- \$75,000 per structure > \$10,000,000

APPENDIX 4 – FUNDING AWARD FOR COTTONWOOD TRUCK CLIMBING LANES

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY (916) 653-4086



*Flex your power!
Be energy efficient!*

April 3, 2007

Mr. Dan Little, Executive Officer
Shasta County Regional Transportation Agency
1855 Placer Street
Redding, CA 96001

Dear  Little:

I congratulate you on the securing of Corridor Mobility Improvement Account (CMIA) programming for the \$27 million Cottonwood Truck Climbing Lanes Project. Based on the merits of the project, the regional commitment to the Fix Five Partnership and the "Blue Print" planning effort the Shasta County Regional Transportation Agency is undertaking, the California Transportation Commission was in a position to include this work as part of the CMIA program.

As you are well aware, land use and related growth in Northern California is resulting in capacity needs in the I-5 corridor in the Shasta-Tehama region that are much greater than existing State and Federal transportation resources can meet. I believe we have a shared understanding this is a State and local government problem and both need to work together to meet the challenge. The partnership efforts established in Shasta and Tehama Counties to look at land use and alternative transportation funding solutions are outstanding examples of how State and local government can cooperatively work together to better provide transportation facilities that meet regional and interregional needs. I applaud the partnership efforts and am committed to helping make them a success.

Again, congratulations on the CMIA programming of the Cottonwood Hills Truck Climbing Lanes Project. This project should provide a strong foundation for the Fix Five Partnership and "Blue Print" planning efforts, and is representative of the State's commitment to Interstate 5 and the partnership endeavor. I look forward to working more with you in meeting Interstate 5 and other regional mobility challenges.

Sincerely,



WILL KEMPTON
Director

c: Brian Crane, District 2 Director

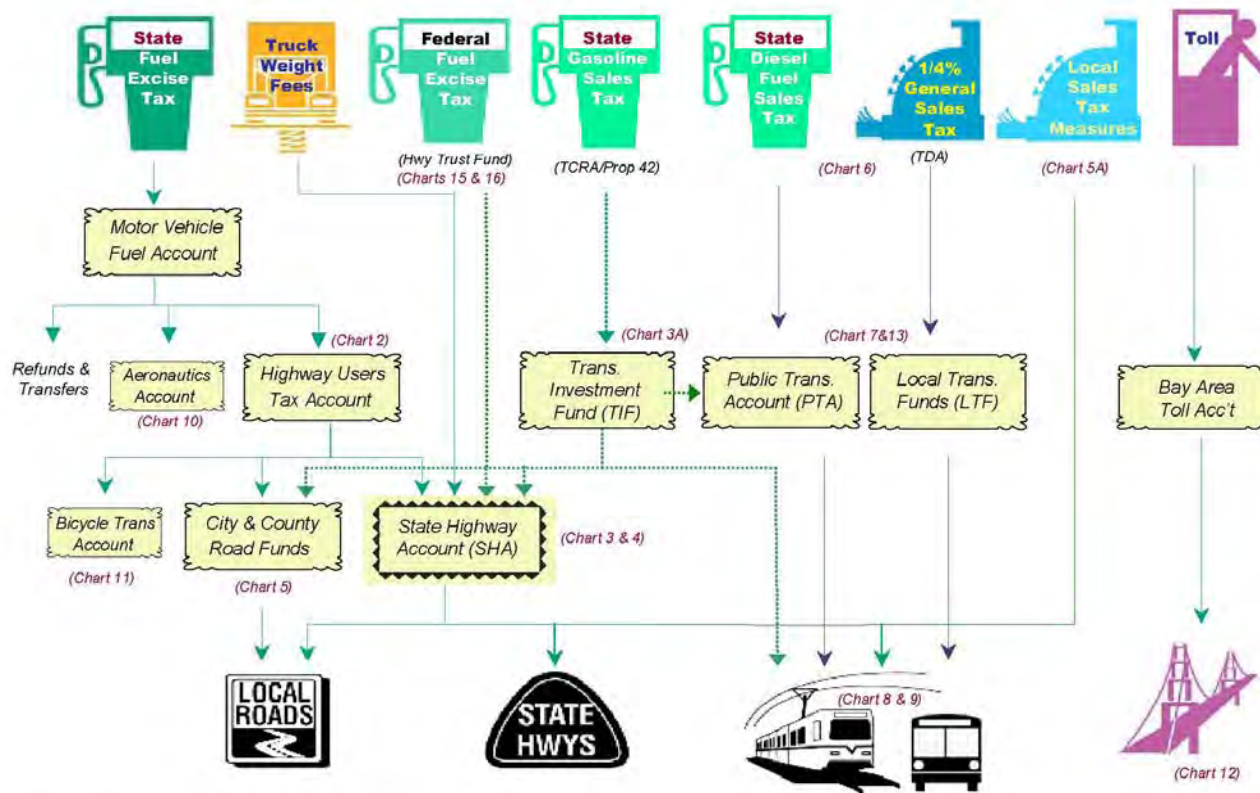
"Caltrans improves mobility across California"

APPENDIX 5 – STATE AND FEDERAL FUNDING SOURCES

California Transportation Funding

Chart 1

OVERVIEW

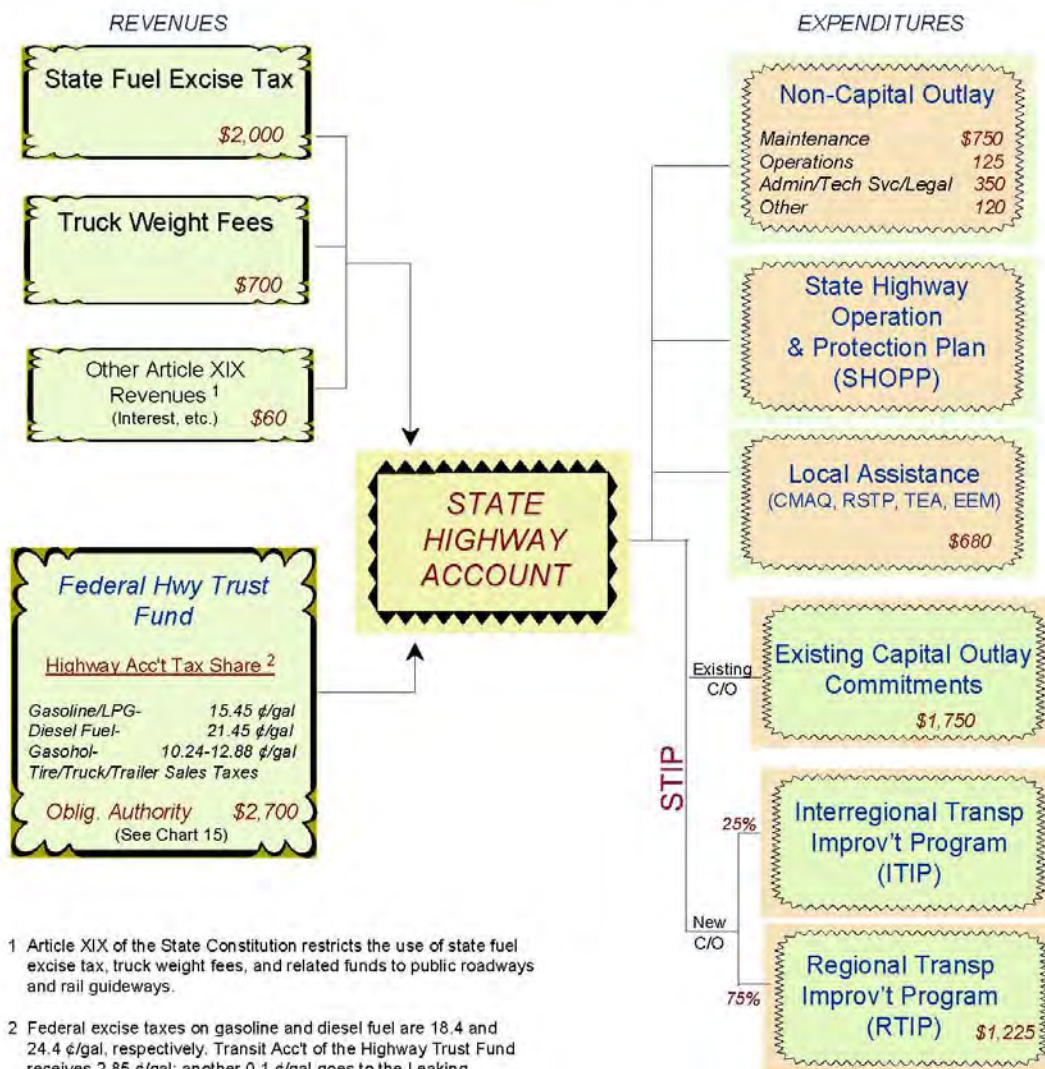


Office of Transportation Economics
Division of Transportation Planning
CALTRANS 11/2004

Chart 3

FEDERAL & STATE HIGHWAY FUNDING

(Million Dollars, 2001-2002)



¹ Article XIX of the State Constitution restricts the use of state fuel excise tax, truck weight fees, and related funds to public roadways and rail guideways.

² Federal excise taxes on gasoline and diesel fuel are 18.4 and 24.4 ¢/gal, respectively. Transit Acc't of the Highway Trust Fund receives 2.85 ¢/gal; another 0.1 ¢/gal goes to the Leaking Underground Storage Tank Trust Fund.

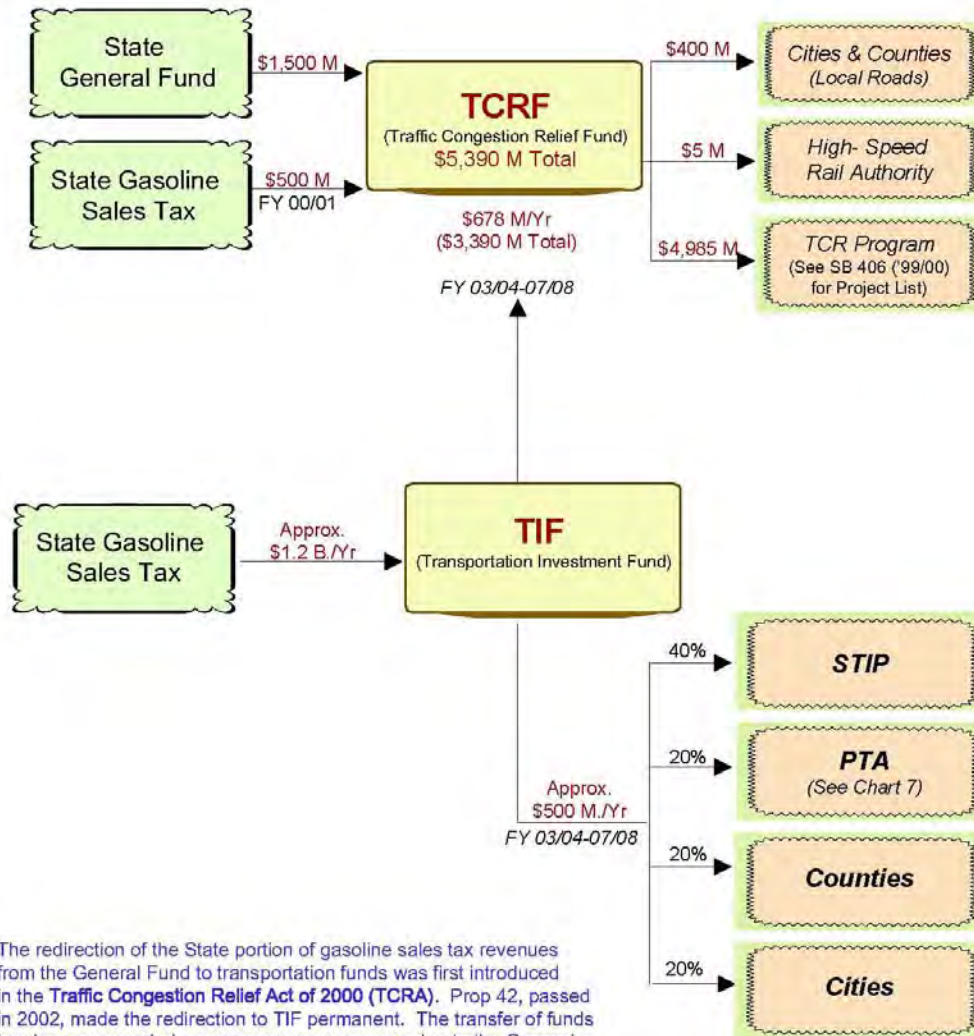
Sources: 2002-03 Governor's Budget
2002 STIP Fund Estimate

Office of Transportation Economics
Division of Transportation Planning
CALTRANS 11/2004

Chart 3A

TCRA & PROPOSITION 42 *

(State Gasoline Sales Tax)



* The redirection of the State portion of gasoline sales tax revenues from the General Fund to transportation funds was first introduced in the **Traffic Congestion Relief Act of 2000 (TCRA)**. Prop 42, passed in 2002, made the redirection to TIF permanent. The transfer of funds has been suspended as an emergency measure due to the General Fund shortfalls (California State Constitution, Article XIX B).

Office of Transportation Economics
Division of Transportation Planning
Caltrans 11/2004

Revised: 6/5/07

Fix 5 Partnership Interstate 5 Fee Program Calendar

March	Day of Week	Event	Description	Time	Physical Location
23	Friday	Executive Committee	#2 - Introduce consultant and outline scope and schedule of work	2pm	Redding City Hall
April	Day of Week	Event	Description	Time	Physical Location
3	Tuesday	TCTC	Report	8am	Red Bluff
16	Monday	Shasta Public Mtg	Introduce project scope & objectives, obtain public & stakeholder feedback	4:30pm - 6:30pm	Redding Library
17	Tuesday	Shasta County	Informational presentation of Phase 1 TIF program	9am	Redding
		SCRTPA	Report	4pm	Redding
		Anderson	Informational presentation of Phase 1 TIF program	7pm	Anderson
19	Thursday	Core Workgroup Mtg	Assist in preparations for Phase 1 TIF presentations	tdb	tdb
24	Tuesday	Corning Public Mtg	Introduce project scope & objectives, obtain public & stakeholder feedback	6pm	Corning City Hall
25	Wednesday	Red Bluff Public Mtg	Introduce project scope & objectives, obtain public & stakeholder feedback	6:30pm	Red Bluff Senior Community Center
May	Day of Week	Event	Description	Time	Physical Location
1	Tuesday	Tehama County	Informational presentation of Phase 1 TIF program	10am	Red Bluff
		City of Shasta Lake	Informational presentation of Phase 1 TIF program	7pm	Shasta Lake
8	Tuesday	Corning	Informational presentation of Phase 1 TIF program	7:30pm	Corning
15	Tuesday	Redding	Informational presentation of Phase 1 TIF program	7pm	Redding
		Red Bluff	Informational presentation of Phase 1 TIF program	7pm	Red Bluff
23	Wednesday	Core Workgroup Mtg	Review progress and plan next steps	1:30 to 3pm	D2 Exec Conf Rm
30	Wednesday	TAC #1	Review progress and plan next steps	10am to noon	Redding Library

June	Day of Week	Event	Description	Time	Physical Location
13	Wednesday	Shasta Builder's Exchange	Stakeholder consultation	11:30am	Redding - Shasta Builder's Exchange
		Phase 1 Administrative Draft Due	Muni to provide Administrative Draft		
15	Friday	Core Workgroup Mtg	Review and prepare for TAC #2 and Executive Committee	2:30pm	Caltrans District 2
19	Tuesday	Phase 1 Final Draft Due	Muni to provide final draft		
22	Friday	Core Workgroup Mtg	Review and prepare for TAC #2 and Executive Committee	tdb	tdb
25	Monday	TAC #2	Review and approve Final Draft Phase 1 TIF Program Report	9:30am to Noon	Red Bluff Community Center
26	Tuesday	Shasta RTPA	Review and approve Final Draft Phase 1 TIF Program Report	4pm	Redding (Shasta BOS)
27	Wednesday	Executive Committee	Review and recommend Phase 1 TIF Program for uniform adoption by Fix 5 Partnership	2pm	City of Redding Community Room
July	Day of Week	Event	Description	Time	Physical Location
tdb		Tehama Public Meeting	Phase 1 TIF Program for public review period	pm	Shasta County
tdb		Shasta Public Meeting	Phase 1 TIF Program for public review period	pm	Tehama County
17	Tuesday	TCTC (Moved from June)	Review and approve Final Draft Phase 1 TIF Program Report	8:30am	Red Bluff
August	Day of Week	Event	Description	Time	Physical Location
14	Tuesday	Corning	Present Phase 1 TIF program for adoption	7:30pm	Corning
21	Tuesday	Anderson	Present Phase 1 TIF program for adoption	7pm	Anderson
		City of Shasta Lake	Present Phase 1 TIF program for adoption	7pm	City of Shasta Lake
28	Tuesday	Shasta County	Present Phase 1 TIF program for adoption	9am	Redding
		Tehama County	Present Phase 1 TIF program for adoption	10am	Red Bluff
Sept	Day of Week	Event	Description	Time	Physical Location
4	Tuesday	Redding (meeting date confirmed)	Present Phase 1 TIF program for adoption	7pm	Redding
18	Tuesday	Red Bluff	Present Phase 1 TIF program for adoption	7pm	Red Bluff