



# TUOLUMNE COUNTY 2006/07 REGIONAL TRANSPORTATION PLAN

*November 2008*

*Prepared for:  
Tuolumne County  
Tuolumne County Transportation Commission*



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## I. INTRODUCTION

The Tuolumne County Transportation Council (TCTC) is designated the Regional Transportation Planning Agency (RTPA) for Tuolumne County. A primary responsibility of the TCTC is to adopt and update the Regional Transportation Plan (RTP) for the Tuolumne County "region" in accordance with State law. The TCTC is also responsible, with city and County input, for determining the priorities for all proposed new transportation facilities included in the RTP. Current State law (Government code sections 14522 and 65080) requires that the RTP be submitted to the California Transportation Commission (CTC) and Caltrans by December 1 every fourth year beginning in 1998. Further, a transportation planning agency located in a Federally designated air quality attainment area or that does not contain an urbanized area may at its option adopt and submit a regional transportation plan every five years.

Projects prioritized in each RTP update are then submitted for funding consideration to Caltrans and the CTC in December of odd numbered years as part of the State Transportation Improvement Program (STIP). The TCTC last completed an extensive update of its RTP in 1996. The Tuolumne County General Plan Circulation Element was also adopted consistent with the 1996 RTP update.

The RTP serves as the planning blueprint to guide transportation investments in Tuolumne County involving local, state, and federal funding over the next twenty years. The horizon year for this update is 2030. The overall focus for this 2006/07 RTP is directed at developing a coordinated and balanced multi-modal transportation system. The coordination focus brings the County, City of Sonora, communities, and other governmental agencies, Indian Tribal Governments, the trucking community and citizens into the planning process. The balance is achieved by considering short-range (0-10 years) and long-range (11-20 years) transportation investment and improvements for all modes, including highways, transit facilities, bicycle facilities, pedestrian facilities, railroad facilities, aviation facilities, and goods movement within a financially constrained environment.

Throughout this update process, consistency was adhered to with the *Regional Transportation Plan* Guidelines, California Transportation Commission, Revised December 1999 (RTP Guidelines), the *Supplement to the 1999 Regional Transportation Plan Guidelines*, December 2003, and the California Transportation Plan Themes from the 2005 California Transportation Plan (CTP). The CTP vision, goals and strategies are listed in Appendix A. (Note: The Draft RTP was submitted to the County in May 2007. Relevant comments and suggestions and changes have been incorporated into this 2006/07 Draft RTP document.) Consistency further requires the inclusion of program level outcome-based performance measures, coordination with Native Tribal Governments, a viable public involvement process (Appendix B) and closer linkages to the Regional Transportation Improvement Program (RTIP) and Interregional Transportation Improvement Program (ITIP). (Note: *The STIP is a resource management document to assist the state and local governments to plan and implement transportation improvements and to utilize resources in a cost effective manner. Seventy-five percent of all new STIP funds are available for the regional improvement program(RIP), subdivided by formula into county shares, with projects to be nominated by each RTPA in its regional transportation improvement program (RTIP). Twenty-five percent of all new STIP funds are then available for the interregional improvement program (ITIP) with projects nominated by Caltrans.*)

The 2006 STIP fund estimate identified \$3.869 million in new RIP funding capacity for Tuolumne County. In addition, \$2.762 million is carried over from the 2004 STIP and available for programming. This provides a total of \$6.631 million in programming capacity for the 2006 STIP cycle.

The TCTC is responsible for the planning, programming and monitoring (PPM) of projects programmed in their RTIP. The PPM program allows the TCTC to program up to 5 percent of their County share for PPM activities. The 2006 STIP includes a total of \$310,000 in PPM funds

previously programmed by the TCTC in the 2004 STIP. The 2006 RTIP adds an additional \$235,000 (5 percent of new STIP funds) for a total of \$545,000 in PPM programming.

The approved 2006 RTIP for Tuolumne County includes the following projects:

- East Sonora Bypass Stage II – The East Sonora Bypass Stage II project proposes to construct a 2-lane expressway from the existing Highway 108 Stage I Bypass at Peaceful Oak Road East of Standard Road to Via Este Road.
- Tuolumne County Transit Facility – The Tuolumne County Transit Facility project proposes to develop and construct a permanent central office location for the transit contractors' operations and to provide a yard to store buses when not in service.
- East Sonora Bypass Stage III – The East Sonora Bypass Stage III project proposes to construct a 2-lane arterial expressway from Via Este Road East to North Sunshine Drive (base of Tuolumne grade).
- Mono Way Bicycle Facility – The Mono Way Bicycle Facility project proposes to construct a Class II Bike Lane Facility in both directions along the existing Mono Way in Tuolumne County from Edgemont Acres Road to Standard Road.
- Sugar Pine Railroad Trail (Phase I) – The Sugar Pine Railroad Trail Phase I project proposes to construct a trail on a 2.3 mile segment along the abandoned Sugar Pine Railroad grade in the vicinity of Lava Road to the South and to the end of Gurney Station Road to the North.

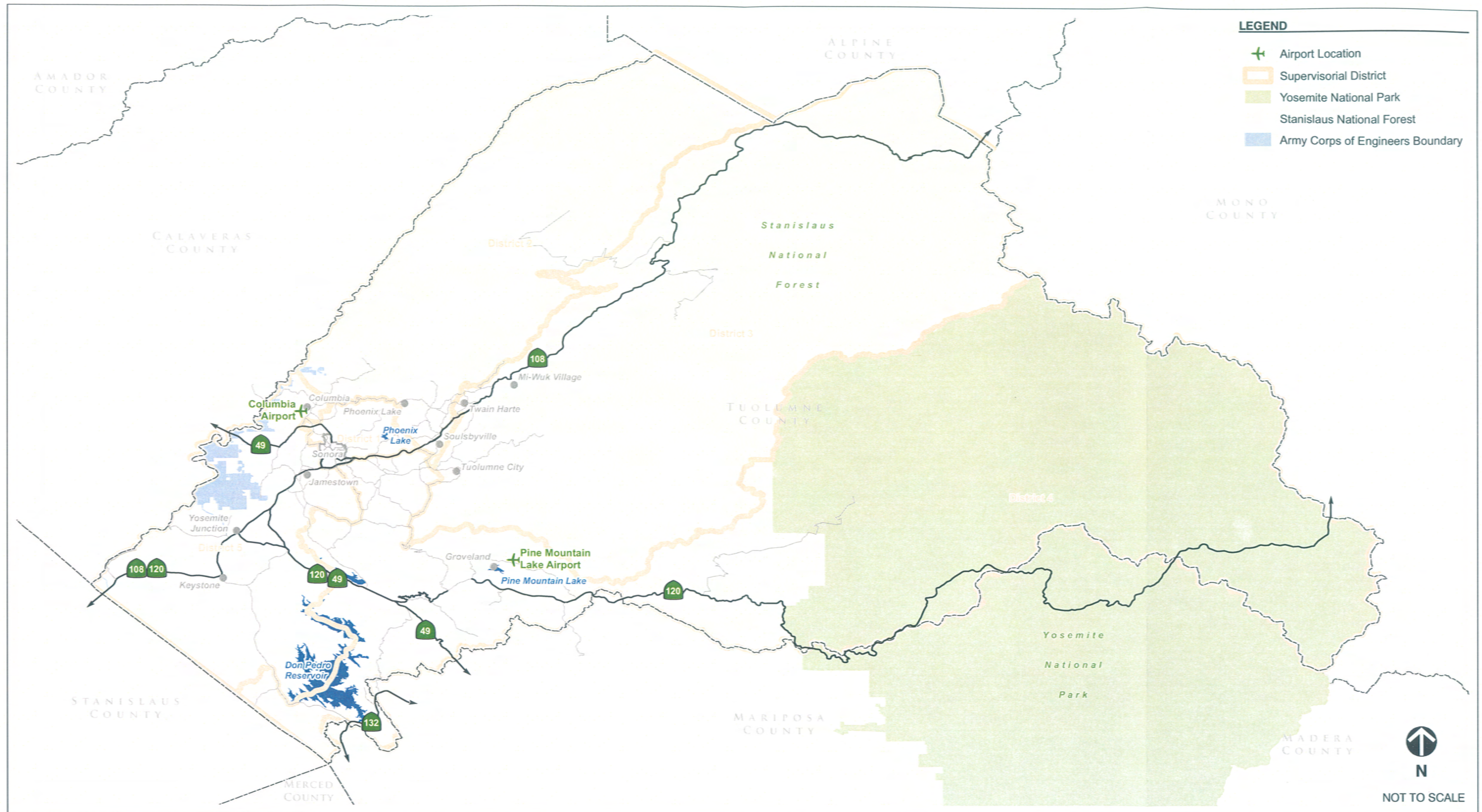
## **REGIONAL SETTING**

Tuolumne County is located in the foothills of the Sierra Nevada mountain range in what has been traditionally called the Mother Lode area of California (See Figure 1). The County extends from the foothills to the Sierra crest and is bordered on the north by Calaveras County, on the south by Mariposa and Madera Counties, on the west by Stanislaus County and on the east by Alpine and Mono Counties. Tuolumne County is approximately 2,217 square miles which includes portions of the Stanislaus National Forest and Yosemite National Park. Approximately 78 percent of the land within the County is owned by government agencies.

The California Department of Finance (DOF) reported the January 2002 county population at 55,755 – a 2.3 percent increase over 2000 (54,500). The distribution of population between county and the City of Sonora is shown in Table 1.

<b>TABLE 1 – TUOLUMNE COUNTY POPULATION DISTRIBUTION</b>		
<b>Incorporated Cities</b>	<b>Population January 2000</b>	<b>Population January 2002</b>
Sonora (County Seat)	4,423	4,524
Unincorporated Area	50,100	51,231
<b>Total County Population</b>	<b>54,500</b>	<b>55,755</b>
Source: State of California, Department of Finance, E-1 City/County Population Estimates, with Annual Percent Change. Tuolumne Chamber of Commerce.		

The unincorporated area of the County includes seven planning communities, including Sonora, Columbia, Jamestown, Tuolumne, Groveland, Don Pedro, and Twain Harte. The study area encompasses the entire County, the incorporated City of Sonora, and the unincorporated communities (Figure 1).



## **TRANSPORTATION SYSTEM**

The movement of people within the County can be classified into three broad categories - commuter, recreation and tourism. The County commute consists mostly of automobile traffic from the smaller regions and towns and rural areas into the City of Sonora or out of the County towards the central valley. Peak travel periods for roads and transit are relatively short and usually occur in the morning and evening. Recreational traffic patterns are dispersed over the day and usually do not adversely affect street or transit capacity except major holidays, Friday afternoons and Sunday afternoons. However, recreational traffic along with truck traffic does cause congestion problems on many of the two-lane highways due to their narrow widths and lack of passing opportunities. The roadway network serving the County is built around a spine system of State highways including portions of State Routes 49, 108, 120, and 132. These routes are functionally classified as rural arterial or rural minor arterial and interconnect with a network of collector and local streets. This interconnected network is the primary element of the "circulation system" for Tuolumne County. The majority of interregional and intra-regional traffic is concentrated in the SR 120, SR 108 and SR 49 corridors. The following excerpt from the 2007 Calaveras County RTP addresses some of the transportation growth issues between Calaveras County and Tuolumne County.

State Route (SR) 49 and O'Byrnes Ferry Road are the primary access roadways between Tuolumne County and Calaveras County. Tuolumne and Calaveras County recognize the growth in new homes in Calaveras County affecting Tuolumne County roadways, as the new residents of Calaveras County will drive to Tuolumne County to shop. Tuolumne County currently has no short-term transportation related projects planned that would affect Calaveras County, but feels that the effect of home construction in their neighboring County could reduce Level of Service (LOS) on roadways in Tuolumne County. Coordination of traffic models to match vehicle trips at the County lines, identifying traffic impacts, and developing mutually agreeable solutions has been initiated to develop a more regional coordinated approach between the two Counties. The next RTP update will be based upon coordinated land use models and regional blueprints currently being collaboratively developed with surrounding agencies.

More specifically, regional traffic mitigation impact fees have been conditioned within and in the vicinity of Calaveras County developments such as Oak Canyon Ranch and Wagner Ranch to be collected by Tuolumne County to be used only for the purpose of funding improvements to reduce traffic impacts to O'Byrnes Ferry road and improvements to the bridge interconnecting both Counties.

## **PUBLIC TRANSIT**

Travel in Tuolumne County is primarily automobile-oriented due to the rural nature of the local communities, low development densities, and limited options for using alternative modes of travel. The County is served by Tuolumne County Transit (TCT) with fixed route and demand responsive services extended to the surrounding areas of Jamestown, Columbia, Mono Village, Willow Springs, Twain Harte, Sierra Village, Tuolumne and Groveland. Interregional travel can be made through connections with Calaveras Transit at Columbia College. The County is also served by the Sierra Northern Railway which provides freight service between Oakdale, in Stanislaus County, and Standard in Tuolumne County. The past RTP reported approximately 40,000 passengers per year ride historic trains in Railtown in Jamestown. The current ridership is approximately 50,000.

## **AIRPORTS**

Tuolumne County operates two airports, one in Groveland (Pine Mountain Lake Airport) and one in Columbia. Pine Mountain Lake Airport is surrounded by a residential airpark whose residents use their aircraft to commute to work, for business travel, for travel to their second home, and to

travel on vacation. Columbia Airport contains several aviation businesses that serve the aviation community. These businesses include two air charter companies, a flight school, two aircraft maintenance facilities, and an air ambulance service. Additionally, Columbia Airport is a CAL FIRE tanker base. Columbia Airport features a fly in only campground which is a travel destination for numerous pilots and aviation groups primarily during the summer months.

## **BICYCLE AND PEDESTRIAN**

The RTP and the City of Sonora General Plan address non-motorized transportation needs for bicycle and pedestrian facilities. Within the City, there is a need to construct sidewalks for pedestrian access and safety. However, steep terrain increases the cost of sidewalk construction, and topography presents a challenge for meeting grade requirements for wheelchair accessibility. The City is currently pursuing additional funding for implementation of its Sidewalk Improvement Program to include sidewalk rehabilitation, replacement and construction to facilitate pedestrian traffic between housing, commercial facilities, schools and other destination activities.

## **PURPOSE OF THE PLAN**

The CTC's 1999 RTP Guidelines state the purpose of a regional transportation plan is to accomplish the following objectives.

- Provide an assessment of the current modes of transportation and the potential of new travel options within the region
- Predict the future needs for travel and goods movement
- Identify and document specific actions necessary to address the region's mobility and accessibility needs
- Identify guidance and documentation of public policy decisions by local, regional, state and federal officials regarding transportation expenditures and financing
- Provide information for the development of the Federal Transportation Improvement Program (FTIP), the RTIP and the Interregional Transportation Improvement Program (ITIP)
- Help facilitate the National Environmental Protection Act (NEPA)/404 integration process decisions
- Help identify project purpose and needs
- Provide estimates of emissions impacts for demonstrating conformity with the air quality standards identified in the State Implementation Plan (SIP)
- Promote consistency between the California Transportation Plan, the regional transportation plan and other transportation plans developed by cities, counties, districts, private organizations, tribal governments, and state and federal agencies in responding to statewide and interregional transportation issues and needs
- Provide a forum for; (1) participation and cooperation and (2) to facilitate partnerships that reconcile transportation issues which transcend regional boundaries
- Involve the public, federal, State and local agencies, as well as local elected officials, early in the transportation planning process so as to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation.

## **REPORT ORGANIZATION**

This report is divided into seven sections as described below.

***I. Introduction*** - provides background information regarding Tuolumne County, along with descriptions of the purpose of the plan, the current RTIP process, the regional setting, description of the existing transportation system, the relationship of the plan to other studies and plans, and the citizen public participation program.

**II. Assessment of Needs** - identifies the existing and future deficiencies of the Tuolumne County transportation system by mode. It also includes a description of the methodology used to develop future traffic projections and to analyze traffic operations and level of service (LOS) under existing and future conditions.

**III. Policy Element** - contains the goals, objectives, and policies that address transportation issues by mode. In addition, Statewide and regional issues are discussed, as well as the transportation issues concerning the major regions in Tuolumne County. The policy element addresses short-term (10-year) and long-term (20-year) objectives and includes a summary of key performance measures to monitor progress throughout the life of the Plan, and to assist with project prioritization and selection.

**IV. Action Element** - describes the State and regional transportation planning processes, as well as the process undertaken to evaluate various improvement options within Tuolumne County. The Action Element summarizes plan assumptions, past accomplishments, modal alternatives, and the purpose, need, and scope of recommended projects. Specific improvements are identified by mode for short-range and long-range capital programs designed to meet the anticipated needs of the County's regional circulation system. Implementation cost estimates and proponent agencies are also identified. The prioritization of RTP projects is consistent with identified program level performance measures and RTP growth (population and employment) and funding assumptions adopted by the County.

**V. Financial Element** - lists the costs, revenues, and deficits/surpluses for each transportation mode. In the cases where a funding deficit exists, a discussion of those improvements that are financially feasible is presented along with an assessment of the resulting impacts of the funding shortfall. Finally, potential funding sources are discussed. The Financial Element will show consistency with the 2006 STIP fund estimate adopted by the CTC, the RTP goals, policies, and objectives, and with projects included in the RTIP and ITIP. Three funding alternatives are presented.

**VI. Environmental Review** - describes the environmental review and consultation undertaken by the County, including an assessment of the potential environmental impacts of this Plan. The identification of and prioritization of transportation control measures (TCMs), if needed, will be based on the air quality conformity plan developed by the County.

**Appendices** - supplemental information, project lists, glossary of terms, technical data and maps, and procedures are provided in the Appendices to this document.

## **TRANSPORTATION AND LAND USE INTEGRATION**

The Land Use element of the GP advocates several strategies for targeting growth in Tuolumne County. First, community plans are proposed to determine land use patterns, zoning, and setback and design standards within defined areas. Next, targeted development will not compromise the quality of life of the County's current residents. This focus means that future development should occur in areas that will be easiest to develop without high public service costs, have the least negative environmental effect, and which will not displace or endanger the County's critical natural resources. This approach will also result in lower cost for improvements and increased operational efficiency of the existing transportation system.

The TCTC supports this approach through its General Plan Land Use Element by adopting the following specific goals.

- Quality of Life (Goal 1.A) – Protect and enhance the quality of life for all residents of Tuolumne County while facilitating growth and development to meet the present and future needs of the County's residents, visitors and businesses.

- Incompatible Land Uses (Goal 1.B) – Minimize conflicts between incompatible land uses and promote land development practices that encourage the sustainability of airports within the County,
- Jobs-Housing Balance (Goal 1.C) – Promote a jobs-housing balance in the County and encourage new defined communities to be designed to provide a jobs-housing balance.
- Alternative Transportation (Goal 1.D) – Encourage development that promotes the use of alternative transportation systems.
- Residential Land Uses (Goal 1 E.) – Designate adequate land in appropriate areas to accommodate a range of residential densities and amenities to accommodate the housing needs of all income groups residing in Tuolumne County.
- Commercial Land Uses (Goal 1 F.) – Promote the development of commercial uses to meet the present and future needs of Tuolumne County's residents and visitors and maintain economic vitality.
- Industrial Land Uses (Goal 1.G) - Promote the development of industrial land uses to meet the present and future needs of Tuolumne County's residents and to provide jobs and promote economic vitality.

The City of Sonora also supports this approach through its General Plan Land Use and Circulation Elements by adopting the following specific goals and programs.

- Land Use – Provide a well-organized and orderly development pattern that maintains and enhances the City of Sonora's social, economic, cultural, environmental, and aesthetic resources while managing growth so that adequate facilities and services can be provided in pace with development.
- Context Sensitive Solutions – Develop a Master Plan that identifies locations throughout the city that might benefit from the application of context sensitive solutions including landscaping, signage, pedestrian crossings, parking, restoration of historic buildings, street lighting, transit stops and ride-share centers, and location of amenities.
- Circulation – Provide an integrated transportation system providing for the safe, efficient, and economic movement of goods and people which meets current and projected community needs (Goal 2.A). Pursue establishment and encourage use of an integrated system of bicycle, pedestrian and other non-motorized transportation routes (Goal 2.B). Reduce impacts on the city's roadways and provide alternative methods of transportation for all income levels (Goal 2.C).

The integration of land use and transportation is continually improved in the context of this RTP ensuring the identified function, capacity and LOS of transportation facilities are consistent with applicable county land use and transportation policies. The following objectives will help strengthen the link and functionality between the transportation system and planned land uses in Tuolumne County:

- Provide travel mode choice to the extent possible so that people have the option to travel independently on the mode that fits their need. These choices should involve all modes of travel including auto, transit, walking, and biking
- Provide multi-modal connectivity and access to major activity centers and destinations within the County wherever feasible
- Promote pedestrian and bicycle accessibility to transit and major activity centers wherever feasible
- To the extent possible, employ Intelligent Transportation System (ITS) strategies to improve the efficiency of the transportation system

- Coordinate improvements to major inter-county facilities with neighboring counties
- Use grant funding to implement projects and programs to reduce single occupancy vehicle travel

The County General Plan and the City of Sonora General Plan embody these objectives.

## **COORDINATION WITH OTHER PLANS AND STUDIES**

During development of this 2005 RTP update, existing plans both regional and local, policy documents, and studies addressing transportation in Tuolumne County were reviewed. These documents included:

- *2004 State Transportation Improvement Program*, California Transportation Commission, August 2005.
- *2006 State Highway Operations and Protection Program* approved by the California Transportation Commission prepared by California Department of Transportation (Caltrans)
- Tuolumne County General Plan (1996)
- City of Sonora Draft General Plan (2004)
- 2002 California State Highway Log (District 10)
- 1997 Route Segment Report (Caltrans)
- Highway Performance Monitoring System (HPMS January 1999)
- *Tuolumne County Bikeways and Trails Plan* (2004)
- Sierra Nevada ITS Strategic Deployment Plan (Booz/Allen/Hamilton June 2002)
- Tuolumne County Regional Transportation Plan (1996)
- Four County Recreational Transit Demand and Feasibility Study (JKaplan & Associates July 1988)
- Action Plan for Implementation of Yosemite Area Regional Transit System (working paper Phase I) April 1992
- Study of County-wide Circulation Improvement Needs (BSI Consultants, Inc. July 1989)
- Tuolumne County Transit Development Plan Final Report (2001)
- County of Tuolumne Short Term Transit Plan (June 2006)
- East Sonora Bypass State 3 Traffic Study (May 2006)
- Draft Feasibility Study for the North-South Connector Project (February 2006)
- District 10 Park-and-Ride Plan (March 2004)
- Valley to Foothill Intermodal Subarea Study (Fehr & Peers November 1995)
- Study of Financing Alternatives for County-wide Road Maintenance and Circulation Improvement Needs (BSI Consultants, Inc. January 1990)
- 2004 Accident Data on California State Highways (Caltrans)
- 2006 Truck Volumes on State Highways, Caltrans
- Final Report, Countywide Traffic Circulation System Model, Transportation Improvement Program and Funding Strategy (TJKM February 1997)
- Administrative Draft, Peaceful Oak EIR, Traffic and Circulation, Fehr & Peers, October 20, 2005
- 2000 Highway Capacity Manual, Transportation Research Board, National Research Council, Washington, D.C. 2000
- Tuolumne County Travel Demand Model, Fehr & Peers, April 2005
- 2006 Tuolumne County Regional Transportation Improvement Program (RTIP)
- 2007 Calaveras County Regional Transportation Plan (2007)
- Tuolumne Me-Wuk Rancheria 20 Year Transportation Plan Update
- Department of Transportation, Transportation Guide for Native Americans Feb 2002

As a result of the 1999 RTP Guidelines and 2003 Supplement, a significant effort was directed at making sure there is consistency between this RTP, the Tuolumne County General Plan, the City of Sonora General Plan, the California Transportation Plan (CTP) themes, and the RTIP. Particular attention was paid to showing the linkages between RTP projects and programs, goals, objectives and policies, and project/program purpose and need for Tuolumne County consistent with Caltrans' Deputy Directive DD-83 on Purpose and Need. In addition, close coordination was maintained with the County's planning communities, the City of Sonora, Indian Tribal Governments, and Caltrans District 10 during the preparation of this RTP update.

The environmental impacts from transportation decisions need to be considered. The Tuolumne County RTP is being updated to be consistent with the County's environmental impact report (EIR) and air quality plan.

### **AIR QUALITY**

Tuolumne County enjoys some of the best air quality in the State of California. However, a growing population, accompanied by routine sources of air pollution, vehicles, industrial facilities, open burning, woodstoves, and earth-moving equipment has deteriorated the quality of air within Tuolumne County. The air quality of the County is further diminished by the transport of pollutants from the more industrialized and populated areas of the San Joaquin Valley and the San Francisco/Oakland Bay Area. As these areas continue to address their air quality issues, thereby reducing their impacts on Tuolumne County, the County must also incorporate into its plans the measures necessary to facilitate growth while protecting the public health and welfare.

Tuolumne County is part of the Southern Mountain Counties Region non-attainment area encompassing Tuolumne County, Mariposa County and Yosemite National Park. In recent years, Tuolumne County has exceeded the 8-hour federal ozone standard. Federal clean air laws require areas with unhealthy levels of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and inhalable particulate matter to develop plans, known as State Implementation Plan (SIPs), describing how they will attain national ambient air quality standards (NAAQS).

SIPs are not a single document; rather they are a compilation of new and previously submitted plans, programs (such as monitoring, modeling and permitting), district rules, state regulations and federal controls. Tuolumne County is part of a collaborative effort between the California Air Resources Board (CARB) and local air pollution districts to develop a SIP for the region. The SIP will demonstrate that Tuolumne County will attain transportation conformity in compliance with State and Federal regulation governing air quality such as the Clean Air Act (CAA).

Transportation conformity is a way to ensure that Federal funding and approval are only given to those transportation activities that are consistent with air quality goals. It makes certain that future planned programmed transportation projects will not worsen air quality or interfere with the "purpose" of the SIP, which is to meet the NAAQA. Meeting the NAAQS often requires demonstration of emissions reductions from mobile sources. Although the timeline for adoption of the SIP for Tuolumne County is unknown at this time, Tuolumne County continues to engage in interagency consultation with local, State and Federal agencies for transportation conformity determinations. Participating in these meetings allows all agencies involved to offer input into the development and implementation of the SIP, travel demand modeling planning assumptions, air quality modeling, mobile source emissions modeling, proposed group actions and transportation conformity analysis.

### **CITIZEN PARTICIPATION**

Public participation and input is welcomed at monthly TCTC meetings regarding planning items on the agenda. In addition, each of the planning communities in Tuolumne conducts regularly scheduled meetings of their Planning Commission and/or City Council and the public is welcome to provide comment and testimony regarding transportation issues. The public participation

procedures that guided the preparation of the RTP are included in Appendix B. Highlights from specific portions of the public involvement procedures are addressed below.

## **ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW-INCOME POPULATIONS**

In October 1999, the FHWA and the FTA implemented environmental justice principles in all Metropolitan and Statewide Planning programs, policies and activities. Three fundamental principles are recognized.

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects on minority populations and low-income populations
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

The TCTC implements and integrates these principles into its transportation planning process by the use of census information, special studies and public input to determine whether a particular population of people is receiving an inordinate number of projects that negatively impact their neighborhoods and/or communities. Outreach activities by the TCTC include provisions for additional public notification such as radio, display ads, and workshops.

## **CONSULTATION AND COORDINATION WITH INDIAN TRIBAL GOVERNMENTS**

The CTC Guidelines and supplement require the RTP process to meet the federal and state requirement to consult with and consider the interests of Indian Tribal Governments in the development of transportation plans and programs, including funding of transportation projects accessing tribal lands through state and local transportation programs. The Tuolumne Me-Wuk Tribe is the only recognized tribal government in Tuolumne County and it has two separate governing bodies as shown below. A representative from the Tuolumne Me-Wuk Tribal Council is a member of the Tuolumne County Technical Advisory Committee and assisted the TCTC in promoting environmental justice to maintain and improve the 2006/07 RTP planning process. Table 2 provides the contact information for the tribal governments in Tuolumne County. Both tribes were contacted by the consultant by telephone and invited to submit projects and programs for inclusion in the RTP. The tribes were advised that projects could also be submitted during public workshops, planning commission meetings, and TCTC meetings. The tribes did not submit any transportation projects during the RTP process. Development projects (such as the Black Oak Casino) undertaken on tribal lands in trust are not subject to the provisions of the Tuolumne County General Plan or the Tuolumne Community Plan. The expanded Black Oak Casino was opened in 2005 by the Tuolumne Band of Me-Wuk Indians. The facility encompasses approximately 165,000 square feet and employs more than 700 people making it the second largest employer in the County. Appendix Q provides a summary of the tribal government planning, coordination and consultation process including agency responsibilities.

TABLE 2 TUOLUMNE TRIBAL GOVERNMENTS/GOVERNING BODIES		
Chicken Ranch Rancheria	P.O. Box 1159 Jamestown, CA 93258	(209)984-4806 FAX: (209) 984-5606
Tuolumne Rancheria	P.O. Box 699 Tuolumne, CA 95379	(209) 928-3475 FAX: (209) 928-1677
Source: Federal Government Bureau of Indian Affairs (BIA)		

## PUBLIC WORKSHOP

On January 24, 2007 the TCTC held a public workshop to review and discuss key elements of the 2006/07 Tuolumne County Administrative Draft RTP. The purpose of the workshop was to seek Council approval on the proposed RTP goals and policies, and to lock in a financial direction to complete the Draft RTP. In attendance were five council members (quorum present), staff from Tuolumne County Department of Public Works, approximately 10 citizens from the community, and the Consultant. The consultant provided summary information on the following agenda items:

- Introduction – The consultant introduced the RTP as a 20-year transportation planning blueprint to guide decisions and transportation investment within the County. The coordinating agencies were identified and the general update process discussed
- Need and Purpose of the RTP – the consultant identified specific need and purpose statements from the 1999 CTC RTP guidelines and 2003 Supplement that accomplish the RTPs intended outcomes. A key element is that the RTP should strengthen public involvement, coordination with tribal governments, and provide information for use in the Interregional Transportation Improvement Program (ITIP), the RTIP, and the Federal Transportation Improvement Program (FTIP)
- Summary of Existing Conditions – The consultant provided a summary of the existing needs assessment in the County by mode. Specific attention focused on State highway locations that are not meeting General Plan (GP) level of service criteria. The need for transit station improvements, bicycle and pedestrian system and circulation improvements, and Transportation Management innovations were presented
- Summary of Future Conditions – The consultant provided a summary of the modeling results from the Tuolumne County Travel Demand Model (TCTDM). The TCTDM was used to forecast the LOS for 2020 and 2030 with planned and programmed improvements. The results showed the number of highway and road locations within the County that did not meet GP LOS criteria increasing in 2020 due to population and employment growth. However, the addition of several future projects in 2030 resulted in a slight decrease in the number of locations experiencing unacceptable LOS. The Council discussed the population growth assumptions used for the modeling analysis. The Council was skeptical about using Department of Finance data because of its variability. Staff advised the Council that the DOF was not the basis for the growth projections but that they were based on actual experiences in the County. The County requested that staff research the assumptions more and bring information back to the Council in February for review and action.
- Consideration of RTP Goals and Policies – The consultant and County staff presented a list of nine RTP system goals, and specific objectives and policies for the various modes of transportation addressed by the RTP including highways, public transportation, rail, goods movement, bicycle, pedestrian, aviation, and transportation management. The Council discussed the nine regional goals and requested that Goal 4 include a statement

that "Federal Transportation Policy" will be considered in the integration of land use and transportation decisions. This reference is included in the Draft RTP Document.

- Consideration of RTP Financial Alternatives – The Council was advised that the RTP update provided them a unique opportunity to analyze how decisions about funding affect the long term development of transportation infrastructure. Many fund sources are restricted to uses within certain categories such as transit, air quality, bike and pedestrian, and bridges. However, the TCTC does have some discretion in how they spend monies from major funding sources such as the STIP and the County's Develop Impact Traffic Mitigation Fees (RTIF). The TCTC was presented with three financial alternatives for consideration.
  - Alternative 1 (Status Quo) – This alternative looks at the revenues received by the County since 1998 and extrapolates the estimated revenue for 2020 and 2030 by mode.
  - Alternative 2 (Highway Emphasis) – In this alternative, all funding that is required to be directed toward certain uses continues to be directed as such (bridges, SHOPP, safety, etc.). The big difference in this alternative is that all anticipated revenues from the Regional Improvement Program (RIP) shares beginning in the 2014 STIP are programmed to Arterial Collector road maintenance and operation of the City and County. This would represent a major benefit of about \$3.5 million annually to local road maintenance programs consistent with stated goals of local elected officials. However, it is believed by Tuolumne County staff that before the State will allow these funds to be programmed to local road maintenance, it must be able to determine that no unfunded capacity increasing projects are on the State highway system.
  - Alternative 3 (Increased Local Funding (RTIF) program for local capacity - Combination of Alt 1 and Alt 2) – As with the previous alternative, all restricted fund sources will continue to be directed to required uses. All revenues from the STIP (RIP and IIP) will continue to be programmed to capacity increasing projects on the State Highway System. The RTIF revenues will continue to be used as adopted by ordinance. However, with the recognition that STIP revenues are inadequate to fully fund needed local capacity increasing projects, the unfunded need for these local projects will be covered by increasing the RTIF. The rationale for this alternative is that the STIP covers the burden caused by interregional travelers and development impact fees cover the cost burden imposed by local development projects. Capacity increasing projects on the county and city arterial/collector road systems would be paid for by increases in the development impact traffic mitigation fee program. Local road maintenance programs would be enhanced through implementation of Permanent Road Divisions Assessment Districts (PRDAD) and other financing instruments utilized by other counties and cities.

There were no citizen comments for consideration in the Draft RTP.

## **II. ASSESSMENT OF NEEDS**

The assessment of needs identifies the existing and future deficiencies of the Tuolumne County transportation system that have both regional and State significance. The information presented in this section provides the basis for improvements proposed in the Action Element (Section IV).

### **SOCIOECONOMIC CONDITIONS**

The needs assessment is largely based on existing and future travel demand that stems from existing and future socioeconomic conditions in the County. This study evaluated socioeconomic data as part of the needs assessment and relied on forecasts of future population and employment to project future travel demand on the County's transportation system. The following discussion provides a brief summary of socioeconomic conditions in the County to provide a context for understanding existing transportation conditions and the role of future traffic growth in exacerbating some of today's problems.

### **EXISTING SOCIOECONOMIC CONDITIONS**

Transportation needs and system deficiencies stem from travel demand, which is influenced by current socioeconomic conditions including population, number of households, and the intensity and location of employment centers. Sources reviewed for this section included the 2000 Census Data, population data from the California Department of Finance (DOF) and the TCTC, the 1996 Tuolumne County General Plan, the 2004 City of Sonora General Plan, and other project level data and studies provided by the Tuolumne County Department of Public Works.

Historically, Tuolumne County has experienced a slow to modest rate of population growth due to the County's very rural nature, topography and lack of expanding employment opportunities. Table 3 shows the historical population growth from 1990 to 2002 for the County as a whole, and for the City of Sonora. Between 1990 and 2002 the Department of Finance data showed a one percent per year growth. The very small residential population in the County does not reflect the thousands of visitors and tourists that travel to and through the County each year, and ultimately impact the transportation system. Yosemite National Park is one of the most visited parks in the nation. According to the Tuolumne County Visitor's Bureau, the County provided lodging and services for approximately 3.5 million visitors in 2003. The Bureau estimates that these visitors also added approximately \$143 million to the local economy in 2003. It is anticipated this level of tourism will continue in the long-term.

<b>TABLE 3 – HISTORICAL POPULATION GROWTH IN TUOLUMNE COUNTY</b>			
Year	Population		Average Annual Growth County (City of Sonora) from 1990
	County	City of Sonora	
1990	48,460	4,150	--
1997	51,900	4,190	1.0% (0.1%)
1998	52,800	4,220	1.0% (0.2%)
2002	55,755	4,524	1.2% (0.7%)
Source: Tuolumne County Regional Transportation Plan and Traffic Model Update Land Use Growth Projections 2002 – 2025 Draft Working Paper #3a. California Department of Finance Report E-1.			

A summary of select demographic information from the 2000 Census and Tuolumne Chamber of Commerce is shown in Table 4. Tuolumne County has a significant percentage of the population that is 65 or older compared to the state average. In addition, the unemployment rate is slightly higher than the state while the median household income is considerably lower.

<b>TABLE 4 – CENSUS 2000 DEMOGRAPHIC INFORMATION</b>		
Category	Tuolumne County (%)	California (%)
Persons per Household	2.36	2.67
Median Household Income	\$38,725	\$47,493
Mean Travel Time to Work	26.8 minutes	27.7 minutes
Households (2000)	28,336	11.5 million
Household Vacancy Rate	27%	5.8%
Unemployment Rate	6.6%	6.0%
Persons 65+	18.5%	10.6%
Source: Census 2000, and Tuolumne County Chamber of Commerce		

## FUTURE SOCIOECONOMIC CONDITIONS

Table 5 provides future population and housing projections based on the Tuolumne County Traffic Circulation Model population estimates adopted by the TCTC.

<b>TABLE 5 – FUTURE POPULATION AND HOUSEHOLD PROJECTIONS</b>			
	2002	2030	Difference
Population	55,755	81,629	25,874
Households	29,191	43,324	14,133
Source: Tuolumne County Regional Transportation Plan and Traffic Model Update Land Use Growth Projections 2002 – 2025 Draft Working Paper #3a.			

According to Tuolumne County projections, total population in the County will increase about 46 percent over the life of the RTP. In addition, total households will increase by approximately 14,000 units during the same time frame. The assumption is that future households will track projected growth in population at less than 2 percent per year. With 2.36 persons per household in 2000, the household growth may look too high. This would be the case except for the large amount of expected secondary residential units in the County.

Increases in population and household density (and invariably the location and type of employment) directly result in increased demand on all modes of the transportation system. The growth impacts to each mode of transportation and associated issues are discussed below.

## **EXISTING NEEDS**

This section focuses on the existing needs and deficiencies for the highway system and other modes of transportation in Tuolumne County. In addition, other transportation issues such as “deferred maintenance” are discussed.

## **ROADWAY SYSTEM**

Figure 2 displays the major roadways in Tuolumne County and the City of Sonora along with their functional classification. The basic street and highway network in Tuolumne County is comprised of a combination of approximately 139 miles of State highways, 600 miles of maintained County roads and 26 miles of maintained City streets. Beyond this basic system, there are several hundred additional miles of Federal (Bureau of Land Management and Forest Service) and privately owned roads. The description of each classification of roadway used by the County and the City of Sonora, as defined by the American Association of State Highway Transportation Officials (AASHTO) is summarized below.

### **Rural Arterials**

The rural principal arterial system consists of a network of regional routes functioning primarily for the movement of through traffic, usually on continuous routes, with trip length and capacities suitable for substantial statewide or interstate travel. The State Department of Transportation and within Yosemite National Park, the Park Service are the agencies responsible for improving and maintaining these routes.

### **Rural Minor Arterials**

The rural minor arterial functions in conjunction with the principal major arterials to form a regional network providing high speed, high volume travel corridors for movement between traffic generators such as cities, large towns and resort areas and uninterrupted intercounty travel. Rural minor arterials are spaced consistent with population density to provide a relatively high level of service to all developed areas of the State. The State Department of Transportation is the agency responsible for improving and maintaining these routes.

### **Rural Collectors**

Rural collector routes provide service between local roads and the arterial system and are primarily important for intra-county travel. These routes are sub-classified as follows:

- *Major collectors* - These routes function as corridors for through traffic within local areas providing service to towns and other major traffic generators within the County which are not directly served by the arterial system. They also serve to link minor collectors and local access roads with nearby towns and communities or the arterial system.
- *Minor collectors*. These routes generally serve lower density areas and, therefore, do not have the traffic volume that major collectors do. Minor roads often serve to funnel traffic from groups of local roads onto the major collectors and arterial routes.

### **Rural Local Road**

The rural local road system primarily provides direct access to residential property and other areas which are not directly served by the collector or arterial system. Local roads make up a

major portion of the County Road System, approximately 370 miles. Local roads are all those County roads not classified under the Arterial or Collector categories.

**Scenic Route**

A scenic route as one that traverses an area of outstanding scenic quality. Portions of State highways 49, 108 and 120 are considered locally as scenic routes.

**ROADWAY OPERATIONS**

The quality of traffic operations is expressed in terms of level of service (LOS) ranging from LOS A (best) to LOS F (worst). For the purposes of this study, typical weekday conditions were analyzed by comparing daily traffic volumes to LOS volume thresholds shown in Table 6. The LOS volume thresholds in Table 6 were developed in cooperation with Tuolumne County staff. Fehr & Peers used the Highway Capacity Software (HCS 2000) to develop the LOS E capacities and Tuolumne County staff used previous LOS analysis and local knowledge of the roadway system to stratify the volume thresholds across LOS A through D. A distinction is made for rolling terrain versus mountainous terrain as the capacity of a roadway is partially based on this parameter.

TABLE 6 – TUOLUMNE COUNTY APPROVED LOS VOLUME THRESHOLDS						
Type	Road Class	A	B	C	D	E
1	Major/Minor Collector (23 ft.-32 ft.)	2,900	5,800	8,700	12,325	14,500
2	Major/Minor Collector (20ft. - 23ft.)	2,590	5,180	7,770	11,008	12,950
3	Major/Minor Collector (18ft. - 20 ft.)	2,300	4,600	6,900	9,775	11,500
4	Major/Minor Collector (Less than 18 ft.)/Local Road	1,920	3,840	5,760	8,160	9,600
5	Major Collector (34ft. - 36ft.)	3,420	6,840	10,260	14,535	17,100
6	Rural Minor Arterial (2-lane)	3,120	6,240	9,360	13,260	15,600
7	Rural Minor Arterial (4-lane)	6,080	12,160	18,240	25,840	30,400
8	Rural Arterial (4-lane) undivided	4,820	9,640	14,460	20,485	24,100
9	Rural Arterial (4-lane) divided	6,240	12,480	18,720	26,520	31,200
10	2-Lane Freeway	6,680	13,360	20,040	28,390	33,400
11	2-Lane Freeway + Auxiliary Lane	8,392	16,784	25,176	35,666	41,960
12	3-Lane Freeway	10,100	20,200	30,300	42,925	50,500
101	Minor Collector (23 ft.-32 ft.)	2,696	5,392	8,088	11,458	13,480
102	Minor Collector (22 ft.)	2,410	4,820	7,230	10,243	12,050
103	Minor Collector (20 ft.)	2,138	4,276	6,414	9,087	10,690
104	Minor Collector (18 ft.)/Rural Local Road	1,784	3,568	5,352	7,582	8,920
105	Major Collector (34ft – 36ft)	3,180	6,360	9,450	13,515	15,900
106	Rural Minor Arterial (2-lane)			8,700	12,325	14,500
107	Rural Minor Arterial (4-lane)	5,600	11,200	16,800	23,800	28,000
108	Rural Arterial (4-lane) undivided			13,440	19,040	22,400
109	Rural Arterial (4-lane) divided			17,400	24,650	29,000
Green = Rolling Terrain						
Yellow = Mountainous Terrain						

Note: Based on the definitions in Caltran's Route Segment Report (1997), Rolling terrain generally has grades, upgrades and/or downgrades between 3% and 6% for less than ¼ mile in length Mountainous terrain experiences grades of 6% or greater generally ¾ mile in length resulting in a reduction in both roadway capacity and speed.

## **POLICY LEVEL OF SERVICE FOR STATE AND COUNTY ROADWAYS**

The Tuolumne County GP establishes the following minimum levels of service (LOS) for state and county roadways under Section 2.A.h

### **Minor Collector Roads and Local Roads**

LOS B on Minor Collector and local roadways, except within one-half mile of Major Collectors or Arterial highways where the standard shall be LOS C. The minimum peak hour LOS standard for intersections of minor collector and local roads with major collector and arterial highways shall be LOS C.

### **Arterial and Major Collectors**

LOS C on Arterial and Major Collector roadways, except within one-half mile of similarly classed highways where the standard shall be LOS D. The minimum peak hour LOS standard for intersection of major collector roads and arterial highways shall be LOS D. The County may allow exceptions to the level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts, including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic flows.
- The impacts on quality of life as perceived by residents.
- Consideration of other geographical, environmental, social or economic factors on which the County may base findings to allow an exceedance of the standards.
- The ability to equitably fund needed improvements.
- The importance of proposed improvements in relation to other road needs given limited resources

Exceptions to the standards will only be allowed after all reasonable measures and options are explored, including alternative forms of transportation.

### **State Highway**

Support, when reasonable, the State's goal of maintaining Level of Service (LOS) C on State Highways and at intersections with County roads. The minimum LOS standard for the State Highway System shall be no lower than LOS E. The methodology for evaluating LOS on State Highways shall be pursuant to the Highway Capacity Manual and Transportation Research Record 1194.

## **LOS METHODOLOGY**

To conduct the LOS analysis, the RTP roadway network was divided into 130 roadway segments (Appendix C). Each segment reflected the current functional classification based on capacity and function. The ADT was determined for each segment and then compared to LOS thresholds

established by the County. The assignment of ADT relied on traffic counts of daily volumes from 2002. Where count data was not available, 2002 estimates of daily volumes were generated from the Tuolumne County travel demand model (TCTDM). The TCTDM encompasses the entire county as well as a portion of SR 120 in Mariposa County. The model is calibrated and validated to 2002 conditions for a “typical weekday” defined as a Tuesday, Wednesday, or Thursday. Details of the model calibration and validation are available in a separate report available from Tuolumne County.

Figure 3 and Figure 4 show the base year (2002) volumes and the LOS calculated for each roadway segment. Table 7 summarizes specific segments where the 2002 LOS exceeds the policy LOS established by the GP. The detailed listing of existing volumes and GP Policy LOS for each of the 130 study segments is shown in Appendix D-1.

As Table 7 shows, 24 segments (18%) do not meet the GP Policy LOS for roadway operations in the County. These segments are considered deficient and in need of capacity and/or operational improvements. Sixteen of the twenty-four segments are on state highways with the remainder on County or city roadways. Fifteen (62 percent) of the 24 segments operate at LOS E or F. Many of the recommended improvements in the Action Element are intended to eliminate or reduce the LOS deficiencies consistent with available and/or anticipated funding.

**TABLE 7 –  
EXISTING ROADWAY LOS DEFICIENCIES (2002 BASELINE)**

RTP ID	FACILITY	FROM	TO	GP LOS POLICY	2002 BASELINE LOS
1	SR 108/120	O Byrnes Ferry Road	La Grange Road	C	F
3	SR 108	SR 49	O Byrnes Ferry Road	C	F
4	SR 120	Priest Coulterville Road	Wards Ferry Road	C	D
7	SR 120/49	Red Hill Road	Jacksonville Road	C	D
19	SR 108/49	SR 49	Main Street, Jamestown	D	F
20	SR 108/49	Main Street, Jamestown	SR Business 108/49	D	F
29	Mono Way	Sanguinetti Loop Road	Tuolumne Road	D	F
30	Tuolumne Road	SR 108	Hess Avenue	C	D
35	SR 108	Standard Road	North Sunshine Road	D	F
40	SR 49	School Road	Snell Street	D	E
43	SR 49	Snell Street	SR Bus 108/49	D	E
44	South Washington Street	Hospital Road	SR 108 Bypass	D	E
45	SR 108 Bypass	Lime Kiln Road	Sanguinetti Loop Road	C	F
48	Sanguinetti Road	Old Wards Ferry Road	Sanguinetti Loop Road	C	D
58	SR 120	Wards Ferry Road	Ferretti Road	C	D
61	SR 108/120	Stanislaus County Line	La Grange Road	C	D
65	SR 120	SR 49	Old Priest Grade Road	C	D
85	SR 108 Bypass	SR Business 108/49	Lime Kiln Road	C	F
92	SR Bus 108/49	SR 49	Mono Way	C	F
100	SR 108	Hess Avenue	Standard Road	D	F
103	Mono Way	Tuolumne Road	Hess Avenue	D	F
106	Tuolumne Road	Hess Avenue	Wards Ferry Road	C	D
116	Mono Way	SR 108	Sanguinetti Loop Road	D	F
126	Stewart Street	SR Business 108	Morning Star Drive	B	C

Source: Fehr & Peers, 2007; Tuolumne County Travel Demand Model (TCTDM) 2006

Gray shading shows locations with LOS E or worse. Yellow shows segments with GP Policy LOS of B.

## ROADWAY SYSTEM MAINTENANCE

In past years, Tuolumne County has suffered from a backlog of “deferred maintenance” on many County and city roadways. In 1998, Caltrans completed a survey of pavement rehabilitation and maintenance needs for the entire State of California. This survey was completed at the request of the CTC in response to Senate Bill 8 (Burton). Table 8 shows a 10-year estimate of the deferred maintenance needs in Tuolumne County based on this survey information.

TABLE 8 – DEFERRED MAINTENANCE	
Jurisdiction	1998 Dollars
City of Sonora	\$4,000,000
Tuolumne County	\$40,000,000
<b>Total County</b>	<b>\$44,000,000</b>
Source: Inventory of Ten-Year Funding Needs for California's Transportation System, California Transportation Commission, May 1999.	

As Table 8 shows, Tuolumne County had a 10-year funding shortfall of approximately \$44 million based on the 1998 survey. The County had the highest estimate of \$ 40 million although County staff believed this estimate was low compared to the actual need. The City of Sonora showed a backlog of approximately \$4,000,000. It should be noted that adjacent counties face similar problems with “deferred maintenance” and it is important that efforts to improve maintenance on interregional roadway segments, particularly those that serve as primary truck routes, be coordinated between affected counties. According to the survey report, the deferred maintenance problem is worse for county roads in rural areas than city streets in the same areas. This is due in part to the fact that Cities generally have more options available to supplement state and federal funds for road maintenance needs.

The generally agreed upon fact from the survey is that deferred maintenance leads to higher rehabilitation costs in the future. Resurfacing a roadway is estimated to cost approximately \$100,000 per lane-mile or less, while rehabilitation of damaged roadbed can cost as much as \$500,000 per lane-mile or five times as much.

In addition to the 1998 survey, the County conducted a maintenance needs assessment in conjunction with preparation of their 2005 Capital Improvement Program (CIP). Maintenance needs for various classes of roadways including Minor Collectors, Major Collectors, Rural Arterials, and others were divided between maintenance treatments and structural improvements. Maintenance treatments included items such as crack and chip seal, rubberized chip seal, and striping. Structural improvements involved minor overlays, major overlays, and reconstruction. The County has conservatively estimated their ongoing maintenance needs at approximately 8 million per year. This translates into approximately \$160 million over the life of the RTP (by 2030). The TCTC has estimated that LTF funds will provide approximately 42.8 million over the same time frame. This still leaves a shortage of approximately \$117 million in road maintenance needs.

### County Service Areas (CSAs)

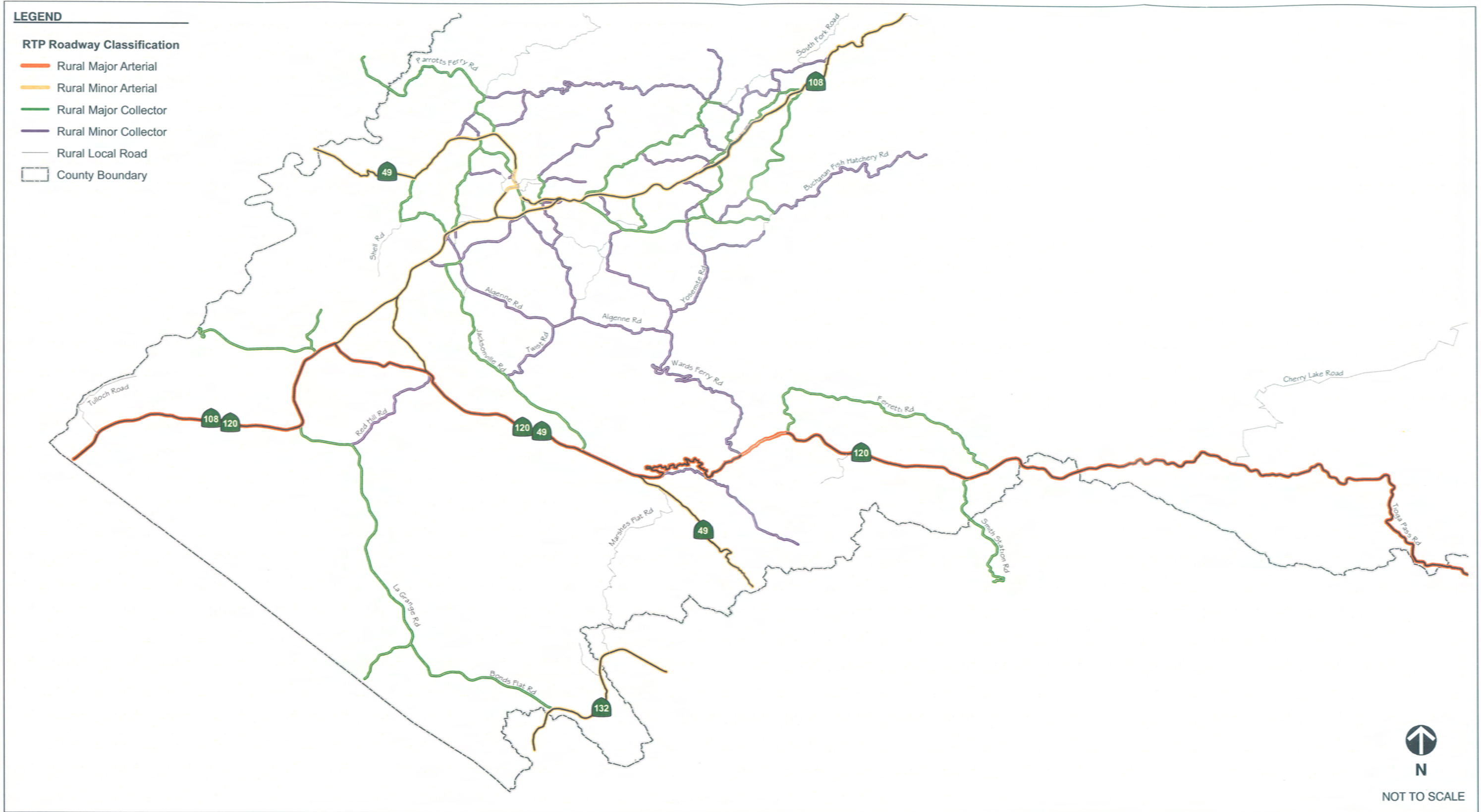
In response to many of the ongoing maintenance needs of the County, the County has formed several County Service Areas (CSAs) within each Supervisorial District for the purpose of providing road maintenance and improvements. The County Board of Supervisors serves as the board of directors for each CSA. Most CSAs are funded by Benefit Assessments. The benefit determination is normally based on road use (length of roads, traffic generation and other factors). CSAs may also be funded by special or general taxes. Most new subdivisions have CSAs formed to maintain their roads. Appendix R provides a list of the active CSAs within the County along with a general summary of their road inventory and proposed 2007/08 budget. There are currently 24 active CSAs in the County included in the 2006/07 Annual Report.

Note: Previous reports have included more than 24 CSAs, however, several have elected to opt out of the program leaving 24 active at the present time.

**LEGEND**

**RTP Roadway Classification**

- Rural Major Arterial
- Rural Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- Rural Local Road
- County Boundary







## ROADWAY SAFETY

Motorist safety is an important element of the RTP planning process. The TCTC has included a safety goal and performance measure in the RTP to reduce accidents. Table 9 compares the 2001-2003 accident rates (accidents per 1,000,000 miles of vehicle travel) on Tuolumne County state routes with the statewide average for similar facilities.

<b>TABLE 9 – TRAFFIC ACCIDENT RATES ON TUOLUMNE COUNTY STATE HIGHWAYS (Accidents per 1,000,000 Miles of Travel)</b>			
Facility	Tuolumne County 2001 - 2003	State Average 2001 - 2003	Ratio
SR 49	2.65	1.66	1.6
SR 108	1.76	1.65	1.1
SR 120	0.85	1.01	0.8
Source: Caltrans District 10; California Highway Patrol SWITRS Shading denotes State Routes with accident rates exceeding the statewide average			

As Table 9 shows, SR 49 and SR 108 have rates above the state average for similar roadways. The programmed SHOPP project list for Caltrans includes two projects on SR 108 and three on SR 49 to help reduce collisions. The SR 108 improvements include left turn lane and intersection improvement and left turn channelization near Sonora (Appendix G-1). The improvements to SR 49 include left turn channelization and a two-way left turn lane near Jamestown, and curve realignment near Sonora and Tuttletown (Appendix G-1). These improvements are intended to improve traffic operations and safety by increasing capacity and upgrading facilities to current design standards. In addition to the statewide SWITRS data, Tuolumne County monitors its own accident information on state and local roads. Table 10 provides the number of recorded local accidents by Roadway for 2004.

The State Routes continue to show high numbers of accidents. Tuolumne Road and Parrots Ferry Road accounted for the highest number of accidents on County roads. In fact, Parrots Ferry Road from the intersection with SR 49 to north of Sawmill Flat Road is considered one of the highest accident locations in the County. Each project listed in the Action Element includes a qualitative assessment check mark if the project is intended to improve safety.

<b>TABLE 10 – 2004 ACCIDENTS ON STATE AND COUNTY FACILITIES</b>	
<b><u>Primary Road</u></b>	<b><u>Count</u></b>
RT108	341
RT 120	153
RT 49	232
LONGEWAY RD	12
FIFTH AV, JAMESTOWN	9
TUOLUMNE RD	106
WOODHAMS CARNE RD	7
SHAWS FLAT RD	11
PARROTTS FEERY RD	45
LA GRANGE RD (J59)	21
MAIN ST (JT)	22
FERRETTI RD	5
SAWMILL FLAT RD	14
LIME KILN RD	15
TWAIN HARTE DR	23
PHOENIX LAKE RD	28
CHEROKEE RD	7
RAWHIDE RD	23
HESS AV	13
Source: Tuolumne County, Department of Public Works, 2004	

## GOODS MOVEMENT

The most recent Caltrans vehicle classification counts for trucks (2006) show the percentage of trucks in the traffic stream on state routes within the County range from a low of 3 percent on SR 108 to a high of 10 percent on portions of SR 49. Truck volumes as a percentage of ADT for selected highway segments in the County are shown in Table 11

<b>TABLE 11 TUOLUMNE COUNTY TRUCK VOLUMES ON STATE HIGHWAYS</b>		
Route	Limits	Truck Percentage Of Total Traffic
SR 49	Jct. SR 120	10.2
SR 49	South Jct. SR 108 (Montezuma Road)	8.3
SR 49	East Jct. SR 108	10.0
SR 49	Columbia Way	6.0
SR 49	Rawhide Road	6.0
SR 49	Calaveras County Line	4.0
SR 108	Oakdale, East Jct. SR 120	7.0
SR 108	Sonora, Jct. SR 49	8.1
SR 108	Soulsbyville Road	2.0
SR 108	Chief Fuller Road	4.0
SR 108	Cow Creek Road	3.0
SR 120	Stanislaus/Tuolumne County Line	8.4
SR 120	East Jct. SR 108	8.4
SR 120	Chinese Camp, North Jct. SR 49	6.8
SR 120	South Jct. SR 49	5.0
Source: Caltrans 2006 Truck Volumes		

A need exists to improve specific truck routing throughout the County to reduce congestion and lessen maintenance needs. Weight limit signs are recommended on roads where truck traffic is not warranted. This will help manage highway maintenance costs. In addition, high truck volumes, especially on two-lane roads and/or mountainous areas contribute to unsafe passing and/or travel delays by slowing traffic. The addition of truck climbing lanes and/or passing lanes would help reduce delays on these facilities. The Action Element includes projects that increase capacity by adding additional lanes and/or passing lanes. In addition, the use of Intelligent Transportation System (ITS) technology for signing and message alerts can help direct trucks to the most appropriate routes either for freight deliveries in the County or for travel through the County. The preferred truck routes in Tuolumne County normally include State highways, major collectors and minor arterials.

## **PUBLIC TRANSIT**

Tuolumne County Transit (TCT) was established in December 1976 with the aid of a federal grant. The service was operated by the County until 1985. Since that time, the management and operation of TCT has been contracted based on competitive proposals. The current contract is with MV Transportation.

The Tuolumne County Department of Public Works, Transportation Division, provides staff to administer the transit contract as well as fiscal management, planning, programming and monitoring, and administration. TCT is funded primarily by California Transportation Development Act (TDA) funds, Federal Transit Administration Section 5311 operating assistance funds, and farebox and charter revenue.

The County transit system provides Dial-A-Ride and Fixed Route services to the communities of Sonora, Columbia, Jamestown, Tuolumne, Twain Harte, Mi-Wuk Village, Sierra Village, Groveland and the Mi Wuk Rancheria. Services include connections to Calaveras County Transit that links with Amtrak, Greyhound, San Joaquin Transit and Sacramento Regional Transit in the City of Lodi. TCT operates from 6:00 AM to 7:00 PM Monday through Friday. On Saturday's

general public Dial-A-Ride is provided from 9:00 AM to 4:00 PM in limited areas. A map of the current fixed-route and dial-a-ride routes is shown in Appendix T.

## TRANSIT RIDERSHIP

The TCT has experienced increased ridership. Annual ridership for fiscal year 2006/07 is expected to exceed 100,000 passengers. Increasing fuel costs, air quality issues in the County and an increasing senior population combine to accelerate ridership growth and contribute to changing expectations regarding transit service quality.

## PERFORMANCE MEASURES

Table 12 compares various performance measures and operating data for TCT fixed route service and DAR for FY 99/00 and FY 04/05.

TABLE 12 – TUOLUMNE COUNTY TRANSIT PERFORMANCE MEASURES FY 99/00 VS. FY 04/05							
	Trips	Service Hours	Trips/Service Hour	Cost/Trip	Farebox	Contract Cost/Hour	Annual Cost
Fixed Route							
FY 99/00	54,204	7,544	6.0	\$6.17	21.7%	\$40.89	\$308,488
FY 04/05	65,276 (+17%)	8,482 (+11.%)	7.7	\$7.05 (+12%)	18.8%	\$46.90 (+13%)	\$397,806 (+22%)
Dial-A Ride							
FY 99/00	22,974	6,523	3.5	\$12.51	20.0%	\$40.89	\$266,738
FY 04/05	26,692 (+14%)	8,315 (+22%)	3.7	\$16.02 (+28%)	12.4%	\$46.90 (+13%)	\$389,974 (+32%)
Source: Tuolumne County Short Term Transit Plan, 2006							

Table 12 shows transit ridership is increasing faster than population growth within the County. The issue facing the County is the increase in DAR ridership in spite of the fact that only 60 people are actually ADA certified. The County is obligated to provide service to ADA certified passengers. However, due to the trend toward the more expensive DAR, the County is committed to find a way to entice riders that are not ADA certified onto fixed route service. The switch will help improve efficiency and reduce costs to County tax payers.

## **CUSTOMER SURVEYS**

The recent update to the SRTDP included a ridership survey and a telephone survey. The ridership survey resulted in the following identified needs:

- Better on-time performance
- More frequent service to outlying areas
- Less overcrowding on DAR service
- Expansion of daily service hours

The following needs were identified in the telephone survey:

- Expand evening service
- Improve marketing efforts
- Meet the needs of the growing senior population

## **Proposed Service Changes**

The following service changes are needed based on survey information and Unmet Transit Needs hearing testimony:

- Increase frequency of service on all Fixed Routes by adding a fourth bus and increasing the daily vehicle service hours from 35 to 51 hours per day
- Extend evening services at Columbia College to 9:15 PM which is after most night classes end.
- Modify routes away from unproductive segments of SR 108 to neighborhoods along Camp Seco Road
- Modify routes away from unproductive segments of SR 49 north of Sonora to neighborhoods along Racetrack road and Shaws Flat Road
- Increase frequency of service to Columbia College
- Improve transfer times with Calaveras transit
- Improve the frequency of service on SR 108 through East Sonora to reduce overcrowding

## **Marketing Activities**

As identified above, there is a need to increase marketing activities to attract more ridership. Consistent with the current transportation contract, MV Transportation developed a marketing program for TCT which included the following:

- Radio advertising
- Newspaper advertisements
- Billboards at Standard Park and the Sports Arena
- Yellow Page ads
- Try Transit Week promotion
- Christmas event
- Update of the TCT riders guide

In addition, the County hired Exit Red Design to manage the Tuolumne County Transit Marketing Program. The contract required the Consultant to evaluate, assess and optimize the existing marketing plan to improve performance, increase ridership and increase community exposure. The estimated cost for the marketing effort is approximately \$24,000. Bus advertising space will be utilized to help offset the cost of the plan.

The TCTC website provides updated information on the status of several of the marketing efforts proposed by Exit Red Design. [www.tuolumnecounty.ca.us](http://www.tuolumnecounty.ca.us)

## **Park and Ride Facilities**

In Tuolumne County, there is a single park and ride facility on SR 120 near Ponderosa Lane in Groveland at MP 32.2, but it does not connect with any transit service at the present time. It provides eight parking spaces that are not utilized for transit.

## **Bus Stop Needs**

Bus benches and shelters help improve the attractiveness of transit to existing and future riders. Many stop locations in the TCT system only have a bus stop sign. Many locations that riders have identified as needing bus shelters and other amenities require design review, environmental review, and land acquisition, engineering design and bus turnouts. These improvements increase the cost for bus stops to approximately \$30,000 each. There is a need to improve 15 locations in the TCT system escalating the estimated cost to \$450,000.

## **Transfer Point Needs**

There is a need to improve bus transfer stations in terms of size and amenities. The following locations are listed in the 2006 SRTDP:

- The existing Courthouse Park transfer point is too small for the larger buses being purchased. In addition, an increase in additional route connections is not feasible given the confined transfer area.
- The Junction shopping center transfer point lacks adequate passenger amenities
- The Columbia College transfer point between Calaveras transit and TCT lacks amenities and transit vehicle accommodations

## **AVIATION FACILITIES**

Tuolumne County operates two airports, one in Groveland (Pine Mountain Lake Airport) and one in Columbia (see Figure 1). Pine Mountain Lake Airport is surrounded by a residential airpark whose residents use their aircraft to commute to work, for business travel, for travel to their second home, and to travel on vacation. The airport is also used as a pick up point for air ambulance services and as a staging area when wildfires are burning in the area.

Columbia Airport contains several aviation businesses that serve the aviation community. These businesses include two air charter companies, a flight school, two aircraft maintenance facilities, and an air ambulance service. Additionally, Columbia Airport is a CAL FIRE tanker base. Columbia Airport features a fly in only campground which is a travel destination for numerous pilots and aviation groups primarily during the summer months.

Information provided by the Division of Aeronautics, Office of Aviation Planning of Caltrans shows that the Columbia airport has approximately 250 based aircraft and averages approximately 46,000 take-off and landings each year. The Pine Mountain Lake airport in Groveland has approximately 105 based aircraft and averages approximately 33,000 take-off and landings each year.

Both airports are used by private aircraft, business aircraft, air taxi operators, law enforcement, air ambulance services, and for aerial firefighting aircraft. Being located on opposite sides of the Tuolumne River Canyon, the airports offer air transportation to geographically separated parts of Tuolumne County.

There are currently two heliports within Tuolumne County. The first is located off of SR 108 south of Cold Springs and is maintained by the U.S. Department of Forestry. The second heliport is owned and maintained by Sonora Regional Medical Center for medical emergency transport services. The Tuolumne County Airports Department does not manage either heliport. Each heliport is managed by separate jurisdictions and functions independently.

Additional airport needs identified include:

- Need for additional taxiways
- Need for additional storage hangars
- Need for perimeter access roads
- Need for additional aircraft ramp area
- Need for helicopter parking area

## **BIKEWAY AND PEDESTRIAN FACILITIES**

The Tuolumne County GP Circulation Element for non-motorized transportation indicates that existing bike and pedestrian facilities are limited in the County. As a result of Proposition 116, and Transportation Enhancement dollars, several high priority projects from the 1996 RTP are under design or have been constructed. However, both the RTP and the City of Sonora General Plan address non-motorized transportation needs for bicycle and pedestrian facilities. The GP focus is on short, high impact, less expensive routes. Within the City, there is a need to construct sidewalks for pedestrian access and safety. However, steep terrain increases the cost of sidewalk construction, and topography presents a challenge for meeting grade requirements for wheelchair accessibility. The City is currently pursuing additional funding for implementation of its Sidewalk Improvement Program to include sidewalk rehabilitation, replacement and construction to facilitate pedestrian traffic between housing, commercial facilities, schools and other destination activities.

The County recently updated the Tuolumne County Bikeways and Trails Plan in April 2005. The Plan incorporates the recommendations and projects contained in the Tuolumne Band of Me-Wuk Indians 2003 Bicycle Plan as well. Recommendations from the TCBTP are included under future conditions. Projects are discussed in the Action Element and included in Appendix J.

## **RAIL FACILITIES**

According to the City of Sonora GP, there is an existing need to increase freight capacity without increasing rail traffic through the City of Sonora. The Sierra Northern Railway has trains that pass through the southern portion of the City of Sonora two to three times each week in route to and from the lumber mill in Standard. Information in Sonora's General Plan indicates that two round-trips daily are needed depending upon operations at the lumber mill in Standard. Also, on occasion, passenger trains from Railtown 1897 State Historic Park in Jamestown pass through Sonora.

The City of Sonora General Plan reports that the Sierra Northern Railway has discussed hauling freight for mining operations in various locations throughout the County. The County anticipates that any increased hauling will use existing freight trains with additional cars operating on existing schedules so that the number of trains passing through Sonora will not increase. The current freight hauling provided by Sierra Northern Railway to Tuolumne County is out of the Sierra Pacific Industry Mill operations off of Standard and Tuolumne Road and at the Sierra Pacific Mill operation in Chinese Camp.

## **MANAGING THE TRANSPORTATION SYSTEM (TDM AND TSM)**

System management strategies are divided into two categories - transportation system management (TSM) and transportation demand management (TDM). Each category emphasizes different strategies and approaches to reducing the demand for auto travel.

The use of TSM and TDM activities are fairly limited in the County although the TCTC recently programmed funding for signal optimization and coordination as part of a TSM effort. In addition, the Foothill Commuter service provides residents an alternative to the automobile for inter and intra-county travel. The County will be seeking CMAQ funding to help implement additional TDM and TSM improvements. These improvements are discussed in the Action Element. Section IV.

## AIR QUALITY

Under State Law, local and regional air pollution control districts have the primary responsibility for controlling air pollutant emissions from all sources other than vehicular emissions. Control of vehicular air pollution is the responsibility of the California Air Resources Board (CARB). In California, State standards are more stringent than Federal standards. The three primary pollutants prevalent within the County are:

- *Ozone (O<sub>3</sub>)* – smog formed through a chemical reaction of volatile organic compounds, nitrogen oxides and sunlight;
- *Carbon Monoxide (CO)* – a colorless, odorless gas that is considered toxic because of its tendency to reduce the carrying capacity of oxygen in the blood; and,
- *Suspended Particulate Matter less than 10 microns (PM<sub>10</sub>)* – solid or liquid matter that can penetrate into the lungs and affect sensitive population groups such as children, the elderly, and people with respiratory diseases.

Tuolumne County enjoys some of the best air quality in the State of California. However, a growing population, accompanied by routine sources of air pollution, vehicles, industrial facilities, open burning, woodstoves, and earth-moving equipment has deteriorated the quality of air within Tuolumne County. The air quality of the County is further diminished by the transport of pollutants from the more industrialized and populated areas of the San Joaquin Valley and the San Francisco/Oakland Bay Area. As these areas continue to address their air quality issues, thereby reducing their impacts on Tuolumne County, the County must also incorporate into its plans the measures necessary to facilitate growth while protecting the public health and welfare.

Tuolumne County is part of the Southern Mountain Counties Region non-attainment area encompassing Tuolumne County, Mariposa County and Yosemite National Park. In recent years, Tuolumne County has exceeded the 8-hr ozone standard. Federal clean air laws require areas with unhealthy levels of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and inhalable particulate matter to develop plans, known as State Implementation Plan (SIPs), describing how they will attain national ambient air quality standards (NAAQS).

SIPs are not a single document: rather they are a compilation of new and previously submitted plans, programs (such as monitoring, modeling and permitting), district rules, state regulations and federal controls. Tuolumne County is part of a collaborative effort between the California Air Resources Board (CARB) and local air pollution districts to develop a SIP for the region. The SIP will demonstrate that Tuolumne County will attain transportation conformity in compliance with State and Federal regulation governing air quality such as the Clean Air Act (CAA).

Transportation conformity is a way to ensure that Federal funding and approval are only given to those transportation activities that are consistent with air quality goals. It makes certain that future planned programmed transportation projects will not worsen air quality or interfere with the “purpose” of the SIP, which is to meet the NAAQS. Meeting the NAAQS often requires demonstration of emissions reductions from mobile sources. Although the timeline for adoption of the SIP for Tuolumne County is unknown at this time, Tuolumne County continues to engage in interagency consultation with local, State and Federal agencies for transportation conformity determinations. Participating in these meetings allows all agencies involved to offer input into the development and implementation of the SIP, travel demand modeling planning assumptions, air quality modeling, mobile source emissions modeling, proposed group actions and transportation conformity analysis.

## **FUTURE NEEDS**

The analysis of future transportation needs in Tuolumne County is based on projected increases in population, land use, and travel demand and the ability of existing facilities to accommodate the demand at acceptable levels.

## **COUNTYWIDE GROWTH**

In 2002, Tuolumne County contained 29,627 single-family dwelling units and 3,810 multifamily dwelling units to house approximately 56,000 residents. This was a substantial increase over Census 2000 numbers that showed approximately 21,000 units. As a result of these base figures, County staff and staff from the Tuolumne Utilities District (TUD) developed reasonable growth assumptions for future development. The assumptions for “build out” considered analysis of the development density now experienced in the County. Staff estimated future growth by taking the existing land uses and multiplying them by the rate of population increase for each time period, provided that the GP permitted expansion of the use within an area.

## **AREA SPECIFIC GROWTH**

The entire portion of Tuolumne County is divided into Traffic Analysis Zones (TAZ's). Each TAZ varies in size on the intensity of activity, the type of land use, the required level of detail, census boundaries and topography. Generally, zonal borders follow natural boundaries or man made boundaries (i.e. street, railroad tracks, etc.). The total number of TAZ for Tuolumne County is 360. Based upon the GP land use and assumed density use for every parcel of land, the 2015, 2025 and build out of each TAZ was determined. The build out potential of each zone was utilized as a constraining factor that some sub-areas in the City and older areas of the County achieved. Table 13 shows the residential growth in these areas along with the total number of dwelling units (including vacant units) planned for 2002, 2020, 2030 and build out for the County.

<b>TABLE 13 – COUNTYWIDE RESIDENTIAL GROWTH</b>				
<b>Area</b>	<b>2002</b>	<b>2020</b>	<b>2030</b>	<b>Build Out</b>
County	29,627	38,397	43,324	49,236
Columbia	1,676	2,577	3,032	4,005
Don Pedro	470	1,477	2,087	2,672
East Sonora	5,517	6,840	7,341	8,028
Groveland	3,372	4,553	5,376	5,876
Jamestown	1,700	2,776	3,045	3,529
Sonora (including city)	2,947	4,780	4,298	5,939
Tuolumne	1,558	2,162	2,407	2,861
Twain Harte	5,141	6,063	6,714	7,125
Source: Tuolumne County Regional Transportation Plan and Traffic Model Update Land Use Growth Projections 2002 – 2025 Draft Working Paper #3a				

## **COUNTYWIDE COMMERCIAL AND INDUSTRIAL GROWTH**

The State Department of Employment Development provides occupation and industrial growth projections for California counties. However, their projections only entail six to year years in the future. In addition, the Tuolumne County traffic model will forecast 20 years in the future. Consequently, Tuolumne County tied future commercial and industrial growth to estimated population growth. The specific levels of commercial and industrial square footage that corresponds to population levels for 2002, 2020, 2030 and build out are shown in Table 14.

<b>TABLE 14 – COMMERCIAL AND INDUSTRIAL SQUARE FOOTAGE</b>				
	2002	2020	2030	Build Out
Countywide Commercial Growth	4,464	6,137	7,002	15,078
Countywide Industrial Growth	1,885	2,515	2,842	8,202
Source: Tuolumne County Regional Transportation Plan and Traffic Model Update Land Use Growth Projections 2002 – 2025 Draft Working Paper #3a				

## ROADWAY SYSTEM CAPACITY NEEDS

To determine future roadway capacity needs, the TCTDM was used to forecast daily traffic volumes for the 130 roadway segments for the years 2020 and 2030. The 2020 time frame represents short-term improvements (0-10 years) and 2030 represents long-term improvements (11-20 years). The proposed RTP improvements for each forecast year were classified as Tier 1a, Tier 1b, or Tier 2. Tier 1a improvements are defined as projects that have full funding identified and/or reasonably anticipated by 2020. Tier 1b improvements are defined as projects that have full funding identified and/or reasonably anticipated by 2030. Tier 2 improvements are defined as projects that are needed by the County, have unknown construction dates, and have no funding source identified during the life of the RTP.

Several projects proposed for inclusion in the RTP are not included in the TCTDM analysis because they could not be coded into the model to effect any appreciable change in traffic volumes. Thus, their effect on LOS could not be quantitatively determined. The following projects are contained in the project tables in the Action Element, but are not part of the LOS needs analysis:

### Tier 1a 2020:

Jamestown: SR49/108 from near Woods Creek Bridge to Main Street (continuous left turn lane)  
East Sonora: Phoenix Lake Road at Sullivan's Creek: Bridge Replacement (not capacity increasing)  
Groveland: Evergreen Road at S. Fork Tuolumne River: Bridge Deck Replacement (not capacity increasing)  
County (Tuolumne County): Purchase Hybrid Vehicle.  
East Sonora: SR 108 from Standard Rd to Draper Mine Rd (continuous left turn lane)  
East Sonora: Draper Mine Rd at Curtis Creek: Bridge replacement (not capacity increasing)  
Sonora: Tuolumne Road: Railroad crossing improvements.  
Jamestown: Location unknown: Park N Ride Facility  
Unknown: Transit Facility

### Tier 1b 2030:

Phoenix Lake: Longeway Road from Soulsbyville Road to Hunts Road: Widen and construct continuous left turn lane.  
Soulsbyville / Tuolumne: Cherokee Road from Tuolumne Rd to Tuolumne Rd North: Curve corrections.

### Tier 2 Ultimate Configuration (Buildout):

Groveland: Ferretti Road from Pine Mountain. Lake Road to Clements Rd: Widening (not capacity increasing - safety)  
Sonora: Racetrack Road from Jamestown to Leland Drive. Widen and realignment (not capacity increasing)  
Twain Harte: Twain Harte Drive from Tiffeni Drive to SR 108. Widen, shoulders, left turn pockets and signage (not necessarily capacity increasing - safety) Twain Harte: Twain Harte Drive at Joaquin Gully Road. Construct turn pocket.

To understand the full extent and funding ramifications of future capacity needs in Tuolumne County, the TCTDM was used to analyze three growth scenarios. These scenarios provide information that will be used to evaluate the “preferred” financial alternative and the resulting list of prioritized projects.

**Scenario 1 – 2020 Roadway Segment Analysis (2020 Conditions with Tier 1a Roadway Improvements)**

For this analysis, 2020 forecast volumes for each of the 130 roadway segments were compared to the LOS capacity thresholds from Table 6. The results of the full analysis are shown in Appendix D-2. Table 15 provides a summary of 2020 RTP study segments that did not meet the GP LOS policy. RTP study segments that are shaded gray have LOS of E or F. Segments shaded in green reflect segments that changed functional class as a result of an RTP capacity improvement. Segments in yellow are roadways that have a GP policy LOS of B.

As Table 15 shows, thirty-seven (29%) of the total 130 roadway segments are forecast to operate at less than the adopted GP Policy LOS. Thirteen segments are on State highways. The remaining twenty-five locations are on County or city facilities. It should be noted that even with added capacity, nine segments continue to operate at LOS E or F in 2020.

Figure 5 shows the 2020 roadway classification with Tier 1a improvements. Figures 6 and 7 show the traffic volumes and LOS for each roadway segment based on the 2020 traffic volume projections and the capacity thresholds in Table 6). Figure 8 shows the location and description of the Tier 1a projects.

**TABLE 15 –  
2020 ROADWAY LOS DEFICIENCIES WITH TIER 1A RTP IMPROVEMENTS**

RTP ID	SEGMENT	FROM	TO	EXISTING FC <sup>1</sup>	RTP IMP <sup>2</sup>	GP LOS POLICY	FORECAST LOS
1	SR 108/120	O Byrnes Ferry Road	La Grange Road	6		C	F
3	SR 108	SR 49	O Byrnes Ferry Road	6	7	C	E
4	SR 120	Priest Coulterville Road	Wards Ferry Road	106		C	E
8	Jacksonville Road	Twist Road	SR 120/49	5		C	D
19	SR 108/49	SR 49	Main Street	6	7	D	E
21	Campo Seco Road	Seco Street	Lime Kiln Road	1		B	D
25	Snell Street	Forest Road	Jamestown Road	5		B	C
29	Mono Way	Sanguinetti Loop Road	Tuolumne Road	7		D	F
30	Tuolumne Road	SR 108	Hess Avenue	5	7	C	E
40	SR 49	School Road	Snell Road	6		D	F
41	Snell Street	School Road	SR 49	5		B	C
43	SR 49	Snell Street	SR Bus 108/49	6		D	F
45	SR 108 Bypass	Lime Kiln Road	Sanguinetti Loop Road	6	7	C	F
49	Mono Way	Greenley Road	South Loop Road	6	7	D	E
50	Mono Way	Greenley Road	Hospital Road	6	7	D	E
51	Mono Way	Steward Street	Hospital Road	6	7	D	E
53	Cabezut Road	Greenley Road	Shannon Drive	1		B	C
57	Hospital Road	Lime Kiln Road	Mono Way	4		B	E
58	SR 120	Wards Ferry Road	Ferretti Road	106		C	D
61	SR 108/120	Stanislaus County Line	La Grange Road	6		C	F
65	SR 120	SR 49	Old Priest Grade Road	6		C	D
68	Main Street	SR 108/49	SR 108/49	2		C	F
70	Shaws Flat Road	Jamestown Road	SR 49	5		C	D
75	Sawmill Flat Road	Parrots Ferry Road	Big Hill Road	3		B	C
85	SR 108 Bypass	SR Business 108/49	Lime Kiln Road	6	7	C	E
92	SR Bus 108/49	SR 49	Mono Way	6		C	F
93	Seco Street	Jacksonville Road	Campo Seco Road	5		C	D
94	Tuolumne Road Bypass	Tuolumne Road	Tuolumne Road North	NA	6	C	D
95	Seco Street	Main Street	Tenth Street	3		C	D
96	Seco Street	Tenth Street	Campo Seco Street	3		B	D
106	SR 49	Hess Avenue	Wards Ferry Road	5	7	C	D
107	Tuolumne Road	Wards Ferry Road	Standard Road	5	7	C	D
109	Tuolumne Road	Standard Road	Woodhams Carne Road	5	7	C	D
110	Fifth Avenue	Jamestown Road	SR 108/49	2		C	F
113	Tuolumne Road	Woodhams Carne Road	Cherokee Road	5		C	F
115	Cherokee Road	Tuolumne road North	Tuolumne Road	102		B	C
116	Mono Way	SR 108	Sanguinetti Loop Road	6	7	D	F
126	Stewart Street	SR Business 108	Morning Star Drive	4		B	C

Source: Fehr & Peers, 2007; Tuolumne County Travel Demand Model (TCTDM) 2006

Gray shading shows locations with LOS E or worse. Yellow shows segments with a GP Policy LOS of B. Green shows capacity improvement.

Note: 1 – Existing functional class; 2-New functional class as a result of capacity improvement

Functional Class 1 – Minor Collector (23 ft. – 32 ft.)

Functional Class 2 – Minor Collector (20 ft. – 23 ft.)

Functional Class 3 – Minor Collector (18 ft. – 20 ft.)

Functional Class 4 – Local Road

Functional Class 5 – Major collector (34 ft. – 36 ft.)

Functional Class 6 – Rural Minor arterial (2-lane)

Functional Class 7 – Rural Minor Arterial (4-lane)

Functional Class 10 – 2-Lane Freeway

Functional Class 102 – Minor Collector (22 ft.) Mountainous Terrain

Functional Class 106 – Rural Minor Arterial (2-lane) Mountainous Terrain

One solution to address the LOS deficiencies in Table 15 is to modify the County's policy decision to target LOS B and C on several County facilities. Modifying the target LOS to allow LOS D instead of C or LOS C instead of LOS B would reduce the number and cost of roadway improvements necessary to maintain these aggressive policies. Other jurisdictions have resorted to similar LOS D policies due to the cost and physical impacts of maintaining lower LOS thresholds. The cost and required right-of-way to maintain LOS B or C become onerous.

A change in LOS policy would free-up valuable resources allowing the County to redirect resources to the most congested roadway segments, provide additional roadway rehabilitation opportunities to preserve the existing system, and/or provide additional public transit services. For example, a policy change to LOS D would result in an additional 18 roadway segments from Table 15 meeting the target LOS in 2020. Just a policy change from LOS B to C on rural County roads would reduce the number of segments with unacceptable LOS by six.

### **Scenario 2 – 2030 Conditions with Tier 1a and Tier 1b Roadway Improvements**

For this analysis, 2030 forecast volumes for each of the 130 roadway segments were compared to the LOS capacity thresholds from Table 6. The results of the full analysis are shown in Appendix D-3. Table 16 provides a summary of 2030 RTP study segments that did not meet the GP Policy LOS. As before, RTP study segments that are shaded gray have LOS of E or F. Segments shaded in green reflect segments that changed functional class as a result of an RTP capacity improvement. Segments in yellow are roadways that have a GP Policy LOS of B.

Table 16 shows, thirty-two ((25%) of 130 roadway segments are forecast to operate at less than the GP Policy LOS. Eighteen of these segments are on State highways. The remaining fourteen locations are on County or city roadways. One half of the deficient segments have LOS E or F.

Figure 9 shows the 2030 roadway classifications with the Tier 1a and Tier 1b roadway improvements. Figures 10 and 11 show the LOS for each roadway segment based on the 2030 traffic volume projections and the capacity thresholds in Table 6. Figure 12 shows the location and description of Tier 1b projects.

**TABLE 16 –  
2030 ROADWAY LOS DEFICIENCIES WITH TIER 1A AND TIER 1B ROADWAY IMPROVEMENTS**

RTP ID	SEGMENT	FROM	TO	Existing FC <sup>1</sup>	RTP IMP <sup>2</sup>	GP LOS POLICY	FORECAST LOS
1	SR 108/120	O Byrnes Ferry Road	La Grange Road	6	7	C	E
2	O' Byrnes Ferry Road	Calaveras County Line	SR 108/120	5		C	D
3	SR 108	SR 49	O Byrnes Ferry Road	6	7	C	F
4	SR 120	Priest Coulterville Road	Wards Ferry Road	106		C	F
5	SR 49	SR 108	SR 120/49	6		C	E
7	SR 120/49	Red Hill Road	Jacksonville Road	6		C	F
10	SR 120	Old Priest Grade Road	Old Priest Grade Road	106		C	E
17	SR 49	Springfield Road	Rawhide Rd.	6		C	D
19	SR 108/49	SR 49	Main Street	6	7	D	F
20	SR 108/49	Main Street	SR Business 108/49	6	7	D	F
28	Cabezut Road	Shannon Drive	End of Road	2		B	C
29	Mono Way	Sanguinetti Loop Road	Tuolumne Road	7		D	F
30	Tuolumne Road	SR 108	Hess Avenue	5	7	C	E
38	SR Bus 108/49	SR 108/49	Forest Road	6		D	F
43	SR 49	Snell Street	SR Bus 108/49	6		D	E
45	SR 108 Bypass	Lime Kiln Road	Sanguinetti Loop Road	6	7	C	F
61	SR 108/120	Stanislaus County Line	La Grange Road	6	7	C	D
64	SR 120/49	Jacksonville Road	SR 49	6		C	D
65	SR 120	SR 49	Old Priest Grade Road	6		C	F
75	Sawmill Flat Road	Parrots Ferry Road	Big Hill Road	3		B	D
85	SR 108 Bypass	SR Business 108/49	Lime Kiln Road	6	7	C	F
92	SR Bus 108/49	SR 49	Mono Way	6		C	D
94	Tuolumne Road Bypass	Tuolumne Road	Tuolumne Road North	NA	6	C	D
99	Standard Road	SR 108	Curtis Creek School Road	5	6	C	D
106	SR 49	Hess Avenue	Wards Ferry Road	5	7	C	D
107	Tuolumne Road	Wards Ferry Road	Standard Road	5	7	C	D
108	Rawhide Road	SR 49	Shell Road	5		B	C
109	Tuolumne Road	Standard Road	Woodhams Carne Road	5	7	C	D
113	Tuolumne Road	Soulsbyville Road	Cherokee Road	5	7	C	D
115	Cherokee Road	Tuolumne Road North	Tuolumne Road	102		B	C
116	Mono Way	SR 108	Sanguinetti Loop Road	6	7	D	E
123	Cabezut Road Connection	Cabezut Road	Phoenix Lake Road	NA	6	B	C

Source: Fehr & Peers, 2007; Tuolumne County Travel Demand Model (TCTDM) 2006

Gray shading shows locations with LOS E or worse. Yellow shows segments with a GP Policy LOS of B. Green shows capacity improvement.

Note: 1-Existing functional class; 2-New functional class resulting from RTP capacity improvement

Functional Class 2 – Minor Collector (20 ft. – 23 ft.)

Functional Class 3 – Minor Collector (18 ft. – 20 ft.)

Functional Class 4 – Local Road

Functional Class 5 – Major collector (34 ft. – 36 ft.)

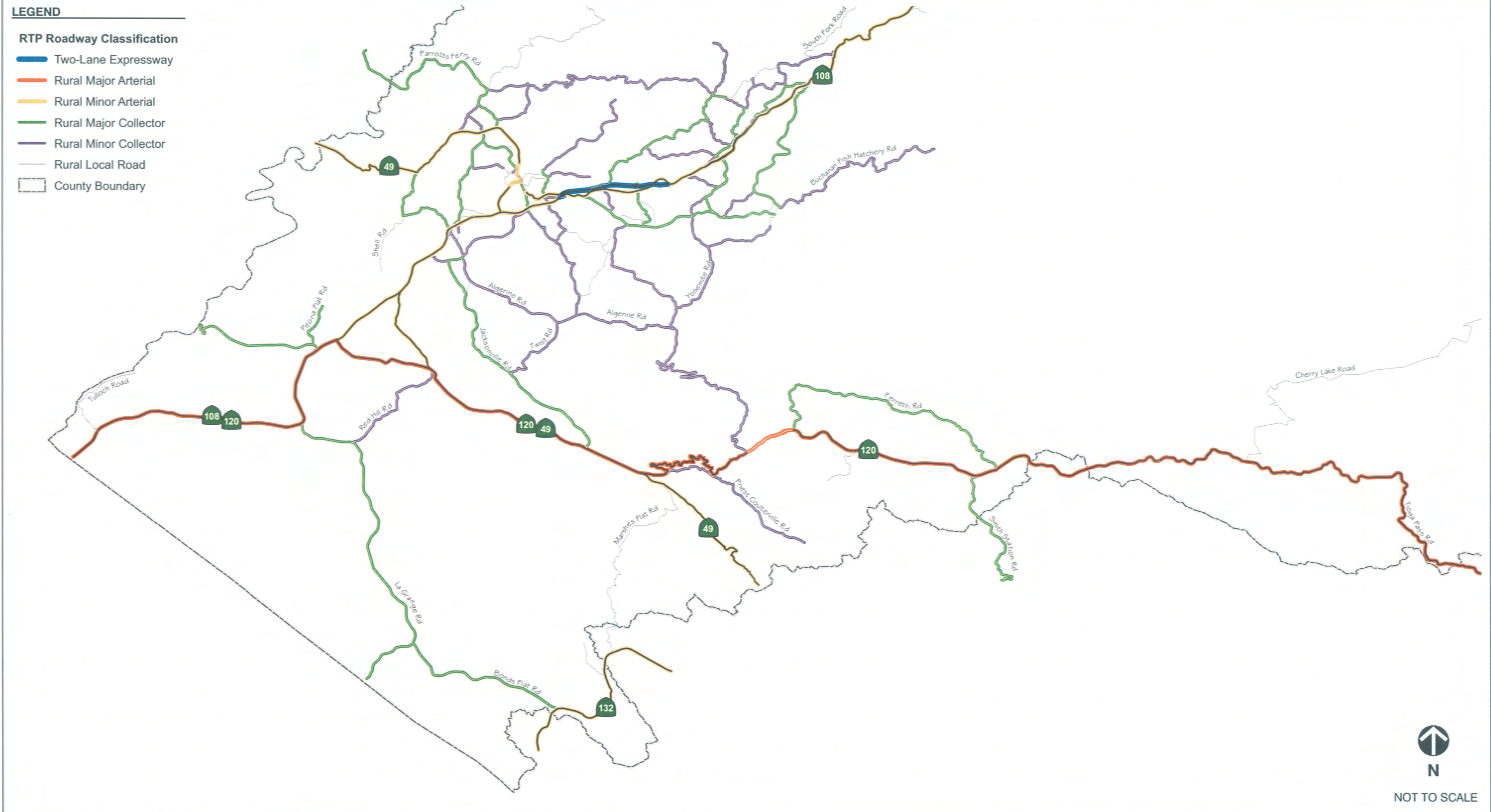
Functional Class 6 – Rural Minor arterial (2-lane)

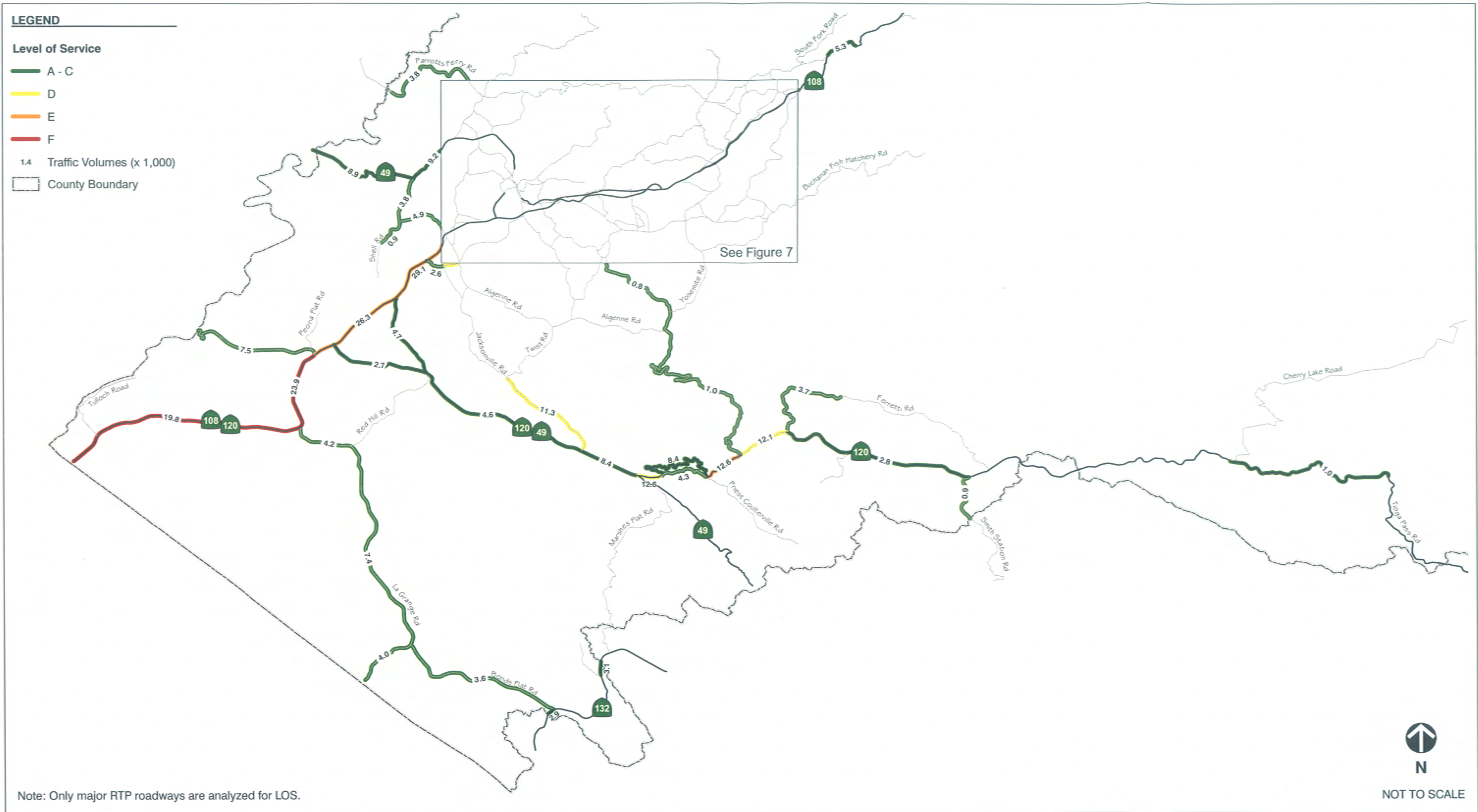
Functional Class 7 – Rural Minor Arterial (4-lane)

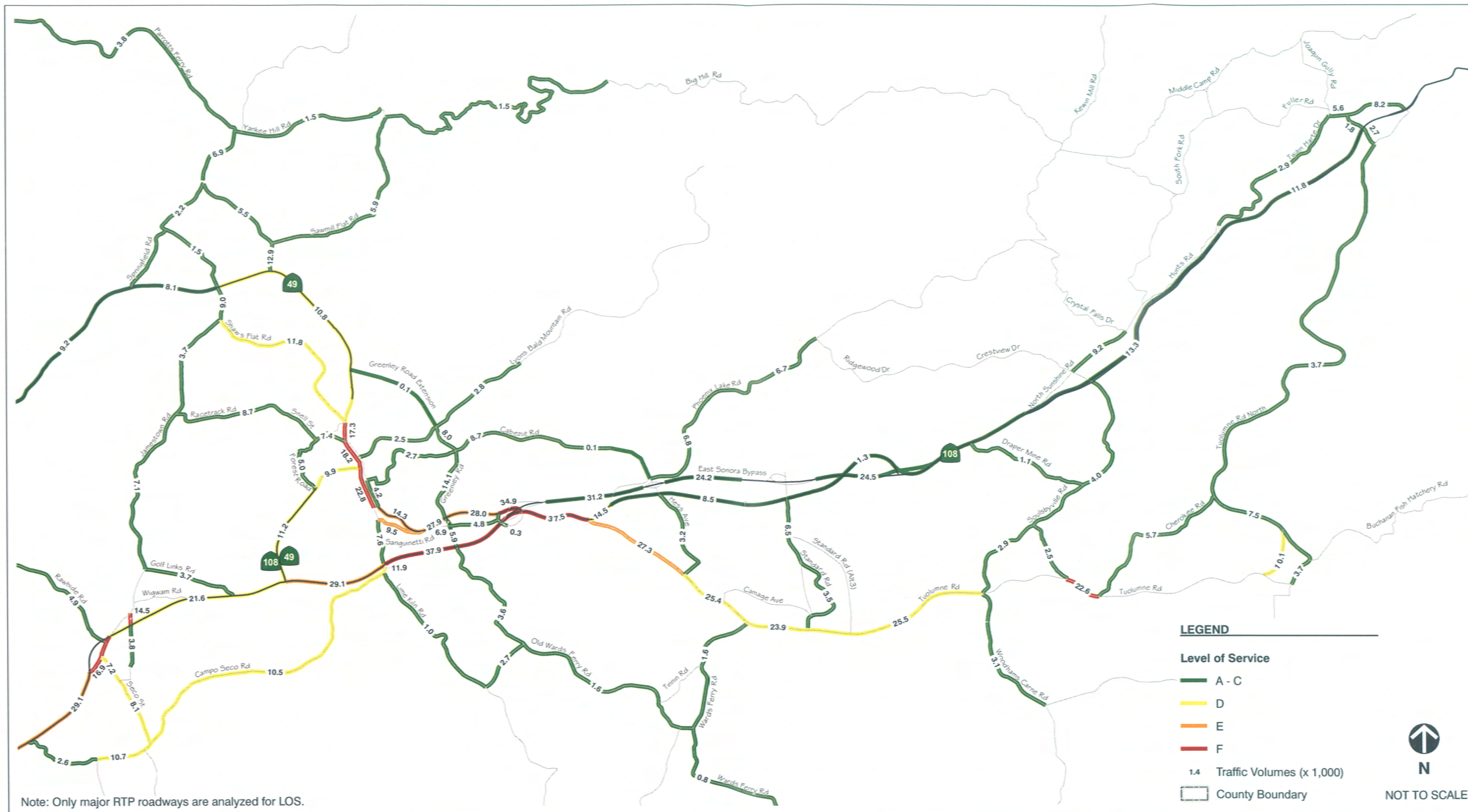
Functional Class 10 – 2-Lane Freeway

Functional Class 102 – Minor Collector (22 ft.) Mountainous Terrain

Functional Class 106 – Rural Minor Arterial (2-lane) Mountainous Terrain





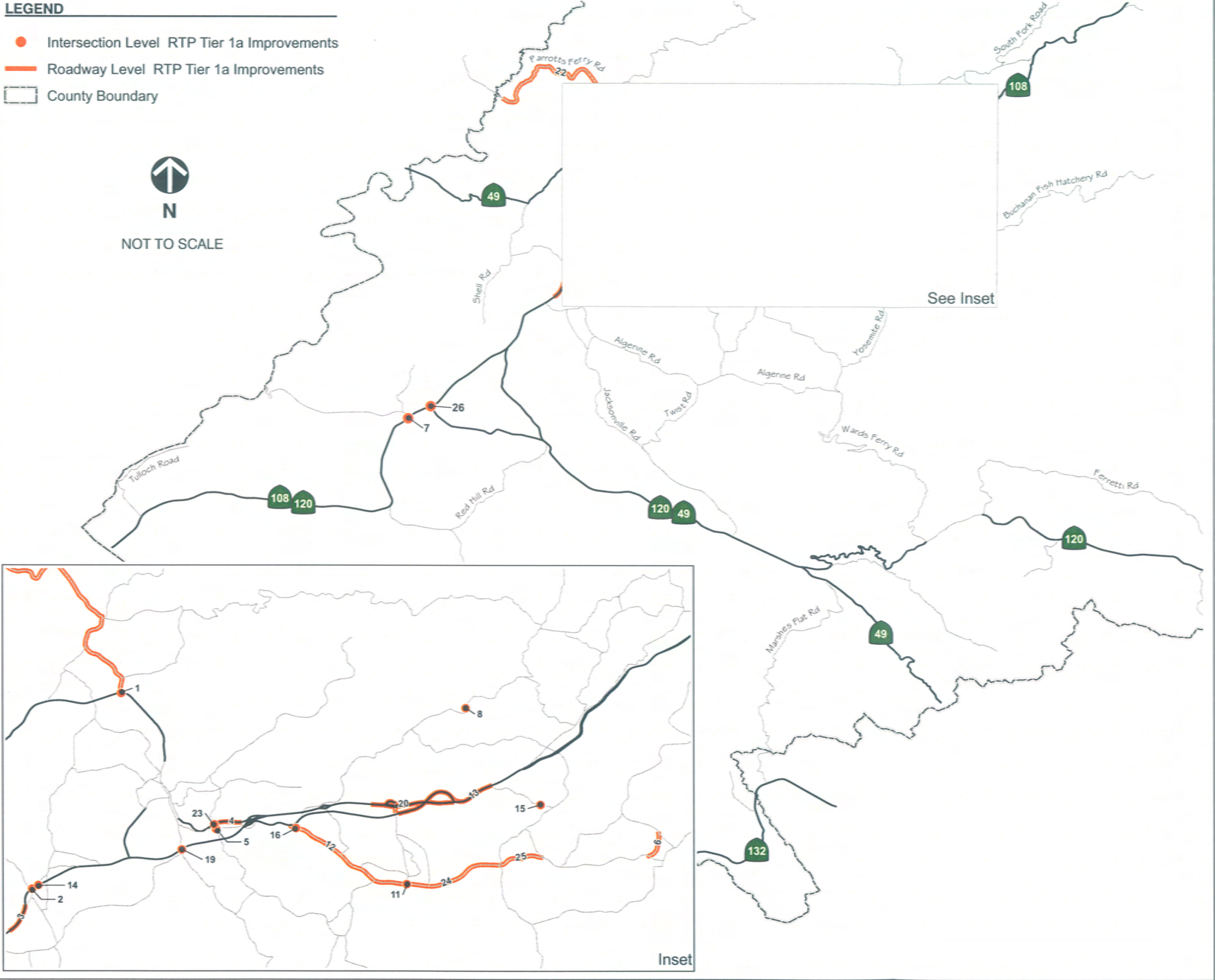


LEGEND

- Intersection Level RTP Tier 1a Improvements
- Roadway Level RTP Tier 1a Improvements
- County Boundary



NOT TO SCALE



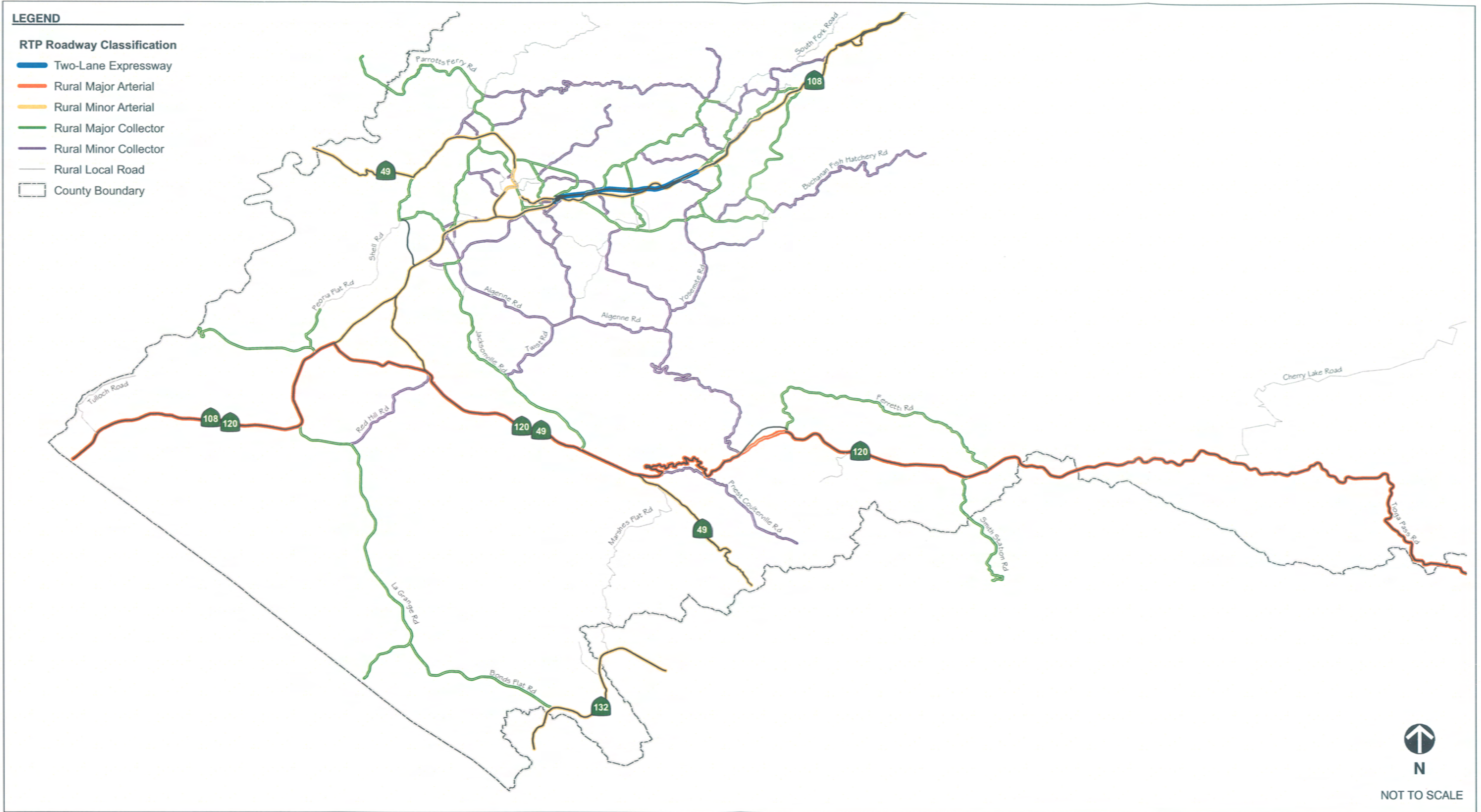
Tier 1a 2020		
ID	Location	Description
1	Intersection of Parrotts Ferry Rd. and SR-49	Install a traffic signal when warranted.
2	Intersection of SR-49/108 and Rawhide Rd.	Install traffic signals.
3	SR-49/108 from near Woods Creek Bridge to Main St.	Construct a continuous left turn lane.
4	Mono Way from Greenley Rd. to SR-108 Bypass	Widen to 5 lanes.
5	Intersection of Greenley Rd., Sanguinetti Rd., and Old Wards Ferry Rd.	Realign Old Wards Ferry Rd. with Greenley Rd. at Sanguinetti Rd. to replace the two closely spaced "T" intersections with a new 4-leg signalized intersection.
6	Tuolumne Rd. Bypass	Construct a roadway on a new alignment bypassing Tuolumne, connecting Tuolumne Rd. and Tuolumne Rd. North.
7	Intersection of SR-120/108 and O'Byrnes Ferry Rd.	Install a traffic signal.
8	Phoenix Lake Rd. at Sullivans Creek	Replace two-lane bridge on Phoenix Lake Rd.
9*	Evergreen Rd. at South Fork Tuolumne River	Replace bridge deck surface by chipping out top layer and replacing existing surface with new concrete.
10*	Tuolumne County	Purchase new hybrid vehicle for Transportation Division use.
11	Intersection of Standard Rd. and Tuolumne Rd.	Install traffic signal.
12	Tuolumne Rd. from Mono Wy. to Standard Rd.	Construct passing lanes and turn outs, a continuous left turn lane, and widen to 64 feet.
13	SR-108 from Standard Rd. to Draper Mine Rd.	Construct a continuous left turn lane.
14	SR-49/108 from Rawhide Rd. to Fifth Ave.	Replace one-lane bridge on Rawhide Rd. Realign Rawhide Rd., Jamestown Rd, and Main St. Widen SR-108 to five lanes from Rawhide Rd. to 5th Ave. Signalize SR-49/108 / Rawhide Rd. and SR-49/108 / 5th Ave.
15	Draper Mine Rd. at Curtis Creek	Replace bridge on Draper Mine Rd.
16	Tuolumne Rd.	Improve RR Crossings.
17*	Various Locations	Construct various bus stops, shelters, and pull outs throughout the County.
18*	Unknown	Construct a Park-N-Ride Lot.
19	Intersection of SR-108 and S. Washington St.	Construct one additional lane on NB approach and two additional lanes on SB approach.
20	SR-108 from Standard Rd./Peaceful Oak Rd. to Via Este	East Sonora Bypass, Phase II. Construct new two-lane arterial expressway bypassing existing SR-108.
21*	Unknown	Construct a vehicle maintenance, storage, and dispatch transit center.
22	Parrotts Ferry Rd. from SR-49 to Sawmill Flat Rd. and from Sawmill Flat Rd. to Calaveras County Line	Widen to 4 lanes from SR-49 to Sawmill Flat Rd. Upgrade to major collector standards north of Sawmill Flat Rd. to Calaveras County line.
23	Intersection of Greenley Rd. and Mono Wy.	Add through lanes.
24	Tuolumne Rd. from Standard Rd. to Soulsbyville Rd.	Construct westbound and eastbound passing lanes
25	Tuolumne Rd. from Soulsbyville Rd. to Woodham Carne Rd.	Widen to 4 lanes.
26	Junction of SR-120 and SR-108.	Install a traffic signal or other intersection improvement.

NOTE: IDs with \* are not shown on this map.

**LEGEND**

**RTP Roadway Classification**

- Two-Lane Expressway
- Rural Major Arterial
- Rural Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- Rural Local Road
- County Boundary



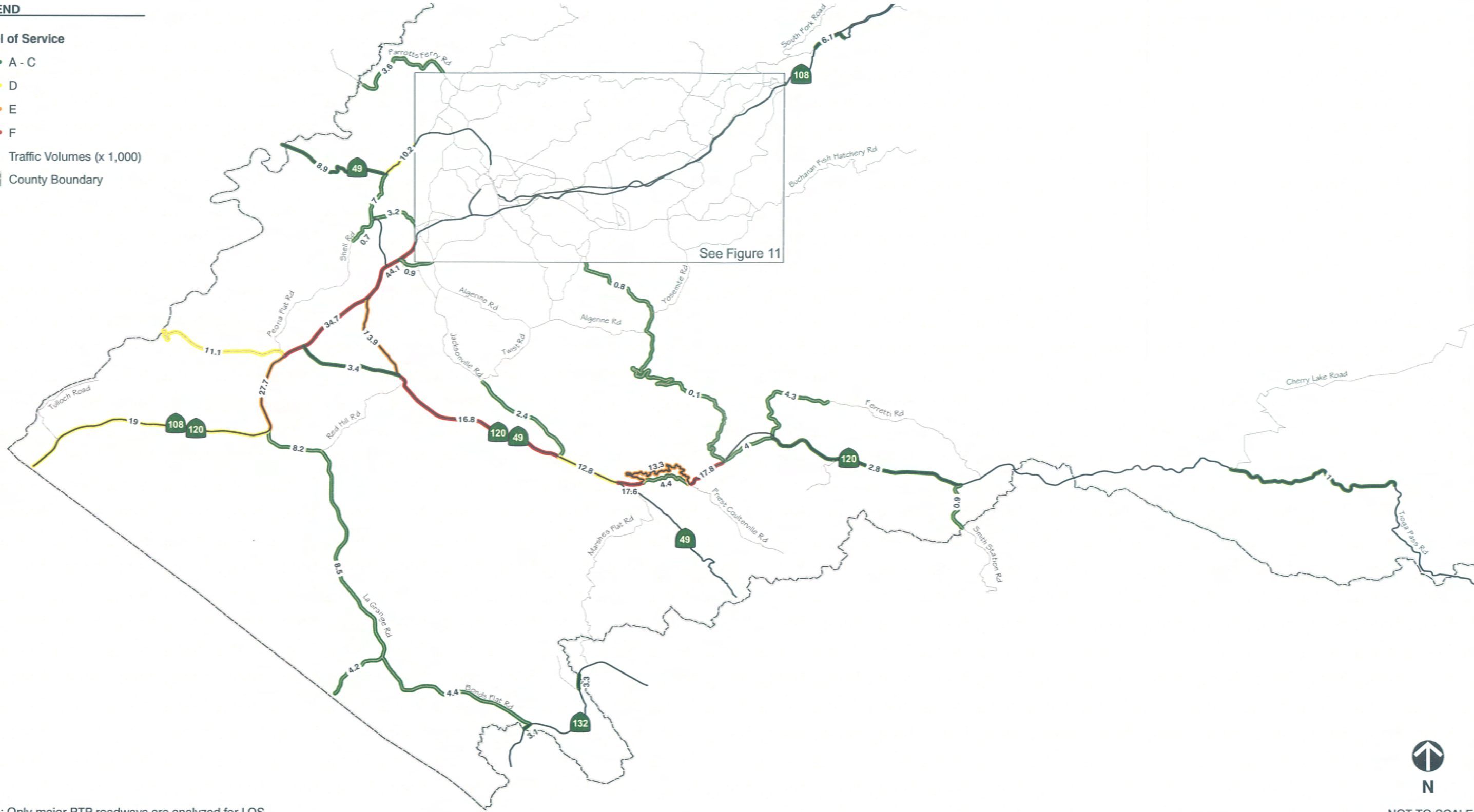
**LEGEND**

**Level of Service**

- A - C
- D
- E
- F

1.4 Traffic Volumes (x 1,000)

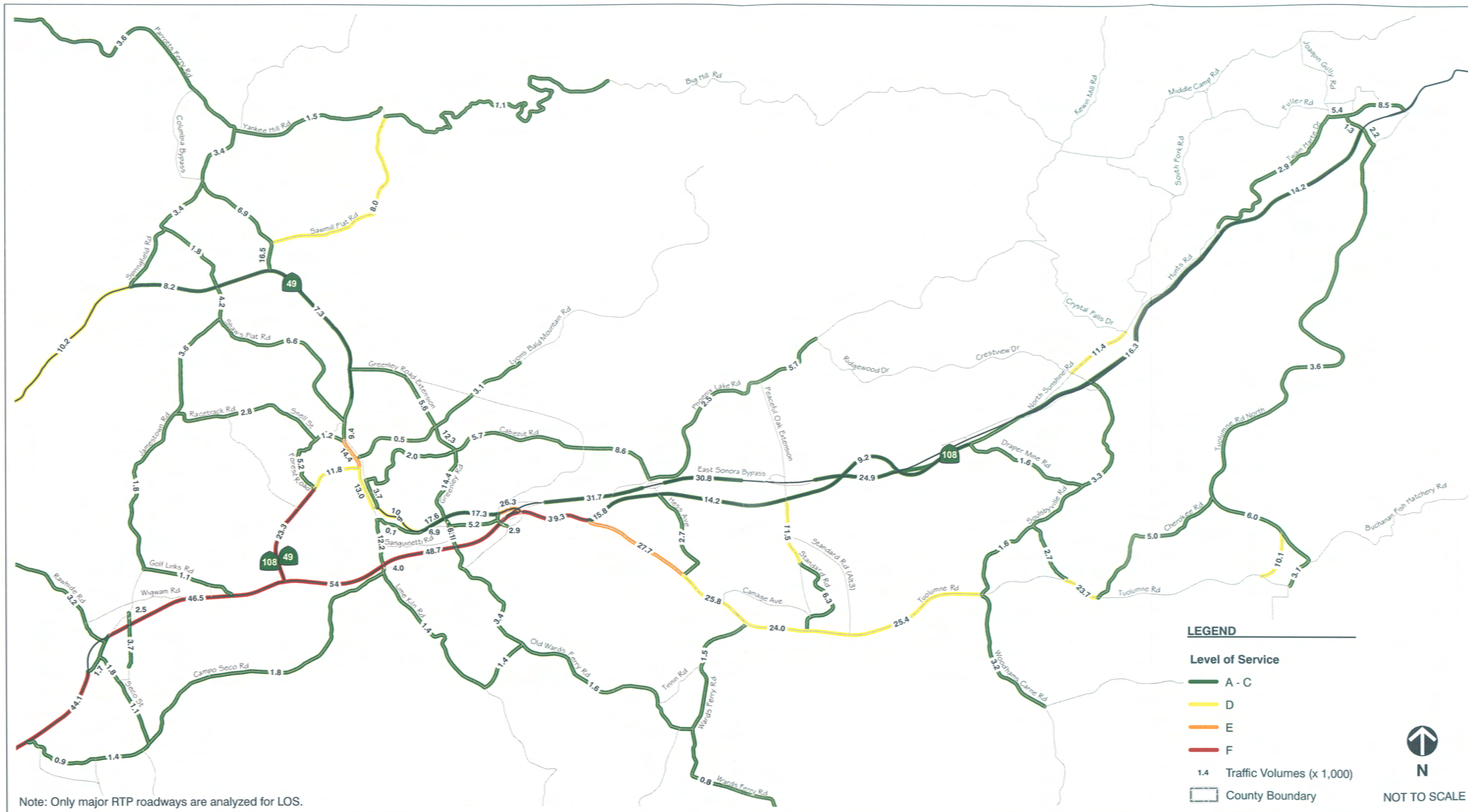
County Boundary



Note: Only major RTP roadways are analyzed for LOS.

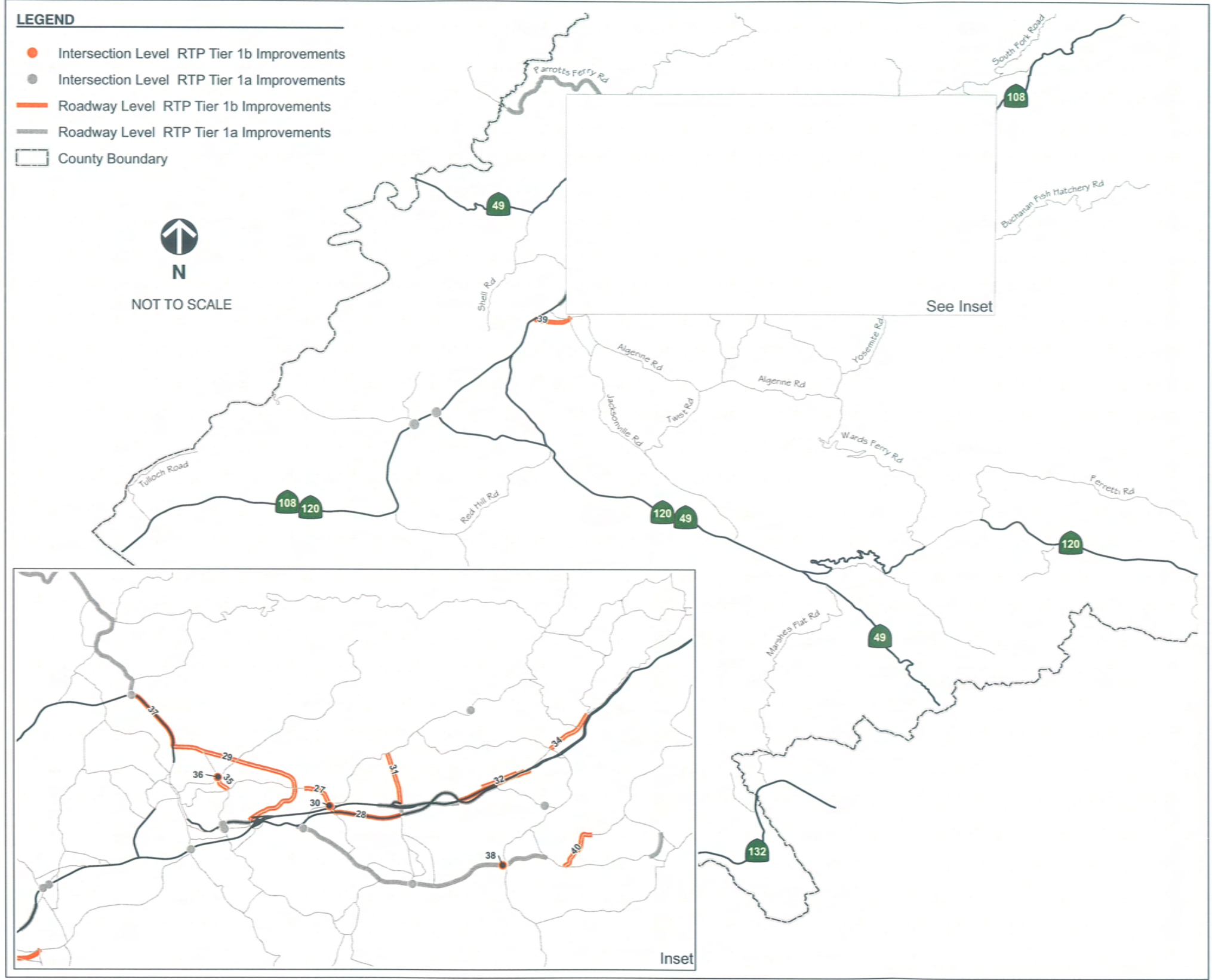


NOT TO SCALE



**TUOLUMNE COUNTY 2006/07 RTP  
AVERAGE DAILY TRAFFIC VOLUME  
AND LEVEL OF SERVICE -  
2030 CONDITIONS**

**FIGURE 11**



Tier 1b 2030		
ID	Location	Description
27	Cabezut Rd. extension to Phoenix Lake Rd.	Extend Cabezut Rd. to intersect Phoenix Lake Rd.
28	Mono Wy. from Hess Ave. to Standard Rd.	Widen to 5 lanes.
29	North/South Connector from SR-108 east of Sonora to SR-49 north of Sonora	Build a new major collector roadway on an undefined alignment. Possibly an extension of Greenley Rd. north to SR-49.
30	Intersection of Cabezut Rd. and Phoenix Lake Rd.	Install a traffic signal when warranted.
31	Peaceful Oak Rd. extension	Extend Peaceful Oak Rd. from current terminus north to Phoenix Lake Rd.
32	SR-108 from Via Este to North Sunshine Dr.	East Sonora Bypass, Phase III. Construct new two-lane arterial expressway bypassing existing SR-108.
33*	Intersection of J-59 and Bonds Rd.	Flat Install a traffic signal when warranted.
34	Longeway Rd. from Soulsbyville Rd. to Hunts Rd.	Widen to 48 feet and add continuous left turn lane.
35	Greenley Rd. from Cabezut Rd. to Lyons St.	Widen Greenley Rd. by 6 feet on each side and provide 4 through lanes.
36	Intersection of Greenley Rd. and Lyons Bald Mountain Rd.	Install traffic signal when warranted.
37	SR-49 from proposed Greenley Rd. extension to Parrotts Ferry Rd.	Widen to four lanes.
38	Intersection of Woodham Carne Rd. and Tuolumne Rd.	Realign intersection and install traffic signal.
39	Bell Mooney Rd. at Woods Creek Bridge Crossing	Construct an alternative travel way from the current Woods Creek crossing along Bell Mooney Rd. from SR-49/108 to Seco St.
40	Cherokee Rd. from Tuolumne Rd. to Tuolumne Rd. North	Perform needed curve corrections.

NOTE: IDs with \* are not shown on this map.

### **Scenario 3 – 2020 Conditions with 2030 Tier 1a and 1b Roadway Improvements**

As an additional check, Scenario 3 provides an analysis of the 2020 roadway classifications with the 2030 Tier 1a and Tier 1b roadway improvements. The purpose of this scenario was to test if capacity improvements earmarked for 2030 should be considered sooner, rather than later.

The results of the analysis are shown in Appendix D-4. Table 17 provides a summary of 2020 RTP study segments that did not meet the GP Policy LOS with Tier 1a and Tier 1b improvements. As before, RTP study segments that are shaded gray have LOS of E or F. Segments shaded in green reflect segments that changed functional class as a result of an RTP capacity improvement. Segments in yellow are roadways that have a GP Policy LOS of B.

As Table 17 shows, thirty (23%) of 130 roadway segments are forecast to still operate at less than the GP Policy LOS. Only two segments improved in LOS by including the Tier 1b projects ten years sooner. Fourteen of the deficient segments or 46 percent have LOS E or F.

**TABLE 17 –  
2020 ROADWAY LOS DEFICIENCIES WITH TIER 1A AND TIER 1B ROADWAY IMPROVEMENTS**

RTP ID	SEGMENT	FROM	TO	Existing FC <sup>1</sup>	RTP IMP <sup>2</sup>	GP LOS POLICY	FORECAST LOS
1	SR 108/120	O Byrnes Ferry Road	La Grange Road	6	7	C	E
3	SR 108	SR 49	O Byrnes Ferry Road	6	7	C	F
4	SR 120	Priest Coulterville Road	Wards Ferry Road	106		C	E
5	SR 49	SR 108	SR 120/49	6		C	D
7	SR 120/49	Red Hill Road	Jacksonville Road	6		C	D
10	SR 120	Old Priest Grade Road	Old Priest Grade Road	106		C	E
17	SR 49	Springfield Road	Rawhide Rd.	6		C	D
19	SR 108/49	SR 49	Main Street	6	7	D	F
20	SR 108/49	Main Street	SR Business 108/49	6	7	D	F
29	Mono Way	Sanguinetti Loop Road	Tuolumne Road	7		D	F
30	Tuolumne Road	SR 108	Hess Avenue	5	7	C	E
38	SR Bus 108/49	SR 108/49	Forest Road	6		D	F
39	Forest Road	Snell Street	SR 108/49	1		B	C
42	SR 108/49	Forest Road	SR 49	6		D	F
45	SR 108 Bypass	Lime Kiln Road	Sanguinetti Loop Road	6	7	C	F
48	Sanguinetti Road	Old Wards Ferry Road	Sanguinetti Loop Road	2		C	D
53	Cabezut Road	Greenley Road	Shannon Drive	1		B	C
57	Hospital Road	Lime Kiln Road	Mono Way	4		B	C
61	SR 108/120	Stanislaus County Line	La Grange Road	6	7	C	D
65	SR 120	SR 49	Old Priest Grade Road	6		C	E
75	Sawmill Flat Road	Parrots Ferry Road	Big Hill Road	3		B	C
85	SR 108 Bypass	SR Business 108/49	Lime Kiln Road	6	7	C	F
92	SR Bus 108/49	SR 49	Mono Way	6		C	F
94	Tuolumne Road Bypass	Tuolumne Road	Tuolumne Road North	NA	6	C	D
106	SR 49	Hess Avenue	Wards Ferry Road	5	7	C	E
107	Tuolumne Road	Wards Ferry Road	Standard Road	5	7	C	D
109	Tuolumne Road	Standard Road	Woodhams Carne Road	5	7	C	D
113	Tuolumne Road	Soulsbyville Road	Cherokee Road	5	7	C	D
115	Cherokee Road	Tuolumne Road North	Tuolumne Road	102		B	C
123	Cabezut Road Connection	Cabezut Road	Phoenix Lake Road	NA	6	B	C

Source: Fehr & Peers, 2007; Tuolumne County Travel Demand Model (TCTDM) 2006

Gray shading shows locations with LOS E or worse. Yellow shows segments with a GP Policy LOS of B. Green shows capacity improvement.

Note: 1-Existing functional class; 2-New functional class resulting from RTP capacity improvement

Functional Class 1 – Minor Collector (23 ft. – 32 ft.)

Functional Class 2 – Minor Collector (20 ft. – 23 ft.)

Functional Class 3 – Minor Collector (18 ft. – 20 ft.)

Functional Class 4 – Local Road

Functional Class 5 – Major collector (34 ft. – 36 ft.)

Functional Class 6 – Rural Minor arterial (2-lane)

Functional Class 7 – Rural Minor Arterial (4-lane)

Functional Class 10 – 2-Lane Freeway

Functional Class 102 – Minor Collector (22 ft.) Mountainous Terrain

Functional Class 106 – Rural Minor Arterial (2-lane) Mountainous Terrain

## Comparative Scenario Results

Table 18 provides a comparative summary of the modeling results for Scenario 1, 2 and 3. The information shows the number of study segments that did not meet GP Policy LOS. In addition, the net increase or decrease in LOS deficient segments over the base year (2002) are shown for each Scenario.

<b>TABLE 18 – COMPARATIVE SUMMARY OF MODELING SCENARIOS</b>			
Scenario	Total Study Segments	Total Segment Deficiencies	Increase Over Base
Base Year 2002	130	24 (18%)	
Scenario 1 – 2020 Conditions with Tier 1a Improvements	130	38 (29%)	14
Scenario 2 – 2030 Conditions with 2030 Tier 1a and Tier 1b Improvements	130	32 (25%)	18
Scenario 3 – 2020 conditions with 2030 Tier 1a and Tier 1b Improvements	130	30 (23%)	16
Source: TCTDM 2007; Fehr & Peers 2007.			

In general, the number of roadway segments with deficient LOS increases over time as population, employment and average daily vehicle trips increase in the County. By 2020, the TCTDM forecasts a net increase in LOS deficiencies of 14 segments. However, that increase is slowed and actually reversed by the addition of Tier 1b projects in 2030. This modeling step resulted in an improvement in 6 segments compared to the 2020 result (comparing 32 segments to 38 segments). If the Tier 1b projects are added to the network in 2020, there is a net improvement of 8 segments compared with just adding Tier 1a projects (comparing 38 with 30). The final result shows an increase over the base conditions for all scenarios, although the net increase is slowed with the addition of additional projects to help offset the increases in population and employment that generate higher traffic levels.

The decision to advance Tier 1b projects to the 2020 time frame must consider several factors. First, the CTC maintains discretion over STIP programming. So even though the TCTC nominates projects for programming in a shorter-term, this action does not guarantee their inclusion. Second, the STIP is not considered a reliable funding stream due to the States budget woes and the uncertainty about State and Federal reauthorization of transportation funding bills. The TCTC needs to consider other local sources to help supplement state and federal revenues. A more complete discussion about financial alternatives is included in the Financial Element.

## Improvement Options

A variety of solutions that may help minimize some of the LOS deficiencies are listed below.

- Develop new projects to address capacity deficiencies and increase local revenue (RTIF) to fully fund their construction.
- Reduce or modify land use development potential to reduce future traffic growth.
- Change GP LOS policies to accept lower levels of LOS on specific County and City roadway classifications where the volume of traffic is routinely greater than the capacity of the facility due to development impacts and/or travel patterns..

Each of these solutions has advantages and disadvantages. While developing new roadway improvements is straightforward, identifying the additional revenue to pay for them is not. In general, any new revenue would have to come from Tuolumne County in the form of increased taxes, assessments, traffic impact fees, or user fees. These types of actions are usually not

politically acceptable. The second option to reduce land use development potential would require significant changes to the General Plan that may or may not be feasible given the amount of existing entitlements that have already been granted in the County. Changing LOS policies to accept a lower Policy LOS is another option, but comes with controversy if viewed as a method for allowing more land use growth without associated mitigation. In reality, changing the LOS policy may be an appropriate action given that LOS needs to be balanced against the other tradeoffs inherent in maintaining a LOS that is substantially less than capacity (i.e., LOS E).

If lowering the target LOS for County and City facilities is not feasible, additional funding should be secured to accelerate long-term projects such as those without identified funding sources or timeframes. The first priority is to develop transportation improvement projects that increase safety for all users of the roadway to create a balanced system. The second focus should then be to develop transportation improvement projects that provide additional roadway capacity to meet the target LOS, or consider a change in land use to better promote “smart growth” development. Examples of “smart growth” policies and measures that could be considered in Tuolumne County include the following<sup>1</sup>.

**Transit service improvements:** The County should promote measures such as increasing transit service frequencies, operating speeds, service coordination, and fare simplification to attract additional ridership and reduce automobile mode share. Other techniques to improve transit levels of service include the designation of multi-modal streets and/or transit boulevards, and operational improvements such as signal preemption.

**Transit-supportive land use:** The County should support the addition of jobs, housing and retail near transit. This will help place transit-supportive land use within reasonable walking distance of transit. The effective walk-shed radius varies by transit mode: approximately ¼ mile for bus transit, and up to ½ mile for rail transit. The County’s desire to improve transit transfer points and add passenger amenities at stops provide opportunity to improve land use near transit.

**Infill development:** A key Smart Growth strategy is to locate new development on vacant infill sites, redevelopment areas, and available grayfield and brownfield sites. One major advantage of developing at such locations is the opportunity to capitalize on their proximity to other regional destinations and to major transportation services. The benefits of such a development location can be measured in terms of the site’s relative accessibility to all other activities in the region, which correlate with reductions in vehicle trip generation per capita.

**Development density:** Elevating the numbers of residents and jobs per acre is often a valuable Smart Growth planning objective when accompanied by high levels of regional accessibility, a robust mixture of uses, and high-quality urban design. The County is doing a good job to make sure transit routes serve higher density residential, retail, and commercial land uses.

**Land use mix:** Areas with good balance between jobs and housing as well as a mix of retail and non-retail jobs tend to promote shorter trips and more non-motorized trips. Mixing of land uses can greatly shorten trip distances and allow more trips to be done by walking or by bicycle. Also, there is a general perception that bedroom suburbs that are “dead” during the day and downtown areas that are “dead” at night are socially undesirable and unpleasant. Smart growth strategies for dealing with this include allowing neighborhood-serving retail uses and offices to be located in residential areas, and encouraging the development of medium- and high-density housing in or near downtown areas. The mix of uses needs to be present within walking/biking distance or, secondarily, short driving distance

**Shared Parking:** Some jurisdictions require large amounts of parking space for individual businesses, residential complexes, or both. The result is large “dead” spaces that are

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<sup>1</sup> Solutions taken from Fehr & Peers website “Smartgrowthplanning.org”

visually unattractive and that make it harder for pedestrians to walk to building entrances. A better strategy would be to provide parking through shared municipal lots placed behind pedestrian-oriented mixed-use streets. Shared lots take advantage of the fact that different land use types need parking at different times of the day, so the demand at any given time is less than the aggregation of demand of the individual uses.

**Context-sensitive street design:** Also referred to as Context Sensitive Solutions, this idea has become an accepted approach to designing or re-designing streets to be more compatible with adjoining uses and more accommodating to all modes of travel. States such as New Jersey, Maryland and California have adopted context sensitive design policies that consider the impact of design decisions on abutting land uses, community character, and the comfort and convenience of pedestrians, cyclists, and transit users as well as automobiles. Techniques include more rigorous management of traffic speeds, narrowing the traffic realm while expanding the pedestrian realm, accommodating bikes and transit, using curb parking as a buffer between moving traffic and sidewalk activities, and improving the sidewalk environment and ability of pedestrians to cross the street. As the County proposes and constructs projects, the concept of context-sensitive street design should be employed where ever possible.

To strengthen efforts toward implementing “smart growth” concepts, the County is encouraged to investigate opportunities for funding from the Community Based Transportation Planning (CBTP) grant program administered by Caltrans. Information about the program and grant applications are found at <http://www.dot.ca.gov/hq/tpp/grants.htm>

## **FUTURE BYPASS AND ROAD PROJECTS**

At the request of Tuolumne County, the analysis results of three bypass projects have been included in the RTP. The purpose for conducting the studies was to determine their potential benefit to regional traffic operations. The first project considered an extension of the East Sonora Bypass (ESB Stage III, Caltrans, May 2006)) between Via Este and the beginning of Twain Harte Grade (North Sunshine Road). The second project (Tuolumne County, 2005) analyzed the Columbia Bypass that is intended to relieve traffic on Parrotts Ferry Road between SR 49 and Sawmill Flat Road, and to help reduce accidents in the vicinity. The third project is the North-South Connector (Draft Feasibility Study, Mark Thomas & Company, Inc., February 2006) which is designed to provide local residents with an alternative route to reduce congestion on Washington Street (Business SR 49) through downtown Sonora. A summary of the analysis results are provided below.

### **East Sonora Bypass (Stage III)**

The East Sonora Bypass Stage III Traffic Study was initiated in support of the Project Study Report/Environmental Document, which proposes to construct a two-lane expressway with complete access control on a new alignment on State Route 108 (SR-108) from Via Este to North Sunshine Road / Mono Vista Road South. The following information was taken from the full report “State Route 108 Build 2-Lane Expressway on a new alignment, TUO-108 PM 5.87/6.86, EA 10-0N620K., Caltrans District 10.

The following alternatives were studied by Caltrans for the project.

**Alternative I- No Build Alternative.** This alternative would not make any changes to existing SR-108. The facility would remain a 2-lane conventional highway.

**Alternative II - Widen existing highway to 4 lanes.** This alternative would widen existing SR-108 to a 4-lane conventional highway. This alternative would need an access management plan to address access to the highway from the multiple roadway intersections and driveways which encroach on the highway.

**Alternative III - 2-Lane access controlled expressway on new alignment.** This alternative would construct an expressway on a new alignment with complete access control. The existing SR-108 would be relinquished to Tuolumne County and remain a 2-lane conventional roadway. The project would begin at the eastern end of the East Sonora Bypass Stage II near Via Este and end at the beginning of the existing 4-lane expressway segment of SR-108 at the intersection of Sunshine Road / Mono Vista Road South. The existing highway would be realigned to meet with Mono Vista Road South forming a southern frontage road. The existing connector from Mono Vista Road South to SR-108 would be removed. Draper Mine Road would be extended from its intersection with existing SR-108, crossing under the bypass, and ending at a southerly extension of South Sunshine Road. South Sunshine Road would be improved and extended from North Sunshine Road to form a northern frontage road, meeting with the future extension of Draper Mine Road. The existing connector from North Sunshine Road to SR-108 would be removed.

**Alternative IV - 4-Lane freeway on new alignment.** This alternative is similar to the previous one except the project would construct a 4-lane freeway. Mono Way would remain a 2-lane conventional highway.

**Alternative V - Unconstrained future needs beyond 2030.** This scenario includes all possible improvements to the east/west corridors in Tuolumne County. This includes a 4-lane freeway bypass and 4-lane Mono Way on existing alignment. It also includes Tuolumne Road widened to 4-lane from Mono Way to the town of Tuolumne.

## **Study Methodology**

### Project Years

Model base year is 2002. Model forecast is based on the Tuolumne County build-out land use scenario using the expected 2030 roadway network.

### Average Daily Traffic (ADT)

Traffic forecast for Average Daily Traffic for all scenarios were calculated based on the 2002 Tuolumne County Transportation Council (TCTC) traffic model. ADT is the average representing the entire year. After performing any necessary ratio adjustments, a basic straight-line interpolation and extrapolation methodology was used to project intermediate forecast years.

### Level of Service Analysis (LOS)

Since the facility changes from freeway to expressway, the LOS analysis is different for each segment. According to the HCM, interrupted LOS flow is most appropriate for conventional highway segments with intersections. This analysis considers the intersection LOS and is calculated by delay. Segment analysis using ADT thresholds was not used for this study.

### Forecasted Traffic

The 2002 Tuolumne County traffic model was modified to reflect the proposed project for the purpose of forecasting trip assignments on the network. A factor of 10% was used as the peak hour percentage of the ADT and a peak hour factor of 0.90 was also used for the entire segment. Based on the Caltrans publication *2006 Annual Average Daily Truck Traffic on the State Highway System*, trucks make up approximately 3% of the total ADT on SR-108 (see Table 11). For all LOS calculations, 3% of the total ADT was used as the peak hour truck percentage for all forecast scenarios. A directional split of 60% for traffic on SR-108 was also used in the calculations.

Travel Forecasts used the District 10 Forecasting Protocol approach to forecast traffic volumes. This simultaneous three part step combines past and current Caltrans traffic counts for the section of roadway to be analyzed, the average statewide growth rate and traffic volumes, and

growth in the county's traffic model. These three rates of growth are combined to create an average growth rate that can be extrapolated into the future. This approach was used to determine the year that build out would occur. Based on the increases in traffic volumes shown in the District 10 Forecasting Protocol, this segment of roadway is projected to reach build out volumes between the years 2025 and 2030.

Table 19 summarizes the results of the modeling effort.

<b>TABLE 19 – EAST SONORA BYPASS STAGE III INTERSECTION ANALYSIS</b>					
<b>Intersection</b>	<b>LOS</b>				
	2002 Existing I	2030 No Build II	2030 Widening No Bypass III	2030 2-Lane Expressway IV	2030 4-Lane Freeway + 4-Lane Existing V
Mono Way & Stage II east end	N/A	E	B	N/A	N/A
Mono Way & Via Este	D	F	A	A	A
Mono Way & Draper Mine Rd	F	F	B	C	C
Sunshine & Draper Mine Rd	N/A	N/A	N/A	B	B
SR-108 & Soulsbyville Rd	B	C	C	F	C
Soulsbyville Rd & Mono Vista South	C	F	F	F	B
Soulsbyville & Sunshine	F	F	F	F	C
Source: East Sonora Bypass Stage 3 Traffic Study, Caltrans District 10, May 3, 2006					

The 2030 no-build (Scenario II) shows all intersections experiencing worse LOS compared to existing (2002). If SR 108 is widened to four lanes (Scenario III), there is some relief near Mono Way, however Soulsbyville Road intersections remain at unacceptable LOS. The addition of the 2-lane expressway (Scenario IV) provides LOS improvement to the Mono intersections but does not improve the Soulsbyville intersections (these remain at LOS F). Only the full freeway plus the 4-lane existing and the widening of Mono Way to four-lanes (Scenario V) provides acceptable LOS at all intersections.

The conclusions to be drawn are mixed. The modeling results show that a 4-lane facility will be needed on the bypass and on Mono Way to have any significant improvement in LOS. Two-lanes are acceptable on Mono Way east of Draper Mine road, however this is subject to development patterns in the future. The Caltran's study suggests there is a good deal of latent demand waiting to use SR 108, if and when the ESB Stage III bypass is built. The resulting traffic volumes and LOS will have to be monitored if the bypass is built.

### **Columbia Bypass**

The Columbia region continues to be a fast growing area of the County. Consistent with the RTP goals and policies, the County is interested in safety projects that will help provide mobility and congestion relief to help reduce the incident of accidents. As mentioned previously, Parrotts Ferry Road between SR 49 and the approach to the town of Columbia experiences a high volume of accidents annually. Recent accident information from the County shows 45 accidents occurring between 2003 and 2005.

The Columbia bypass was included in the 2030 network as a new two lane facility extending from the intersection of Parrotts Ferry Road and Springfield Road, running west of Parrotts Ferry Road north of the intersection and connecting with Parrotts Ferry Road northwest of the Town of Columbia. One of the primary purposes for the Columbia Bypass is to route traffic around the State park. Table 20 compares the ADT in the vicinity of Columbia with and without the bypass.

<b>TABLE 20 – COLUMBIA BYPASS ANALYSIS</b>			
Location	2002 Base Conditions	2030 Conditions	Diverted to Bypass**
SR 49 South of Parrotts Ferry Road	9,900/D*	19,600/E	
Parrotts Ferry Road @ SR 49	9,022/D	15,240/D	
Parrotts Ferry Road N of Sawmill Road	4,055/B	6,472/C	
Parrotts Ferry Road into Columbia w/o Bypass	4,044/B	6,764/C	
With Bypass (2030)		2,900/A	4,044
Without Bypass (Buildout)		9,587/D	
With Bypass (Buildout)		4,455/B	5,132
Source: Tuolumne County 2005			

\* X/X shows volume and LOS for the segment

\*\* The Columbia Bypass is only included in the 2030 and Build-out networks

Under 2002 base conditions, SR 49 carries approximately 9,900 vehicles per day south of Parrotts Ferry Road. Traffic on Parrotts Ferry Road varies around 9,022 on the segment between SR 49 and Sawmill Flat Road. This volume drops to approximately 4,055 north of Sawmill Flat Road since about 5,000 motorists turn off toward the college

In 2030, traffic volumes on SR 49 almost double to 19,600 vehicles per day. In addition, the traffic at the intersection of Parrotts Ferry Road and SR 49 increase to 15,240 vehicles per day. The amount of traffic entering Columbia on Parrotts Ferry Road varies between 6,764 vehicles per day without the bypass, and 2,900 with the bypass. These volumes are below the traffic current volumes on many collector roads in the County today. Based on the TCTCM, the bypass itself attracts approximately 5,130 at build-out. Based on these numbers, it appears that traffic on Parrotts Ferry Road into Columbia would reduce about 1,100 vehicles per day in 2030 (comparing 4,044 now to 2,900 in 2030).

The model estimates show that without the bypass the town of Columbia will have unacceptable LOS on Parrotts Ferry Road in 2030 and at build out. The County is considering several approaches for solving the congestion problem. First, the planned development density in Columbia can be lowered so that the amount of trips generated and attracted to Columbia will not increase significantly. This approach needs to be discussed with the TCTC and residents of Columbia. The second option is to plan for and secure right-of-way protection for the bypass in the near-term with actual construction for the very long-term (probably outside of the life of this RTP).

The previous RTP proposed two projects to help alleviate the traffic congestion in Columbia but they were never completed due to funding constraints. The first project was to widen Parrotts Ferry between SR 49 and Sawmill Flat Road to four lanes with traffic signals. The second project was to upgrade the current roadway through the town site to current collector standards with shoulders for pedestrians.

Based on model results, the Columbia Bypass will have some benefit to the Town of Columbia and the college in terms of reduced traffic volumes. However, it will have no significant effect on traffic congestion on surrounding roadways when compared to other capacity projects in the region. The cost to build the bypass must therefore be compared to the net reduction in vehicle trips to arrive at a "cost per trip reduced" to help the TCTC determine if the project should be considered a high priority given other congestion needs in the County. The current results do not elevate the Columbia Bypass to a priority project for the 2006/07 RTP. In the interim, the current RTP does include two Tier 1a projects to help improve vehicle operations on Parrotts Ferry Road. The first project is to install a traffic signal at the intersection of Parrotts Ferry Road and SR 49 by 2008. The second project is to widen Parrotts Ferry Road to 4 lanes from SR 49 to Sawmill Flat

Road, and upgrade the roadway to collector standards north of Sawmill flat Road to the Calaveras County Line by 2020.

### **North-South Connector**

The proposed North-South Connector is intended to provide local residents with an alternative route through downtown Sonora and to reduce congestion on Washington Street (a portion of SR 49) which serves as the community's "Main Street" for local access and a through route for truck traffic. The project is needed because local growth in the Sonora area has increased congestion due to the inadequate capacity on Washington Street. Currently, Washington Street carries up to 20,200 vehicles per day during peak months. By 2030, the traffic volumes are expected to increase to over 29,000 vehicles per day.

The North-South Connector would be classified as a major collector by the County. The potential design of the connector would be a two lane facility with one twelve-foot lane in each direction, two eight-foot shoulders, and room for bike lanes in each direction. Total roadway width is 40 feet with 36 feet of pavement, a design speed of 35 miles per hour, and a maximum grade of 10 percent. The road design does not include sidewalks, but pedestrians would be allowed to use the shoulders for travel.

To further investigate the feasibility of the North-South Connector, the County authorized a study to identify and prioritize potential alignments. The Draft Feasibility Study for the North-South Connector Project was completed by the County in February 2006. The following information summarizes the results of the study.

During the initial phases of the study, the following project alternatives were identified as potential alignments:

- **Scenario I** – Greenley Extension to SR 49 in Brown's Flat
- **Scenario II** – Hess Avenue to SR 49 in Brown's Flat
- **Scenario II+** – Hess Avenue to SR 49 in Brown's Flat plus the Greenley Extension
- **Scenario V** – Hess Avenue to Pedro "Y"
- **Scenario VI** – Fir Drive near Mono Way to SR 49 in Brown's Flat
- **Scenario VI+** – Fir Drive near Mono Way to SR 49 in Brown's Flat plus the Greenley Extension

After the initial modeling runs and screening, the scenarios were modified to include a new scenario. The new scenario combined Scenario VI, Scenario III and Scenario IV into a single new Scenario VII.

- **Scenario VII** – Phoenix Lake Road to Sawmill Flat Road

Scenario VII was analyzed but removed from further consideration because of its large footprint, high potential impacts to sensitive resources, high construction cost, and minimal reduction in ADT on SR 49. The final evaluation of scenarios included I, II, V, and VI.

### *Scenario Evaluation and Recommendations*

Scenario I (Greenley Road Extension) by itself does not generate significant traffic relief in downtown Sonora and results in increased traffic on Greenley Road and degraded intersection operations (LOS E) at the Greenley Road/Mono Way intersection.

Scenario II showed the best combination of improved traffic benefits in downtown Sonora with minimal impacts to Greenley Road. Scenario II is anticipated to impact fewer existing residences than Scenario VI and result in less environmental disturbance than Scenario V. However, the addition of the Greenley Road Extension to Scenario II, referred to as Scenario II+, increases

potential impacts to Native American burial grounds and has only a marginal effect on reducing traffic in downtown Sonora.

Scenario V is the longest route. It requires the most right-of-way and also has the greatest negative impact area. Traffic in downtown Sonora does improve slightly over Scenario I.

Scenario VI has the greatest potential to impact existing residences, but has the least potential to impact known Native American sites. The addition of the Greenley Road Extension to Scenario VI, referred to as Scenario VI+, provides traffic benefits in downtown Sonora with only a marginal increase in the potential for negative impacts to sensitive resources. Under Scenario VI and VI+, Mono Way west of Tuolumne Road would see a minor increase in traffic as compared to the minor decrease forecast with Scenarios II, II+ and V.

Based on estimated project costs, Scenario I has the lowest overall cost and Scenario V has the highest.

The County agrees that a western bypass of SR 49 is needed and carries regional significance. The County will work closely with Caltrans to program funding for the approval, design and construction of a new bypass. However, the results of the North-South Connector Feasibility Study are less than optimal because none of the proposed alignments attract enough local trips to divert a significant amount of traffic from Washington Street in downtown Sonora. A North-South connector on the east side of Sonora would provide greater benefit in reduced traffic on Washington Street. The County does recommend carrying Scenarios II, II+, VI and VI+ forward to the next phase of work, including additional engineering, environmental technical studies and the preparation of an environmental document.

### **Mi-Wuk Long Barn Expressway**

The Long Barn Expressway was modeled within the "Buildout – Ultimate Configuration" model scenario by Tuolumne County staff. A TransCAD analysis was performed and the results showed no LOS deficiencies with or without the project. Given these results, there is no need for the project during the life of the RTP.

## **GOODS MOVEMENT**

Trucking will continue to be the most commonly used mode for transporting freight in Tuolumne County over the next 20 years. Assuming truck volumes increase at a rate consistent with that projected for passenger cars, the existing roadway system would be subject to increased delay and pavement wear that will further reduce overall capacity and LOS on major roadways within the County. This will be true particularly on SR 49, SR 120, and SR 108, all of which carry significant volumes of trucks. Additional sources of maintenance funding need to be identified and the application of appropriate New Technologies for commercial vehicle operations (CVO) should be considered as funding allows. The following list of potential CVO technologies are also listed in the Action Element.

- Incident Management – Use CVO tracking to improve response times to transportation incidents
- Automated Roadside Safety Inspection – Use electronic technology and diagnostics to access records of carriers, vehicles, and driver safety
- On-board Safety Monitoring – Communicate safety information about road conditions while in motion
- Hazardous Material Incident Response – Provide hazard spill notification information to the emergency response operations within the County
- Heavy Vehicle Electronic License Plate Program (H.E.L.P) – Work with Caltrans to implement and make use of an integrated heavy vehicle monitoring system such as Automatic Vehicle Classification (AVC), Automatic Vehicle Identification (AVI), and Weigh-In-Motion (WIM) technology
- Increased vehicle code enforcement and weight monitoring by the CHP

## PUBLIC TRANSIT

The currently adopted 2006 Transit Development Plan (TDP) includes the following recommendations and/or future capital needs for the TCT.

### Alternative Fuels

The California Air Resources Board (CARB) adopted a transit bus fleet rule that requires transit agencies to significantly reduce the tailpipe emissions of their bus fleet by 2015. The rule allows agencies to opt for either a “diesel path” or “alternative fuel path.” To assist the TCT in their decision path, five fuels were investigated to determine their advantages or disadvantages to the TCT fleet. Key findings from this investigation are summarized in Table 21.

TABLE 21 – SUMMARY OF ALTERNATIVE FUELS		
Fuel	Advantages	Disadvantages
Methanol	Easily manufactured, economical to use, reduced emissions	Reduced efficiency, high engine failure due to corrosive nature
Ethanol	Lower carbon monoxide (CO) and lower toxicity	Twice the cost of Methanol
Compressed Natural Gas (CNG)	Less expensive, reduced NOx and PM, quieter operation	Higher HC and CO, difficult storage requirements, limited range
Liquid Natural Gas (LNG)	Low cost to produce, higher reductions in NOx and HC	Lack of availability and storage and handling requirements
Liquefied Petroleum Gas (LPG)	Readily available and adaptable	Reduced engine performance, high rates of NOx and PM emissions
Source: Tuolumne County Transit Development Plan (TDP 2006); Fehr & Peers, 2006		

The TDP recommended that the TCT remain open minded to the alternative fuel concept, however, it also recommended that the purchase of new diesel buses with “clean-diesel” standards that meet the CARB requirements will have a beneficial impact on air quality. The TCT will consider replacement of the existing fleet with “clean-diesel” buses as they are due for retirement.

### Transfer Point Improvements

Several existing transfer points are too small to pursue substantial capacity and many are in need of passenger amenities. In addition, there is a need for a transfer point between Calaveras Transit and TCT at Columbia College. The SRTDP recommended that consideration be given to the following types of actions:

- Bus Shelters and Benches – Three to four small shelters or one large facility with the appropriate number of benches should be installed. Shelters should be designed to protect from winds in all directions, as well as protection from strong low angle sun exposure at the end of the day
- Lighting – The facility must be well lit to ensure the security and convenience to the passenger
- Bicycle racks or lockers – Storage of bicycles will accommodate multimodal trips and potential youth riders

- Transit store – Investigate the feasibility of providing a “transit store” at the Junction shopping center near the transfer point. The store would house the management, dispatch staff, and receptionist for the purpose of improving customer satisfaction

### **New Technology: Automatic Vehicle Locators (AVL) and Computerized Demand Responsive Dispatching**

The number of passenger assignments to even a small transit system can be large. There is a need to improve dispatching time and to monitor and locate transit vehicles to improve efficiency. Computerized dispatch is capable of assessing the time required for passenger assignments within seconds, taking into account the travel time impacts to on board passengers. The cost of an AVL system is about \$12,000 per vehicle and the cost of a computerized dispatch system is approximately \$20,000. The TDP recommends both technologies be deployed in the DAR first to maximize the cost benefit of the investment.

### **Park and Ride Facilities**

As mentioned under existing needs, the TCT has need of additional park and ride facilities throughout the County. The following locations are proposed in the Caltrans District 10 Park and ride plan;

- County - Near Junction of SR 120 and Highway J-59 (La Grange Road)
- Yosemite Junction – Junction of SR 120 and SR 108
- Jamestown – Near SR 49 in Jamestown
- East Sonora – Near SR 108 from Standard Road to Via Este
- East Sonora – Near SR 108 from via Este to Sunshine Road

### **BIKEWAY AND PEDESTRIAN FACILITIES**

Although detailed projections of bicycle and pedestrian travel demand are not available, there is a need to provide facilities throughout the County to improve connectivity and access. The recently completed Draft Bicycle Transportation Plan (DBTP) identified the following infrastructure needs to promote bicycle use:

- Improve unpaved roads and shoulders;
- Provide striped shoulders;
- Provide marked crosswalks at intersections; and
- Erect bicycle signing where appropriate.

The DBTP also proposed numerous bike lanes and routes to connect various portions of the County. The County will be reviewing the recommendations in the plan for possible action as funding allows. The primary focus will be to provide safe and adequate bicycle lanes and pedestrian walkways where it is reasonable and appropriate, taking into account limited funding and pressing needs for maintaining existing roads in a safe operating condition. A list of proposed bicycle and pedestrian improvements are included in Appendix J.

### **AVIATION**

Future aviation needs are based upon improvements required to accommodate the forecasted growth in demand for commercial and general aviation operations. The RTP includes the following priorities to guide future expenditures on aviation facilities:

- Remedy safety hazards;
- Maintain existing facilities to preclude premature repair or excessive replacement cost;
- Provide improvements to existing facilities that reduce congestion;
- Construct new facilities as appropriate.

- Promote land development practices that encourage the sustainability of the airports within the County.

There are currently two heliports within Tuolumne County. The first is located off of SR 108 south of Cold Springs and is maintained by the U.S. Department of Forestry. The second heliport is owned and maintained by Sonora Regional Medical Center for medical emergency transport services. The Tuolumne County Airports Department does not manage either heliport. Each heliport is managed by separate jurisdictions and functions independently.

A list of proposed aviation improvements is included in Appendix K.

## **RAIL**

The County is interested in reviving passenger, excursion and movie train operations at the Sierra Northern Railway. To accomplish this, there is a need to upgrade and rehabilitate the Sierra Northern Railway track bed to improve efficiency and safety. There is also a need to link truck freight haul service with rail in order to reduce truck volumes on highway corridors. A list of proposed rail projects is included in Appendix L.

### **III. POLICY ELEMENT**

The Policy Element describes the short-range (0-10 years) and long-range (11-20 years) goals, objectives, and policies for each of the transportation modes and strategies within the Plan. A summary of State and regional transportation issues in Tuolumne County provides a basis for the recommended goals, objectives and policies that follow. The current and continued funding shortfalls at both the State and Federal level pose some serious policy issues and directional questions that need to be addressed by the Tuolumne County Transportation Commission (TCTC). The following information is intended to help frame the policy tradeoffs facing the TCTC as they prepare this 2006/07 RTP update.

#### **STATEWIDE ISSUES**

The State's main transportation funding source has eroded from constitutionally protected user fees such as gasoline taxes (Article XIX of the California Constitution) has been supplemented with motor vehicle sales taxes that are not constitutionally protected. In addition, construction costs have risen more rapidly than revenues. Consequently, over the past four years, sales taxes on gasoline have been diverted to help close the State's growing general fund deficit. Since 2003, the California Transportation Commission (CTC) has not been able to make new allocations to projects from all three of the major components of the state transportation program: the State Transportation Improvement Program (STIP), the State Highway Operation and Protection Program (SHOPP); and the Traffic Congestion Relief Program (TCRP). The effect has been that cities and counties have not been receiving the state subvention committed to them in statute for local road rehabilitation and repair and state transit assistance. Thus, transportation improvements and rehabilitation projects in Tuolumne County have been delayed.

#### **REGIONAL AND LOCAL ISSUES**

The primary local and regional issues continue to revolve around growing traffic levels and congestion on many regional roadways while funding to improve these roads continues to decline. Federal and State funding has declined in real dollars for more than two decades and local revenue sources only provide a small portion of the overall cost of transportation improvements. This problem is exacerbated by uncertainty in construction costs and delivery schedules that has resulted in substantial increases in the overall cost of improvement. For example, funding for State II and III of the State Route (SR) 108 East Sonora Bypass continues to be a major regional issue. The projected cost to complete the project is approaching \$70,000,000. Due to the rising construction costs, this commitment will have a negative impact on the availability of funds for local road improvements (Tier 1a and Tier 1b) and necessary maintenance for many years. Without additional Federal or State funding, the County will be forced to consider new policy directions and funding alternatives.

The RTP Update provides the TCTC with the unique opportunity to analyze how decisions about funding affect the long term development of transportation infrastructure. Many fund sources are restricted to uses within certain categories such as transit, air quality, bicycle/pedestrian programs and roadway bridges or safety improvements. However, some discretion can be exercised in major funding programs such as the STIP and Development Impact Traffic Mitigation Fees that can have a profound long term effect. Staff developed three distinct alternatives for consideration by the TCTC. The following information provides a summary of each funding alternative. The ramification of each alternative relative to cost and project delivery is provided in the Financial Element.

#### **ALTERNATIVE 1: STATUS QUO**

This alternative represents status quo as detailed on the Long Range Financial Summary table included in Appendix M. The revenues received since 1998 are extrapolated to estimate the revenue in each category expected by 2020 and 2030. The modes of transportation that have historically received

funding from each source will be assumed to receive these funds into the future. The RTP process will use this financial information and determine which priority project should receive funding and which projects will probably not be funded. It should be noted that the Status Quo alternative will not accomplish the goals of the General Plan Circulation Element. A more detailed explanation is provided in the Financial Element.

## **ALTERNATIVE 2: ROAD EMPHASIS**

In this alternative, all funding that is required to be directed toward certain uses (preservation, maintenance, etc.) continues to be directed as such. The big difference in this alternative is that all anticipated revenues from the Regional Improvement Program (RIP) shares beginning in the 2014 STIP are programmed to Arterial Collector road maintenance and operation for the City and County. This would represent a major benefit of about \$3.5 million annually to local road maintenance programs consistent with stated goals of local elected officials. However, the availability of funds for new capacity will be limited.

## **ALTERNATIVE 3: INCREASE REGIONAL TRAFFIC IMPACT FEE (COMBINATION OF ALT 1 & 2)**

As with the previous alternative, all restricted fund sources will continue to be directed to required uses. All revenues from the STIP (RIP and IIP) will continue to be programmed to capacity increasing projects on the State Highway System. However, with the recognition that STIP revenues are inadequate to fully fund all needed capacity increasing projects, the unfunded need for these projects will have to be covered by increases in the RTIF or other fee programs or taxes.

Table 22 provides a non-prioritized summary of Tuolumne County's most important transportation issues. Each funding alternative will enable a tailored set of goals, objectives, and policies to be developed based on the most feasible solution to these issues.

**TABLE 22 –  
REGIONAL AND LOCAL TRANSPORTATION ISSUES**

Transportation Facility/Element	Issue(s)	Comment
Highway Element		
State Highways	<ul style="list-style-type: none"> <li>• Congestion and LOS deterioration due to limited capacity and an existing backlog of construction projects on SR 49, SR 108 and SR 120.</li> <li>• Funding for County's share of the SR 108 East Sonora Bypass, Stage II and III, that is now over \$70,000,000.</li> <li>• Increasing accident rates with limited funding available to address concerns or avoid future problems.</li> <li>• Lack of transit stops.</li> <li>• Use of CMAQ to reduce SOV use</li> <li>• Topographical barriers that inhibit safe and convenient bicycle and pedestrian travel within highway corridors.</li> <li>• Inadequate amount of funding to construct bicycle and pedestrian facilities recommended in the adopted Tuolumne County Bikeways and Trails Plan and the Me-Wuk Bicycle Plan.</li> </ul>	<ul style="list-style-type: none"> <li>• STIP funding will not cover all of the capacity needs on state highways and is considered an unreliable source for long-term needs. In addition, the County is committed to cost sharing for each stage of the SR 108 bypass although the amount has not been determined. This commitment will continue to reduce, if not eliminate, funds available for local roads and deferred maintenance. Increasing needs of the SHOPP program drain state Highway Account funds away from the STIP.</li> <li>• The completion of the Tuolumne County Bikeways and Trails Plan and the Tuolumne Band of Me-Wuk Indians 2003 Bicycle Plan allows the County and City of Sonora to seek Bicycle Transportation Account (BTA) funds for priority bike and trails projects. Trails are being constructed by new developers when appropriate.</li> </ul>
County/Local Roads	<ul style="list-style-type: none"> <li>• Deferred maintenance costs in excess of \$42 million to bring roads up to County standards.</li> <li>• Increasing accident rates with limited funding available to address concerns or avoid future problems.</li> <li>• Completion of the north-south connector between SR-49 North of Sonora and East Sonora to access major commercial</li> </ul>	<ul style="list-style-type: none"> <li>• Increased RTIF</li> <li>• New sub area fees</li> <li>• Permanent road divisions</li> <li>• Sales taxes</li> <li>• Address safety needs in scoping RTIF projects</li> <li>• Use RSTP funds for safety projects on</li> </ul>

	development and reduce congestion	local roads <ul style="list-style-type: none"> <li>Consider land-use alternatives</li> </ul>
<b>Public Transportation Element</b>		
Transit Demand	<ul style="list-style-type: none"> <li>Increased transit demand, especially dial-a-ride, due to economic development, environmental policies, aging population and mandated services (ADA).</li> </ul>	Continue to employ service standards and thresholds to help direct the use of limited resources. Continue to Implement “unmet transit needs” that are reasonable.
Maintenance	<ul style="list-style-type: none"> <li>Need to purchase replacement equipment for aging bus fleet.</li> </ul>	Secure federal, state and local sources of capital funding as appropriate.
Transportation Facility/Element Con't	Issue(s) Con't	Comment Con't
Route restructuring	<ul style="list-style-type: none"> <li>Need for Improved service and/or additional service to Sonora, Columbia and Jamestown to accommodate future ridership demand.</li> </ul>	Establish a goal of 1 hour service frequency on fixed routes within the core transit area.
Congestion Delays	<ul style="list-style-type: none"> <li>Congestion in business districts causing future unacceptable delays in regional bus service.</li> </ul>	The use of the Sierra Northern Railway to provide commuter and tourist travel will require substantial subsidies from somewhere
Bus Facility Improvements	<ul style="list-style-type: none"> <li>Need for existing bus stops to be retrofitted with covered shelters and Installation of additional covered bus shelters, as growth occurs.</li> <li>Need for a permanent transit facility to house all transit functions</li> <li>Need for transfer improvements</li> <li>Need multimodal stop at Columbia College</li> </ul>	Program construction of new shelters in Public Works CIP. New development should be required to provide bus shelters as part of mitigation measures. The TDP outlines specific transit improvements to facilities. Seek federal demonstration and/or STIP funding. Seek transit grants for bus shelter funding.
45 – Foot Buses	<ul style="list-style-type: none"> <li>Improvements to SR 49, SR108 and SR 120 to accommodate 45-foot buses safely.</li> </ul>	Caltrans has made some minor improvements on SR 49 to accommodate 45-foot buses between Sonora and Angels Camp. However, none of the major recommendations from Caltrans’ 45-Foot Bus Feasibility Study (2001) have been implemented due to cost.

<b>Aviation Element</b>		
Airport Facilities	<ul style="list-style-type: none"> <li>The Master Plan for Pine Mountain Lake Airport was adopted by the County in 1996</li> <li>The Master Plan for Columbia Airport will be updated by 2009</li> <li>Need additional hanger storage hangars</li> <li>Develop perimeter access roads</li> <li>Develop additional ramp space</li> </ul>	Funding will primarily come from the FAA and Caltrans. The FAA's Airport Improvement Program provides a 10 year plan for airport development
Transportation Facility/Element Con't	Issue(s) Con't	Comment Con't
<b>Non-Motorized Element</b>		
Bicycle, Pedestrian and Trail Facilities	<ul style="list-style-type: none"> <li>Inadequate amount of funding to construct bicycle and pedestrian facilities recommended in the adopted Tuolumne County Bikeways and Trails Plan and the Me-Wuk Bicycle Plan.</li> </ul>	The completion of the Tuolumne County Bikeways and Trails Plan and the Tuolumne Band of Me-Wuk Indians 2003 Bicycle Plan allows the County and City of Sonora to seek Bicycle Transportation Act (BTA) funds for priority bike and trails projects. Trails are being constructed by new development when appropriate.
<b>Goods Movement Element</b>		
Trucks	<ul style="list-style-type: none"> <li>High truck volumes on major State routes and some collector roads causes maintenance and congestion impacts to the road system.</li> <li>SR 49 Western Bypass should be planned</li> </ul>	Adoption of weight limits on select local roads should be considered. The pavement management system needs to be continually updated.
<b>Rail Element</b>		
Track maintenance	<ul style="list-style-type: none"> <li>Need for upgrading of the Sierra Northern Railway track</li> <li>Need to upgrade road crossing surfaces.</li> </ul>	State and federal grant funding should be applied for to repair and maintain tracks in safe condition.

Operations	<ul style="list-style-type: none"><li>• Under utilization of Sierra Northern Railway</li><li>• Expansion of excursion and movie train service area east from MP 46 to MP 57.</li></ul>	<ul style="list-style-type: none"><li>• Decreased lumber production at local mills will continue to provide inadequate funding for maintenance and improvements.</li></ul>
Safety	<ul style="list-style-type: none"><li>• California Public Utilities Commission (PUC) has identified numerous crossing improvement needs to meet standards. These locations are identified in the Action Element.</li></ul>	<ul style="list-style-type: none"><li>• Pursue PUC safety grants.</li></ul>

## **RTP GOALS, OBJECTIVES, AND POLICIES**

The goals, policies and objectives in this document are intended to guide the development of the Tuolumne County 2006/07 RTP and RTIP and transportation system, and improve the quality of life for citizens in Tuolumne County. These policies reflect a realistic approach to achieving the stated goals taking into account the funding limitations over the life of the RTP. The following definitions help differentiate the planning focus of a goal, objective and policy.

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

An *objective* is a specific end, condition or state toward attaining a goal. It is achievable, measurable and time specific.

A *policy* is a direction statement that guides actions for use in determining present and future decisions. A policy is based on RTP goals and objectives as well as the analysis of data and realistic outcomes.

The goals, objectives and policies for each component of the Tuolumne County transportation system are provided below. They are consistent with the policy direction of the Tuolumne County General Plan Circulation Element (1996), the Tuolumne County Transportation Commission (TCTC), the City of Sonora Draft General Plan (2004), the Tuolumne County RTIP and the financial realities facing the State and Tuolumne County.

The TCTC has identified the following as its overriding goal:

*Goal: "Enhance the life style of the people of Tuolumne County through an adequate, safe, efficient and economically feasible transportation system, consistent with the social, cultural, economic and environmental needs of the County."*

The TCTC also believes that the cost of providing infrastructure should be paid in a fair and equitable manner by those who receive the benefits of the transportation systems provided. Therefore, the TCTC has adopted the following overall funding goal and funding strategies to complement the RTP goals and policies both regionally and locally.

*Goal: "The TCTC will encourage the City, County, State and Federal governments to provide stable funding sources to adequately provide for existing and future transportation needs in the area."*

It is recommended that revenue sources should require new development to fully mitigate its traffic impacts. Impacts created by seasonal recreational traffic should be mitigated by those who cause the impact. Existing deficiencies in the inter-modal transportation network should be funded by the existing residents of the area.

New revenue sources should be dedicated revenue sources that provide a rational nexus between the need for funds and the amount of funds made available.

## **REGIONAL TRANSPORTATION SYSTEM GOALS**

- Goal 1: To maintain the multimodal system wisely, safely, efficiently and effectively.
- Goal 2: To make cost-effective transportation investment to promote sustainable economic growth and improved goods movement.
- Goal 3: To implement transportation strategies, services and technologies to support improved air quality, energy efficiency, noise mitigation and environmental protection, while

improving communities, conserving natural resources and achieving a sustainable society over the long term.

- Goal 4: To integrate land use and transportation decisions at the local, regional state and federal level to provide for a quality living environment that strikes a balance between development and available infrastructure, that conserves natural resources including prime agricultural access for all trip purposes.
- Goal 5: To provide for the most safe and efficient methods available that achieve equitable access for all travel purposes and to improve the public's ability to choose between safe, efficient and reliable alternatives for achieving that transportation.
- Goal 6: To provide for transportation access to jobs, housing, recreation and community services for all Californians regardless of age, economic, social or physical condition.
- Goal 7: To provide for stable funding to preserve and operate the transportation system and flexible funding to develop and improve transportation services and facilities.
- Goal 8: To broaden the involvement of all users, including communities in the transportation decision making process so as to achieve equitable solutions to transportation problems and optimize the use of the transportation system.
- Goal 9: To establish the inter-organizational commitments of cooperative, mutually dependent action that is required to provide efficient multimodal transportation system performance.

The following objectives and policies for each element of the transportation system assume some form of new funding is identified during the life of the RTP to help off-set the declining transportation dollars. They embody a fiscally conservative approach with "some variation" from the "status quo" to help alleviate the major transportation issues identified in Table 22 above.

#### **Aviation:**

- Objective:** Promote the planned development of aviation facilities in order to meet general aviation needs and needs which include air taxi, fire fighting, air ambulance and law enforcement operations within Tuolumne County..
- Policy 1:** Support the development of the Columbia and Pine Mountain Lake (PML) Airports in accordance with the adopted airport master plans..
- Policy 2:** Support the creation and/or expansion of sources of capital improvement funds for the Columbia and PML Airports.
- Policy 3:** Encourage local agencies to make land use decisions that are compatible with land use policies and improvement plans for the Columbia and PML Airports.
- Policy 4:** Support the continued existence of an Airport Enterprise Fund for each Airport, and the dedication of all revenues generated from airport properties and offices for use in funding airport operational and capital improvement costs.
- Policy 5:** Support the development of a plan aimed at creating a countywide system of emergency heliports.

#### **Non-Motorized Transportation:**

- Objective:** To encourage the use of alternative means of transportation by providing safe bicycle and pedestrian facilities between high use areas thereby reducing road congestion which improves circulation, health and air quality within the County.

- Policy 1:** Actively investigate and support the development of alternative funding sources for bicycle and pedestrian facilities.
- Policy 2:** Construct bicycle and pedestrian facilities as soon as possible when funds become available.
- Policy 3:** The needs of pedestrians, bicyclists and individuals with disabilities shall be given special attention in the project design review process.

**Public Transportation:**

- Objective:** Provide effective and efficient transportation services which meet the needs of transit dependent residents within Tuolumne County which are reasonable to meet. Youths, elderly, persons with disabilities and the economically disadvantaged shall be given special attention.
- Policy 1:** Support the development of all area public and social service transportation systems as outlined in the Tuolumne County Transit Development Plan (TDP).
- Policy 2:** Encourage eligible claimants in Tuolumne County to maximize the use of Federal and State funds for public transportation purposes.
- Policy 3:** Require coordination among public and social service transportation operations so as to ensure the highest level of efficiency and cost-effectiveness possible.
- Policy 4:** Actively pursue public input into the operation of the Public Transportation System as received via rider surveys, the Transit Productivity Advisory Committee and comments made during the annual unmet transit needs hearing.
- Policy 5:** Improve the public's knowledge of available transit services by encouraging increased marketing of all existing transportation in Tuolumne County.
- Policy 6:** Ensure compliance with the Americans with Disabilities Act.
- Policy 7:** Provide transit service that is effective in attracting and maintaining riders. Service should be provided to areas where a need has, or can be, identified. Service that links up to adjacent jurisdictions in Merced County and Calaveras County should be coordinated.
- Policy 8:** Operate service in the most cost-effective manner possible.
- Policy 9:** Coordinate transit system development with community planning and development efforts, land use policy and the locally developed coordinated transit plan.

**Rail:**

- Objective:** Promote growth and safety of all uses of the Sierra Northern Railway system.
- Policy 1:** Support and encourage State and Federal grant applications aimed at the upgrading and rehabilitation of Sierra Railroad trackage.
- Policy 2:** Support the revival of passenger, excursion and movie train operations on the Sierra Northern Railway to the extent that such operations themselves can be proven cost-effective and do not conflict with freight operations on the Railroad.
- Policy 3:** Support the intermodal linkage of truck on rail as a technique of reducing truck AADT (Annual Average Daily Trips) on highway corridors.
- Policy 4:** Higher truck weights shall be opposed.
- Policy 5:** Develop thorough cooperation with all agencies involved, a railroad system that provides for the convenient and reliable movement of freight.

### **Streets and Highways:**

- Objective:** Promote transportation system management actions which maximize the use of transportation facilities in the most efficient, cost effective, safe and environmentally sound fashion possible.
- Policy 1:** The needs of street and road users will be regularly assessed by local Planning Departments and Transportation Departments in the development review process.
- Policy 2:** Local agencies, in conjunction with Caltrans, will regularly conduct assessments of the current status of the highway system to determine the current level of needs in the system, and report those needs to the TCTC.
- Policy 3:** The traffic impacts of proposed land uses shall be evaluated and mitigated in relation to stated goals, policies and objectives of the RTP.
- Policy 4:** The TCTC shall set forth its recommendations for the future of the County's streets and highway system in each update of the RTP.
- Policy 5:** Local transportation departments will maintain an awareness of those portions of the streets and highways system which experience an unusual number of motor vehicle traffic accidents, design necessary improvements and implement necessary improvements in a timely manner.
- Policy 6:** The TCTC shall encourage the identification and implementation of mitigation measure for all projects impacting local arterial and collector roads.
- Policy 7:** The TCTC shall continue to coordinate a financially constrained Regional Transportation Improvement Program.
- Policy 8:** The TCTC shall continue to coordinate with Federal, State and local agencies and developers to secure financing in a timely manner for all components of the transportation system to achieve and maintain adopted Level of Service (LOS) standards.
- Policy 9:** The minimum LOS standard for Minor Collector, Major Collector and Arterial roadways shall be LOS D unless an exception is made by the County of Tuolumne or city of Sonora consistent with each agency's adopted General Plan.

### **Transportation System Management:**

- Objective:** Promote transportation system management actions which maximize the use of transportation facilities in the most efficient, cost-effective, safe and environmentally sound fashion possible.
- Policy 1:** Encourage the coordinated use of efficient transportation modes such as public and social service transportation, bicycling, walking, ridesharing and carpools/vanpools through the creation of appropriate facilities and incentives.
- Policy 2:** Support structural and operational improvements necessary to increase the capacity and/or flow of traffic on the local streets and highways network.
- Policy 3:** Encourage the development of off-street parking facilities sufficient to meet the needs of local residents and tourist.
- Policy 4:** Support land use decisions which encourage growth in defined communities and avoid urban sprawl.

### **Goods Movement:**

- Objective:** Provide a transportation system which allows for the efficient transportation of goods while minimizing negative impacts on the local roadway system.
- Policy 1:** Support the coordinated interaction of truck and rail freight movements.

- Policy 2:** Encourage new industries to locate adjacent to the Sierra Northern Railway system.
- Policy 3:** Support the review and development of actions which would minimize the negative impacts of truck traffic on the local roadway system.
- Policy 4:** The TCTC shall resist legislative and administrative efforts which could expand the use of longer/wider trucks on roads within Tuolumne County.

## **CALIFORNIA TRANSPORTATION PLAN POLICIES**

To provide complete consistency with the goals of the California Transportation Plan (CTP), the CTP vision, goals and objectives are adopted as part of this Policy Element. A summary of the CTP planning themes is included as Appendix A.

The CTP provides a “vision”, goals and strategies for improving transportation in California. The vision is to provide a transportation system that is safe, effective, reliable, interconnected and equitable all users. The plan focuses on safety and increased travel choices for California residents. The implementation strategies involve education, collaboration, incentives and promotion, use of advanced technologies, a reexamination of design standards and integration of all modes, and a political presence. The following concepts and issues are also important to Tuolumne County and are reflected in the 2006/07 RTP update:

- The volume of truck transport will continue to grow, but at a slower rate than air and rail transport. The County is impacted by this growth and the need for improved truck routes, truck parking facilities, and truck access to commercial land uses.
- The cost of transportation for disabled and low income groups is increasing. The RTP recognizes that a more extensive mix of flexible transportation choices and services will improve accessibility for both groups. The transportation system in Tuolumne County is striving through its RTP policies to be more equitable by promoting urban growth patterns that are easier to serve by transit.
- The CTP summarizes three land use practices that have influenced urban design and that have profound impacts on travel behavior. These practices include the lack of coordinated decision-making between cities and counties, single-use zoning, and low-density growth patterns. Tuolumne County is experiencing some of these effects through increased traffic congestion and commute times. The RTP is proposing several projects as well as LOS policies to help alleviate the impacts of these types of land use decisions.

## **IV. ACTION ELEMENT**

The Action Element sets forth a plan of action to address issues and needs identified in accordance with the RTP goals, objectives and policies. It identifies short-range (0-10 years) and long-range (11-20 years) transportation improvements by mode for inclusion in the RTP and RTIP. The benefits of “New Technologies” such as surveillance, data collection, Advanced Traveler Information Systems, Commercial Vehicle Operations, and Automatic Vehicle Location systems are discussed under the appropriate mode. These New Technologies are consistent with the national ITS architecture and standards being employed by Caltrans at the regional level. The Action Element also includes a discussion on the State and regional planning processes, the program level “performance measures” selected to help prioritize projects, and the short-term and long-term improvements that were selected for each component of the transportation system.

The Action Element is consistent with the RTP and RTIP goals, objectives and policies and conforms to the revenues and costs identified in the Financial Element (Section VI). In addition, the first four years of projects identified in the Financial Element are consistent with the RTIP and with the STIP fund estimate adopted by the CTC in September 2005 and as amended in 2006.

### **STATE AND REGIONAL PLANNING PROCESSES**

The State and regional planning processes are defined by legislation on the Federal and State level. TEA-21, SB 45 and SAFETEA-LU have had significant effects on the RTP planning process in the past few years with new requirements for transportation planning, air quality conformity, project selection and delivery responsibility, development and implementation of transportation system performance measures, decision making, and the allocation of federal funds. In addition, the 1999 RTP Guidelines place significant emphasis on showing linkages between projects in the RTP and the RTIP/STIP process.

This RTP adheres to the 2003 RTP Guidelines Supplement by:

- Following the revised RTP Checklist
- Strengthening Public Involvement by including public involvement procedures and guidelines (Appendix B)
- Providing better coordination with Tuolumne County Tribal governments and including a discussion of their transportation issues and needs
- Soliciting input from the trucking and business community
- Evaluating different funding strategies relative to the adopted “program level” performance measures contained in the 2006/07 RTP

## **ACTION ELEMENT ASSUMPTIONS**

The RTP is a document that contains both policy and action direction for the future implementation of transportation system improvements. The proposed RTP actions are based on the following assumptions.

The growth in population and employment will remain very modest (less than two percent per year), which is generally consistent with California Department of Finance projections.

Any increases in population of adjacent counties will potentially affect both through and recreational traffic to Tuolumne County.

Existing sources of federal, state and regional revenues will continue throughout the 20-year life of the RTP, but potentially at reduced levels.

State and local revenue contributions to maintain the existing system are expected to continue, with funding levels based on existing plans and budgets.

The automobile will continue to be the primary mode of travel to from and within Tuolumne County.

Recreation-oriented travel will continue to affect State highways (SR 120, SR 49 and SR 108) and major County roadways, particularly during peak travel months.

Transit service demand will continue to grow, primarily due to the number of elderly and handicapped persons residing in the County, and continued increases in fuel prices causing people to consider alternate modes of transportation.

Local road maintenance will continue to be a major issue if a new source of maintenance funding is not identified and implemented.

The available transportation financing for projects at the local, State and Federal levels will not keep pace with the needs of the County.

The County's development traffic mitigation impact fee (RTIF) will continue during the life of the RTP.

## **PROGRAM-LEVEL PERFORMANCE MEASURES**

Caltrans identified the following four broad goals for performance measurement consistent with the 1999 RTP guidelines.

1. To understand the role the transportation system plays in society
2. To focus on outcomes at the system level rather than projects and process
3. To build transportation system partner relationships with clearly defined roles, adequate communication channels, and accountability at all levels
4. To better illuminate and integrate transportation system impacts of non-transportation decisions

The intended application of performance measurement to RTPs is to accomplish the following outcomes.

- Performance measurement should involve the existing transportation system as well as the future transportation system.
- By examining performance of the existing system over time, the RTP can monitor regional trends and identify regional transportation needs for inclusion in future RTPs.
- Performance measurement has the potential to clarify the link between transportation decisions and eventual outcomes, thereby filling the much needed gap between purpose and need.
- Forecasting future system performance in the RTP will assist in comparing system alternatives, facilitate comparisons across modes, and facilitate assessment of priorities in the action element of the RTP. These priorities will link to plan implementation through the RTIP and the ITIP.

The program- level performance measures selected for Tuolumne County for the RTP and the RTIP are summarized in Table 23. A detailed matrix of performance measures by mode and program level is provided in Appendix O.

**TABLE 23 –  
RTP PROGRAM LEVEL PERFORMANCE MEASURES AND DESIRED OUTCOMES\***

Performance Outcome	Data Source	RTP Measure	RTP Objective
1. Safety	Tuolumne County; Caltrans; CHP	Accident and Crime Rates for Tuolumne County per 1,000,000 vehicle/passenger miles of travel	Reduce fatalities, injury, and property loss of system users and workers.
2. Mobility	Tuolumne County TCTDM; Caltrans	Travel Times and Delays	Minimize travel time and delay to reach desired destinations within reasonable means
3. Reliability	Tuolumne County TCTDM; TCT	Variability of travel time	Maximize percent of on-time performance, dependability and ease of travel mode choice
4. Accessibility	Tuolumne County; TCT	Access to transportation system and desired locations	Maximize travel mode choice and accessibility of transit services
5. System Preservation	Tuolumne County; TCT; Pavement Management System	Physical condition of system	Preserve the transportation system at an acceptable state of repair condition
6. Environmental Quality	Tuolumne County; EPA; CARB	National and State Standards	Maintain and enhance the quality of natural and human environment
7. Economic Vitality	Tuolumne County TCTDM; Economic Development Department; Visitor Bureau	Value of Transportation to Economy	Interregional trips; mode trips per volume; freight origins and destinations within County
8. Equity	Economic Development Department; Census Bureau; DOF	Benefit per income and ethnic group	Ensure equitable sharing of benefits and accessibility for people with disabilities. Environmental Justice.
Source: Tuolumne County 2006; Fehr & Peers 2006.			

\* The California Transportation Commission (CTC) RTP Guidelines adopted in December 1999 recommend the inclusion of program level performance measures (outcome-based) to help determine how the planned improvements to the system are achieving the desired outcomes of the RTP consistent with the goals, policies, and objectives of the plan. Performance measures are defined as a set of objectives and measurable criteria used to evaluate the performance of the transportation system and to select plan funding alternatives.

## APPLICATION OF PERFORMANCE MEASURES

The program level performance measures in Table 23 are intended to help the County prioritize projects and programs and to monitor how well the transportation system is functioning, both now and in the future. The application of each performance measure and their location within the RTP are identified below.

### 1. *Safety – Goal(s) 1,5*

Safety is monitored through the accident rate (accidents or incidents per million miles of travel) Table 16 compares the average rate for Tuolumne County state routes with the rate for the State on similar facilities. The accident rate on SR 49 and SR 108 are above the State average. All other facilities are below the State average. Table 17 provides recent (2004) accident totals for select County facilities. The Action Element contains several safety projects to improve existing state and county facilities to current County design standards. The safety goal also addresses bicycle and pedestrian travel within the County. RTP projects for multi-modal improvements are included in Appendix J and L.

### 2. *Mobility – Goal(s) 5,*

This performance measure monitors how well State and County roads are functioning based on level of service (LOS) and travel delay. The LOS policies for Tuolumne are re-stated below.

#### **State Highways**

The concept LOS for state highways and at intersections with County roads is LOS C. The minimum LOS standard for the State Highway System shall be no lower than LOS E. The methodology for evaluating LOS on State Highways shall be pursuant to the Highway Capacity Manual and Transportation Research Record 1194.

#### **Minor Collector Roads and Local Roads**

The standard for minor collector roads and local roads is LOS B except within one-half mile of Major Collectors or Arterial highways where the standard shall be LOS C. The minimum peak hour LOS standard for intersections of minor collector and local roads with major collector and arterial highways shall be LOS C.

#### **Arterial and Major Collectors**

LOS C is the standard on arterials and major collectors, except within one-half mile of similarly classed highways where the standard shall be LOS D. The minimum peak hour LOS standard for intersection of major collector roads and arterial highways shall be LOS D.

Table 7 shows the current roads exceeding the GP LOS targets. Table 16 shows those roads that will experience unacceptable LOS in 2030 (horizon year) with programmed and planned improvements (Tier 1a and Tier 1b). Figures 3 and 4, and Figures 9 and 10 show the location of deficient road segments.

### 3. *Reliability – Goal(s) 1,5,7*

This measure considers transit on-time performance and the ease of travel mode choice. The RTP provides an array of multi-modal projects in the Action Element to increase mode choice.

Transit improvements listed in Appendix I are aimed at improving transit access, operations and reliability. Monthly transit operational reports monitor transit system performance.

4. *Accessibility – Goal(s) 5,6,7*

This measure evaluates travel mode choice and improvements that increase transit accessibility. The RTP provides for improvements for all modes of travel in Tuolumne County (highway, transit, rail, aviation, bicycle and pedestrian) and includes transit bus stop and transfer point improvements to increase transit access for all residents. Specific transit improvements are referenced under Future Conditions and also included in Appendix I.

5. *System Preservation – Goal(s) 1,5,8,9*

The RTP monitors the transportation system condition through the Tuolumne County pavement management system. Projects that maintain the existing system at acceptable levels are included in the Action Element. Table 8 provides an estimate of the maintenance needs for County roadways. Projects earmarked for system preservation are designated in the project tables ( Appendix G through L). Appendix S summarizes the general pavement conditions in the County by roadway.

6. *Environmental Quality – Goal(s) 3,4*

This measure is applied prior to actual construction of a project. Each project must comply with environmental criteria from CEQA (State) and/or NEPA (Federal) depending on whether the funding source is a federal or state program.

7. *Economic Vitality – Goal(s) 2,6,7,9*

LOS during peak recreational periods often reaches unacceptable levels (LOS D or higher) due to through and recreational traffic. This measure monitors the daily LOS during the peak month on State highways. Figure 3 and 4 and 10 and 11 show areas that would benefit from projects aimed at reducing traffic volumes and improving the LOS. Table 11 shows existing truck volumes within the County. Table 14 shows the commercial and industrial growth projected for the County over the life of the RTP.

8. *Equity – Goal(s) 2, 3, 4, 6, 8, 9*

This goal ensures the equitable sharing of transportation benefits and accessibility for people with disabilities. Where appropriate, RTP projects consider improvements that include ADA access. In addition, transportation decisions by the TCTC consider “environmental justice” in the distribution of transportation projects and impacts.

## **PURPOSE AND NEED**

The RTP guidelines and supplement to the RTP guidelines adopted by the CTC require that an RTP “provide a clearly defined justification for its transportation projects and programs.” This requirement is often referred to as either the Project Intent Statement or Project Purpose and Need. Caltrans’ Deputy Directive No. DD 83 describes a project’s “Need” is an identified transportation deficiency or problem, and its “Purpose” is the set of objectives that will be met to address the transportation deficiency. For Tuolumne County, the City of Sonora and its planning regions, each table of projects includes a qualitative assessment of purpose and need relative to the project’s contribution to system preservation, capacity enhancement, safety, and/or multi-modal enhancements. The intent of improvements in each category is described below.

*System Preservation* – This category of improvement indicates a project that serves to maintain the integrity of the existing system so that access and mobility are not hindered for travelers. Improvements may include bridge repairs, upgrading of existing rail lines, airport runway repairs, and upgrades to signs and traffic control devices. In addition, because Tuolumne County is very rural and contains several small communities, the lack of maintenance funding has resulted in a large amount of “deferred maintenance” that has actually lapsed into a serious need to “rehabilitate” roadways to maintain system preservation. Rehabilitation entails primarily overlay and/or chip seal work that can also be considered a safety improvement. Several road projects listed for each jurisdiction require either “rehabilitation” or “asphalt overlay of existing roadway” to maintain system preservation. (*Goals 1, 5, 8 and 9*)

*Capacity Enhancement* – A capacity enhancement indicates a project that serves to increase traffic flows and to help alleviate congestion. This result may be achieved by adding an additional lane of traffic, adding a passing lane, and/or adding a turn-out for slow moving vehicles. Because Tuolumne County experiences large volumes of truck and recreational traffic on many of its roadways, the ability of vehicles to travel at desired speeds is restricted. Capacity enhancement projects are designed to increase travel speeds and provide for opportunities to pass slower vehicles safely. The desired outcome is to maintain acceptable levels of LOS on State and regionally significant roads (*Goal 1, 5 and 6*).

*Safety Projects* – Safety improvements are intended to reduce the chance of conflicts between vehicles, prevent injury to motorists using the transportation system, and to ensure that motorists can travel to their destination in a timely manner. Safety improvements may include roadway and intersection realignments to improve sight-distance, pavement resurfacing to provide for a smooth travel surface, signage to clarify traffic operations, congestion relief, and obstacle removal so that traffic flows are not hindered. The desired outcome is to reduce accidents on State and County facilities and the societal costs in terms of injury, death or property damage (*Goals 1 and 5*).

*Multi-modal Enhancement* – These type of improvements focus on alternative modes of travel such as bicycling, walking, and transit. Projects that are designated as multi-modal are designed to enhance travel by one of these other modes, provide for better connectivity between modes, and to improve non-auto access to major destinations and activity centers (*Goals 2,5,6,7 and 9*)

## **PAST ACCOMPLISHMENTS**

The County has completed the following significant transportation projects and/or programs within the last decade.

### **PLANNING**

- Jamestown Community Action Plan
- Developed Safety Project Priority List
- Foothill Commuter Services (rideshare website)
- Updates to the Regional Transportation Plan
- Updates to the Circulation Element of General Plan
- Regional Transportation Improvement Programs
- Project Study Report for Priest Grade
- East Sonora Bypass Stage 2 Funding of Supplemental Environmental Document, Design and Right of Way Acquisition
- Alternative Routes Study for North/South Connector Project
- Completed Project Study Report for Rawhide Road/State Route 108 Improvements
- Awarded earmark funding for a J-59 (La Grange Road) Road Study
- Trails Master Plan

- Comprehensive update to the Regional Traffic Mitigation Impact Fee Program

## PROJECTS

### *Local Roads*

- Soulsbyville Bike Lane
- Jamestown Sidewalk
- Ferretti Road Pedestrian Facility
- Jamestown Landscaping Project
- Improvements to Old Priest Grade
- Rehabilitation of 13.5 miles of local roads (various locations)
- Signalization at Tuolumne Road and Junction Shopping Center Entrance
- Intelligent Transportation System (ITS) Safety Device installed at O'Byrnes Ferry Road

### *State Highway*

- Sonora Bypass
- East Sonora Bypass Stage I
- Hess Avenue Interchange

### *Rail*

- Replacement of thousands of railroad ties at critical points along Sierra Railroad between mile posts 1 and 49.2
- Improvements to railroad crossing on Seco Street (Jamestown)
- Improvements to railroad crossing at Sanguinetti and Old Wards Ferry Roads
- Improvements to 22 additional public railroad crossings within Tuolumne County

### *Replacement of Bridges:*

- Italian Bar Bridge at Stanislaus River
- Jamestown Bridge at Woods Creek
- Evergreen Bridge at Middle Fork of Tuolumne River
- La Grange Bridge at Salt Springs Creek
- Paseo de los Portales Bridge at Sullivan Creek

### *City Streets:*

- Rehabilitation of Lyons and Green Streets
- Lyons Street/East Hope Lane Drainage Improvements
- Shaws Flat Road/North Macomber Street Drainage Improvements
- Mono Way Pedestrian Facility
- South Greenley Road/Mono Way Intersection – widening and sidewalk
- Rehabilitation of South Washington Street (Lytton to Stockton Street)
- Mono Way Overlay (Barretta Street to Greenley Road)
- Greenley Road Intersection – westerly widening and sidewalk
- Stewart Street - wall and sidewalk (Jackson to Dodge Streets)
- Ponderosa Drive Overlay
- North Washington Street/State Route 49 – sidewalk, retaining wall and storm drainage improvements
- Overlay of 1.7 miles of City Streets (various locations)
- Greenley Road Landscaping Project (*Sonora Elementary School*)

## TRANSIT

- Major service changes to fixed route services (i.e., adding hours, expanding service area, increasing frequency of service, improving interregional connections)

- Revived Tuolumne County Transit Website ([www.tuolumnecountytransit.com](http://www.tuolumnecountytransit.com))
- New Rider's Guide and service area map
- Bus Purchases, including dial-a-ride buses and larger Fixed Route buses to accommodate ridership increases
- Implemented Bus Advertising Program to generate revenue
- Updates to the Transit Development Plan

## GIS

- Traffic Model
- Traffic Accident Data System
- Comprehensive Land Development Forecasts
- Traffic Device Inventory
- Updated Post Mile System
- Acquisition of Updated Countywide Aerial Photos
- Geocoding address ranges for emergency response
- Conversion of road segment files to routes
- Guardrail, speed zone, signage and post mile inventory for roads.
- Training and access to GIS software and data for the Public Works Department
- Built partnerships with governmental and non-governmental agencies who currently use GIS technology as appropriate for specific projects

## **REGIONAL AND LOCAL ACTION PROGRAMS**

The regional and local action programs for this RTP are a compilation of projects already proposed and/or planned for Tuolumne County, as well as new projects deemed necessary to provide adequate operation of the various transportation systems consistent with the County's goals and policies. To provide acceptable operations along the regional road system, Tuolumne County proposes a series of improvements to be sponsored by the State, the County, City of Sonora and/or one or more of the eight planning communities. The highest priority improvements to the regional road system are linked to the roadway deficiencies identified in Table 7 and 16, and the Goals and Objectives from Chapter III. The type of improvement, implementation cost, proposed construction year, priority (Tier 1a, Tier 1b or Tier 2), and potential sources of funding are identified in the project tables by mode. *Note: The TCTC, County, City of Sonora, and/or Caltrans can change the priority ranking of projects during the RTP approval process.*

*Tier 1a projects represent projects that are fully fundable from anticipated revenue sources and will normally be programmed in the short-term by 2020.*

*Tier 1b projects represent projects that are likely fundable from anticipated revenue sources and are planned for programming through the life of the RTP (by 2030).*

*Tier 2 (unfunded) projects represent projects that are long-term and would not have full funding during the life of the RTP (by 2030) given current revenue projections. However, these projects do represent long-term projects desired by the County, City of Sonora, and the seven planning communities to enhance their transportation system and help achieve GP LOS thresholds.*

The recommended improvements for the transit system, aviation facilities, bikeway and pedestrian facilities, and goods movement also serve to alleviate existing transportation problems and to accommodate future travel demand. Action programs for Transportation Systems Management (TSM), Transportation Demand Management (TDM), Intelligent Transportation Systems (ITS) and air quality are also included in this chapter.

## **SHORT-RANGE AND LONG-RANGE HIGHWAY PRIORITIES**

Each of the highway improvement projects is categorized into short-range (0 to 10 years), and long-range (11 to 20 years). The horizon year for the 2006/07 Tuolumne County RTP is 2030. The first four years of improvements must be consistent with the adopted STIP fund estimate (see Section V, Financial Element). Road improvements are shown for State highways, County roads and local city streets.

### **2006 STIP – CANDIDATE PROJECTS**

The approved 2006 STIP funded improvement projects are shown in Appendix F-1. The list includes funding for Planning, programming, and monitoring (PPM) for the TCTC, right-of-way purchase and support for East Sonora Bypass, Stage 2, the Groveland Park corridor, pedestrian and bicycle trail project, the Sugar Pine Railroad trail, and transportation enhancement reserves. The STIP includes \$2.8 million in prior funding (2004), \$3.9 million in new funding, and \$922 thousand in TE funding.

### **CURRENT OFFICIAL SHOPP – PROGRAMMED PROJECTS**

Short and Long-range highway improvement projects for the State Highway System are funded through the Caltrans's SHOPP. The short-range programmed SHOPP projects for the State highway system are shown in Appendix G-1. These projects include three projects aimed at collision reduction (left turn lane and intersection improvements on SR 108, and curve realignment on SR 49) and one project for roadway preservation (pavement rehabilitation on SR 120 between milepost 3.5 and 6.9). The total cost of SHOPP improvements are approximately \$42 million. Although Caltrans is responsible for the SHOPP, the County is encouraged to have input into SHOPP projects through coordination and consultation with Caltrans.

A map showing the location of active and candidate SHOPP projects in Tuolumne County is provided in Appendix G-2. The listing of SHOPP projects for Tuolumne is available at <http://www.dot.ca.gov/district10>

### **SHORT- RANGE COUNTY, CITY AND COMMUNITY SPONSORED ROAD PROJECTS**

Appendix H-1 shows the short-range (Tier 1a) County, City and community sponsored road projects. The Tier 1a projects are anticipated to be built by 2020. The project list contains capacity enhancements including road widening, new road facilities, and continuous left turn lanes, bridge replacements, intersection improvements (safety), and transit facility improvements. A total of approximately \$ 111 million in projects are proposed by 2020.

### **LONG-RANGE COUNTY ROAD IMPROVEMENTS**

Appendix H-2 shows the long-range (11-20 years) County, City and community sponsored road projects. The list includes capacity enhancement and safety projects. The ESB Stage III is listed although the actual cost of this project is still under development (the current estimate is approximately \$44 million). Total project long-range project costs are approximately \$113 million.

It should be noted that on April 26, 2000 the TCTC adopted Resolution 212-00 requesting that proceeds from the sale of excess lands along the rescinded alignment within the Stage I area be programmed to right-of-way protection within Stages 2 and 3 of the bypass. In July 2005, Caltrans advised the TCTC that one parcel along the right-of-way had been sold for approximately \$191,000, and that an additional forty-five properties with an estimated value of \$3.5 million may be sold.

It is the TCTC's intent for the 2006 STIP cycle is to combine Stage II (programmed) and Stage III for purchase of right-of-way, design and environmental re-evaluation. The design for Stage II remains as shown in the Record of Decision (ROD). However, Stage III is being considered for lower cost alternatives such as the widening of the existing alignment to major arterial status. Additional analysis by Caltrans supports an expressway alternative. The Stage III Bypass Alternative traffic study has been completed (see Scenario Analysis under Section 2 – Future Conditions).

## **UNCONSTRAINED PROJECTS**

Appendix H-3 provides a list of unconstrained (un-funded) projects. These projects are considered *Tier 2 projects* and therefore are questionable during the life of the RTP given the current funding picture. The unfunded projects have estimated costs associated with them totaling approximately \$156 million. This estimate was arrived at by using known costs from the Tier 1a and Tier 1b list of projects, calculating a typical cost per mile for various project types, and then applying known distances for similar Tier 2 projects to arrive at a total project cost estimate. In addition to the list of projects in Appendix H-3, there are projects that are mentioned in the "Old Priest Grade Study", the "State Route 120 (Priest Grade) Feasibility Study", and the "45 foot bus Feasibility Study" conducted by Caltrans. None of these projects have been advanced to RTP status as yet.

## **GOODS MOVEMENT**

Truck transport will continue to be a primary mode for goods movement into and within the County. Due to the high volumes of truck traffic on State facilities, a cooperative effort is needed between the trucking industry, Caltrans, Tuolumne County, City of Sonora, and planning communities to assess the impacts that trucks have on the road system particularly as it relates to increased maintenance costs. Even though the County has a limited road network, trucks should not be permitted on facilities that are not designed or constructed for heavy vehicles. Also, increased coordination should be pursued between the trucking industry, rail and aviation for the movement of freight to and from the County.

Caltrans has developed a package of new technologies that suggest methods to efficiently manage operations and enhances communications and monitoring for commercial vehicle operations. As funding allows, Tuolumne County, in coordination with Caltrans and the California Highway Patrol (CHP), is encouraged to consider the following technologies and actions when defining goods movement projects and in planning commercial vehicle operations.

- Incident Management – Use Commercial Vehicle Operations (CVO) tracking to improve response times to transportation incidents
- Automated Roadside Safety Inspection – Use electronic technology and diagnostics to access records of carriers, vehicles, and driver safety
- On-board Safety Monitoring – Communicate safety information about road conditions while in motion
- Hazardous Material Incident Response – Provide hazard spill notification information to the emergency response operations within the County
- Heavy Vehicle Electronic License Plate Program (H.E.L.P) – Work with Caltrans to implement and make use of an integrated heavy vehicle monitoring system such as Automatic Vehicle Classification (AVC), Automatic Vehicle Identification (AVI), and Weigh-In-Motion (WIM) technology
- Increased vehicle code enforcement and weight monitoring by the CHP

## **PUBLIC TRANSIT**

Appendix I shows the short-range and long-range transit projects. The Tuolumne County Transit Development Plan (LSC, 2003) recommended construction of a transit maintenance facility and a transit transfer point. These two projects have been carried forward in the 2006 SRTP. Both projects are listed in Appendix I. Previous costs have been updated to reflect 2006 dollars based on an assumed growth rate of three percent per year. The total short-range costs (Tier 1a) are approximately \$431,000. The unfunded Tier 2 projects total \$1.2 million.

In recent months there has been increasing interest and participation in the Foothill commuter Service (FCS) rideshare/ride-matching program that was established in January 2006. The service is operated in Amador, Calaveras, and Tuolumne County. The results of the program are beginning to reduce the number of single-occupant vehicle (SOV) trips on tri-county roads and highways. The TCTC has budgeted approximately \$20,000 for FY 2007/08 to continue the program in Tuolumne County.

## **BIKEWAYS AND PEDESTRIAN FACILITIES**

Appendix J shows the short-range and long-range bikeway and pedestrian projects for the RTP. These projects were recommended in the Tuolumne County Bikeway and Trails plan completed in 2004. The projects also reflect priority projects contained in the Tuolumne Band of Me-Wuk Indians 2003 Bicycle Plan (August 2003). The Tier 1a costs are approximately \$7 million and the long-range Tier 1b projects total approximately \$35.6 million

## **AVIATION**

Appendix K shows the short-range and long-range aviation improvements that are designed to upgrade facilities at the County's two airports – Columbia Airport and Pine Mountain Lake Airport. The projects were provided by the County's Airport Director. All airport projects anticipated to be funded are assigned Tier 1a indicating potential completion by 2020. The total project costs for Tier 1a projects (completion by 2020) is approximately \$2.7 million. Recommended projects include capacity enhancements, safety, infrastructure and a multi-modal interface with campgrounds.

## **TRANSPORTATION DEMAND MANAGEMENT (TDM)/TRANSPORTATION SYSTEM MANAGEMENT (TSM)**

The County will seek CMAQ funds to implement projects that have an air quality benefit. The purpose of the CMAQ Program is to fund transportation projects or programs in non-attainment and maintenance areas which will reduce transportation related emissions. The EPA lists the following types of transportation control measures (TCMs) that have potential air quality benefits.

- Employer vanpools and shuttles
- Suburban vanpool/carpool park-and-ride lots
- Improved public transit
- Clean air and alternative fueled buses
- Traffic signal coordination
- Programs to limit or restrict vehicle use in downtown areas
- Programs to control extended idling of vehicles
- Expanded bicycle and pedestrian facilities
- Employer trip reduction programs
- Telecommuting
- Public-private partnerships
- Emission Inspection and Maintenance programs

- Outreach and rideshare activities

The TCTC has included two TSM projects in its FY 2007/08 OWP. The first calls for an evaluation of traffic signal timing optimization at various intersections to improve traffic flow. The initial funding will look at the signals at Tuolumne Road and the Junction Shopping Center, and at Fir Drive at Mono Way. The second OWP project will identify locations to install Loop Detectors (automatic traffic counters).

The first CMAQ apportionment for Tuolumne County for FY 2006/07 was \$469,405. Estimates have been received for each following year through FY 2010/11, which average approximately \$500,000 annually. The County is required to provide 11.47% local match. All projects and programs eligible for CMAQ funds must come from a conforming transportation plan and transportation improvement program (TIP), and be consistent with conformity provisions contained in Section 176(c) of the Clean Air Act (1990) and the Transportation Conformity Rule.

The TCTC will be responsible for determining eligibility of projects and programming CMAQ funding in the RTIP.

## **INTELLIGENT TRANSPORTATION SYSTEMS (ITS)**

ITS is the integration of computerized, electronic, and communication technologies designed to reduce traffic congestion, improve traveler mobility, collect and disseminate real-time traveler information, reduce costs, and improve the operation and efficiency of the transportation network by integrating both technological components and management strategies to improve circulation.

Implementation of ITS, with its emphasis on improving traveler mobility, has become a priority for the federal government and the U.S. Department of Transportation. As part of this effort, a National ITS Architecture has been adopted to encourage system interoperability and integration among local, regional, state and federal ITS applications.

The key elements of ITS identified for rural areas are listed below.

- Traveler safety and security technologies.
- Emergency services.
- Fleet operations and maintenance.
- Public traveler and mobility services.
- Roadway operations and maintenance technologies.
- Tourism and travel information; and
- Commercial vehicle systems.

In California, The New Technology and Research Program administered by Caltrans has spearheaded an effort to develop Strategic Deployment Plans for a number of regions (combined counties) throughout the State. Caltrans has been instrumental in establishing a regional architecture that will fit within the National Architecture. As part of their work, the following actions have been suggested as possible ITS applications to be explored within each California county.

- Light emitting diode (LED) pedestrian crossings;
- Advance snow plow advisory systems (magnetic markers installed in the roadway to provide guidance in whiteout conditions);
- Mobile changeable signs;
- Electronic tourist traveler information stations;
- Call boxes in most hazardous areas and/or radio/cell phone dead areas;
- Coordinated emergency response systems;

- Coordinated local transit agency communications systems;
- Statewide rural regional road conditions radio stations;
- Trucks and large recreational vehicle advisory signs/signals; and
- Electronic toll stations/fee collection

Tuolumne County will continue to explore the available information on ITS for possible integration into the various modes of travel within the County as funding, opportunity, and relevance allow. Adequate levels of funding and close coordination with Caltrans, the trucking industry, and transit are key to implementing ITS strategies in Tuolumne County.

## **COORDINATED, PUBLIC TRANSIT- HUMAN SERVICES TRANSPORTATION PLAN**

"In accordance with the provisions of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), recipients under the Federal Transit Administration (FTA) Sections 5310, 5316, and 5317 programs must comply with all federal coordinated planning requirements to be eligible for funds. The reauthorization stipulates that projects selected for funding under these specified programs must be derived from a locally coordinated, public transit-human services transportation plan (Coordinated Plan).

A Coordinated Plan identifies the transportation needs of individuals with disabilities, older adults, and people with low incomes, provides strategies for meeting those local needs, and prioritizes transportation services for funding and implementation. A coordinated plan should maximize the programs' collective coverage by minimizing duplication of services. Further, a coordinated plan must be developed through a process that includes representatives of public, private and non-profit transportation and human services transportation providers, and participation by members of the public. Members of the public should include representatives of the targets population(s) including individuals with disabilities, older adults, and people with low incomes. While the plan is only required in communities seeking funding under one or more of the three specified FTA programs, a Coordinated Plan should also incorporate activities offered under other programs sponsored by Federal, State and local agencies to greatly strengthen its impact.

Projects competitively selected for funding shall be derived from a coordinated plan that minimally includes the following elements at a level consistent with available resources and the complexity of the local jurisdictional environment:

1. An assessment of available services that identifies current transportation providers (public, private, and non-profit);
2. An assessment of transportation needs for individuals with disabilities, older adults, and people with low incomes. The assessment can be based on the experiences and perceptions of the planning partners or on more sophisticated data collection efforts, and gaps in service;
3. Strategies, activities and/or projects to address the identified gaps between current services and needs, as well as opportunities to improve efficiencies in service delivery;
4. Priorities for implementation based on resources (from multiple program sources), time and feasibility for implementing specific strategies and/or activities identified.

The TCTC is currently working with the California State Department of Transportation (Caltrans) and members of the targets population(s) including individuals with disabilities, older adults, and people with low incomes on developing a locally derived Coordinated Plan. The TCTC has already initiated an update to the 2006/07 RTP to be consistent with the 2007 RTP Guidelines and addendums addressing the final publication of a Coordinated Plan for Tuolumne County."

## **RAILROAD PROJECTS**

Appendix L provides a list of railroad crossing improvements proposed by the County and City of Sonora to upgrade the Sierra Northern Railway. The total estimated cost is \$750,000 which equates to approximately \$83,000 per location. The crossing improvements provide safety and multi-modal benefits. Because the California Railroad Museum leases a portion of the Northern Sierra Railroad, they should be consulted prior to project implementation.

The construction of the Northern Sierra Railroad (Coast Enterprise) museum is being considered by the TCTC. There is a recommendation to develop a Joint Powers Authority (JPA) to own and operate the museum. The TCTC desires to remain engaged in discussions concerning the JPA to ensure the railroad service remains.

## **COMMUNITY PLANS**

There are currently three community action plans that are active within Tuolumne County. They are the Draft Columbia Community Plan, the Draft Tuolumne Community Plan, and the Final Jamestown Community Plan. Within each of these documents, the community plans outline specific projects identified as priorities within each locality. Although these projects are not included as part of the RTP model or any RTP segment utilized in the analysis, they do warrant documentation within the text of the RTP.

### **Draft 2007 Columbia Master Plan**

The Draft 2007 Columbia Master Plan includes the following projects:

- Comprehensive bicycle and pedestrian facility plan with the top priority project being the Columbia (town) to Columbia College/Dondero trail (\$315K)
- Parrots Ferry Road Bypass\* (\$8.2M)
- Parrots Ferry Road, 49 to Sawmill Flat road, widen to 64 feet (\$1.5M)
- Parrots Ferry Road, Sawmill Flat Road to Airport road, widen to 52 feet (\$3.3M)
- If the Columbia bypass is built, it will reduce traffic on Parrots Ferry Road between Sawmill Flat Road and SR 49. A full discussion of the Columbia Bypass is included under Future Conditions.

### **Jamestown Community Action Plan**

In the past, there have been unsuccessful community endeavors to improve the viability of Jamestown. The Community Action Plan is intended to provide a means of achieving the desired vision of the community. The "vision statement" from the plan focuses on major public improvements to the core area of Jamestown. Included are improvements to parking facilities, pedestrian facilities, landscaping, and additional signage in the core area to identify visitor attractions and facilitate access.

The priority projects are listed below.

- Landscaping/signage improvements to Main Street (\$350,000)
- Off-street parking program to include right-of-way acquisition, environmental reporting, engineering design, surveys, and construction and contract administration (\$3.4M)
- Sidewalk restoration and repair on Main-street connecting to Rail-town (\$2.8M)

## **Tuolumne Community Plan**

The Tuolumne Community Plan is part of the Tuolumne County GP. It addresses planning issues specific to the development of the Tuolumne community and provides policies and strategies to address the unique needs of the Tuolumne Planning Area over the next 25 years. The following projects are identified in the plan for possible implementation when funding allows.

- Re-design the Carter Street-Tuolumne Road intersection to improve safety
- Install an east-bound left-turn lane into Tuolumne Square shopping center
- Add turnouts and/or passing lanes along Tuolumne Road and North Tuolumne road to reduce slowdowns due to buses and trucks
- Improve traffic circulation at the Main/Chestnut intersection
- Conduct stop warrant evaluations along Carter, Pine, Bay and Main and throughout the Central Business District (CBD)
- Improve accessibility of dead-end roads for emergency vehicles by establishing cul-de-sacs or connecting existing dead-end roads to new or existing roads (e.g., eastern Laurel, Elm and Maple streets)
- Consider connecting the existing street grid in Tuolumne to Cherry Valley Boulevard at Chestnut Avenue, Bay Avenue and Willow Avenue
- Consider the use of Bay Avenue and Chestnut Avenue to connect to Cherry Valley boulevard to alleviate traffic in the vicinity of the high pedestrian-use intersection of Bay Avenue and Main Street
- Add street signs to those streets currently without identification

## **VI. FINANCIAL ELEMENT**

The purpose of the Financial Element is to provide a summary of the projected costs of transportation facilities listed in the RTP and the revenue required to fund these facilities. This section includes a summary of the costs to implement the Action Element (Section IV), a discussion of the potential revenues available from various sources, and an analysis of potential funding alternatives to pay for RTP projects and programs. Surpluses and deficits resulting from the difference in projected revenues and planned and/or programmed expenditures are identified, along with the ramifications of implementing only those improvements that have secure funding (RTIP projects). A summary funding strategy is presented.

### **COST SUMMARY**

#### **IMPROVEMENT COSTS**

Table 24 contains a summary of the RTP improvement costs identified for roadways, bridges, public transit, rail, bicycle and pedestrian, and aviation components of the Tuolumne County transportation system. Expenditures were projected based on transportation projects programmed in the 2006 RTIP and projects planned by Tuolumne County, the City of Sonora, Tuolumne Rancheria, and Caltrans for this RTP. Three key assumptions were used in projecting expenditures. These assumptions are listed below.

- Local Transportation Fund (LTF) monies for roads are expended in the operating and maintenance category.
- Transit operating expansion will occur as the need is identified consistent with available funding. Transit capital improvements reflect construction of a bus maintenance facility and transfer point, expansion of the fleet to meet demand, and bus stop improvements.
- Expenditures are based on continued federal funding under SAFETEA-LU (i.e., RSTP, TE, HBR, etc.) at current levels, the Tuolumne County Development Traffic Impact Mitigation Fees (RTIF), and Sub-area Fee programs. Future costs are based on a three percent per year inflation factor from the Engineering News Record (ENR) for fiscal year 2005.

<b>TABLE 24</b>			
<b>RTP COST SUMMARY</b>			
<b>(1,000s)</b>			
RTP Element by Funding Source	Short-Range Improvement Cost	Long-Range Improvement Cost	Total Cost
STIP Highway Projects	\$21,428	\$44,000	\$65,428
Local Road Projects (TIF)	\$44,048	\$68,334	\$112,382
Highway Bridge Program (HBP)	\$12,352		\$12,352
Hazard Elimination and Safety (HES)	\$250	\$1,100	\$1,350
RSTP Exchange (Rail)	\$750		\$750
(TTCRIMF) and TIF	\$19,678	\$300	\$19,978
CMAQ	\$600		\$600
Subtotal RTP Projects	\$99,106	\$113,734	\$212,840
SHOPP (Caltrans)	\$11,930	\$24,588	\$36,518
Maintenance	\$80,000	\$80,000	\$160,000
Total RTP with SHOPP and Maint	<b>\$191,036</b>	<b>\$218,322</b>	<b>\$409,358</b>
Source: Tuolumne County			

Table 24 shows a total of approximately \$99 million in short-range projects and \$114 million in long-range projects (excluding SHOPP and maintenance) proposed during the life of the RTP. Total RTP costs including SHOPP and maintenance is estimated at \$191 million short-range and approximately \$218 million long-range for a total of \$409 million through 2030. The proposed STIP funded East Sonora Bypass Stage II and III represent approximately 29 percent of RTP project costs (excluding SHOPP and maintenance). The SHOPP totals include the approved 2006 SHOPP by the CTC and proposed funding in the RTP. Maintenance costs were divided equally between short-range and long-range costs. The detailed list of projects by funding source and mode are included in Appendix H-1 and H-2. The list includes several capacity increasing projects, intersection improvements, bridge replacement and deck replacement, and multi-modal improvements.

## EXPECTED REVENUES

During the development of the RTP, it is necessary to make reasonable estimates of expected revenues during the 20-year life of the Plan. Table 25 provides a summary of the anticipated revenues from federal, state, and local sources over the 20-year life of the RTP. The estimates in Table 25 are based on average annual amounts and/or reasonably anticipated funding during each STIP cycle through 2030. The following revenue sources were assumed to be available for purposes of this plan:

#### Federal Sources

- SAFETEA-LU (Reauthorization in future years)
- Transportation Enhancement (TE)
- Highway Bridge Replacement and Rehabilitation (HBRR)
- FTA Section 5311 (Non-urbanized Area Formula Program)
- Congestion Mitigation and Air Quality (CMAQ)
- Federal Highway Discretionary Programs
- Forest Reserve (Maintenance)
- Federal Aviation Administration Airport Program (AIP)
- California Aid to Airports Program (CAAP)

#### State Sources

- State Transportation Improvement Program (STIP)
- State Gas Tax
- State Highway Operation and Protection Program (SHOPP)
- Regional Surface Transportation (RSTP) Exchange Program
- Traffic Congestion Relief Program (TCRP)
- Prop 42

#### Local Sources

- Tuolumne County Developer Traffic Impact Mitigation Fee (RTIF)
- Transit Development Act (TDA) Local Transportation Fund (LTF)

Key assumptions in projecting revenues for the RTP are stated below.

- Revenues that historically have been constant and reliable are reflected through 2030 for all modes.
- Projections are based on extrapolating current STIP, RTIP and local funding revenues to the horizon year (2030)
- State revenues are expected to be available but at less than historical funding levels

If the total RTP costs from Table 24 are compared with the total revenue projections from Table 25, it is clear the County will experience an overall deficit of approximately \$133 million through 2030. Individual surpluses and short-falls by mode are discussed below.

<b>TABLE 25</b>			
<b>SUMMARY OF 20 YEAR REGIONAL TRANSPORTATION PLAN ANTICIPATED REVENUES FOR</b>			
<b>TUOLUMNE COUNTY</b>			
Revenue Category	2020 (2008-2020)	2030 (2021-2030)	Total
Sales Tax - Local Transportation Fund (LTF)	\$31,400	\$41,600	\$73,000
Developer Traffic Impact Mitigation Fees (TIF)	\$13,000	\$17,000	\$30,000
State Transportation Improvement Program (STIP)	\$55,900	\$53,600	\$109,500
Regional Surface Transportation (RSTP) Exchange Program	\$10,600	\$11,700	\$22,300
Congestion Mitigation Air Quality (CMAQ)	\$9,600	\$12,800	\$22,400
Bike/Pedestrian Projects	\$1,500	\$1,500	\$3,000
Transit	\$4,000	\$8,000	\$12,000
Aviation	\$1,200	\$1,300	\$2,500
Federal Highway Discretionary Programs (J59 Corridor Study)	\$2,000		\$2,000
<b>Total Anticipated Revenues</b>	<b>\$129,200</b>	<b>\$147,500</b>	<b>\$276,700</b>
Source: Tuolumne County Long-Range Financial Summary 3/2007			

## COMPARISON OF ROADWAY IMPROVEMENT COST TO EXPECTED REVENUES

Table 26 compares the expected costs of RTP Roadway improvements to their expected revenues. This table shows a potential surplus in STIP dollars of \$44 million over the life of the RTP. It should be cautioned that the STIP estimate is not guaranteed, and the STIP is not considered a totally reliable source of funding for future RTP projects by the TCTC or the CTC. (Note: Consistent with the RTP Guidelines, It is recommended that any additional RIP funds from the STIP be directed to the list of Tier 1a and Tier 1b projects if in fact the estimated surplus in STIP funding does become available). Roadway maintenance is estimated to have a deficit of approximately \$137 million over the life of the RTP. It should be noted that if maintenance becomes a higher priority for the County, the increased use of STIP dollars for rehabilitation purposes will mean that the highway and road deficits will most likely increase. The total deficit for highway related projects (excluding SHOPP) is approximately \$176 million by 2030. The unfunded Tier 2 projects total approximately \$158 million (unadjusted for inflation).

<b>Table 26</b>						
<b>Comparison of Cost and Revenues for Highway and Road Projects</b>						
<b>(1,000s of 2006 Dollars)</b>						
Improvement Project	Short-Range Cost	Long-Range Cost	Total Cost		Projected Funding	Surplus/ (Deficit)
	<i>Tier 1a<sup>1</sup></i>	<i>Tier 1b<sup>2</sup></i>		<i>Tier 2<sup>3</sup></i>		
STIP Funded Highway Projects	\$21,428	\$44,000	\$65,428		\$109,500	\$44,072
Local Road Projects (TIF)	\$44,048	\$68,334	\$112,382		\$30,000	(\$82,382)
HBP	\$12,352		\$12,352		\$12,352	\$0
HES	\$250	\$1,100	\$1,350		\$1,350	\$0
Local Road Projects/ Maintenance (RSTP)	\$80,000	\$80,000	\$160,000		\$22,300	(\$137,700)
SHOPP/MINOR Funded Projects	\$11,930	\$24,588	\$36,518		\$36,518	\$0
Total	\$170,008	\$218,022	\$388,030	\$157,665	\$212,020	(\$176,010)
Notes:						
(1a) Short-term projects to be built by 2020						
(1b) Long-term projects including ESB Stage III to be built by 2030						
(3) Unconstrained and unfunded projects do not count against revenue projections.						
Source: CTC; TCTC; Caltrans; Fehr & Peers 2007						

## COMPARISON OF TRANSIT COSTS AND REVENUES

Table 27 summarizes the expected costs and revenues for transit capital improvements.

<b>TABLE 27</b>					
<b>SUMMARY OF COSTS AND REVENUES FOR TRANSIT PROJECTS</b>					
<b>(\$1,000s OF 2005 DOLLARS)</b>					
Transit Improvement	Short-Range Cost	Long-Range Cost	Total Cost	Revenues	Surplus/ (Deficit)
All Projects	\$2,085	\$0	\$2,085		
Operating Assistance	\$2,500	\$7,500	\$10,000		
Total			\$12,085	\$12,085	\$0
Notes: Transit projects anticipated to be fully funded from Local Transportation Fund and/or FTA Grants					

TCTC proposes to maintain existing levels of service and to replace equipment as needed over the life of the RTP. In addition, two construction projects are proposed to build a maintenance facility and a transfer point. Full funding is anticipated by 2030.

## COMPARISON OF BIKEWAY AND PEDESTRIAN COSTS AND REVENUES

Table 28 summarizes the expected costs and revenues for bikeway and pedestrian capital improvements. The known revenue source for bike and pedestrian projects is the two percent set aside of LTF funds. Additional competitive sources may include Bicycle Transportation Account funding. The update and adoption to the 2003 Bikeways and Trail Plan will assist the County in securing BTA funds for high priority bike and pedestrian projects. Grant funding for bike and pedestrian capital projects is competitive so a potential deficit is shown. Only projects that are successful in obtaining grant funding and/or included in the 2006 RTIP will be built during the life of the RTP (by 2030)

<b>TABLE 28</b> <b>SUMMARY OF COSTS AND REVENUES FOR BIKE AND PEDESTRIAN PROJECTS</b> <b>(\$1,000s OF 2005 DOLLARS)</b>					
Improvement	Short-Range Cost	Long-Range Cost	Total Cost	Anticipated Revenues	Surplus/ <Deficit>
All Projects	\$3,104	\$45,365	\$48,469	\$3,000	(\$45,469)
Note: 2% of LTF can be used for bike projects. Deficit due to uncertainty of grant funding					

## COMPARISON OF AVIATION COSTS AND REVENUES

Table 29 summarizes the expected costs and revenues for aviation projects. The current sources of aviation funding are the Federal Airport Improvement Program (AIP) administered by the FAA, and the State of California Aid to Airports Program (CAAP). Successful competition for these competitive grants, as in the past, will reduce the shortfall to 2.6 percent of total cost.

<b>TABLE 29</b> <b>SUMMARY OF COSTS AND REVENUES FOR AVIATION PROJECTS</b> <b>(\$1,000s OF 2005 DOLLARS)</b>					
Transit Improvement	Short-Range Cost	Long-Range Cost	Total Cost	Anticipated Revenues	Surplus/ <Deficit>
All Projects			\$2,450	\$2,386	-\$64
Notes: Deficit anticipated to be zero based on historical State and Federal funding levels					

## RTP FUNDING ALTERNATIVES

The RTP guidelines and supplement require that the RTP include an analysis of system-wide alternatives for meeting Tuolumne County's future transportation needs. The 2006/07 RTP for Tuolumne County identifies key short-term (0-10 years) and long-term (11-20 years) roadway improvements for the County's regional transportation system. Funding for these projects come from various federal and state sources including RSTP, STIP, SHOPP (Major and Minor), local development impact mitigation fees and grants. The RTP also identifies a series of multi-modal projects and programs such as transit improvements, bicycle improvements, pedestrian improvements, aviation improvements and rail. However, in spite of the reauthorization of SAFETEA-LU, and the funding targets established by the CTC, the funding questions of how to spend limited funds, and on what specific projects, and what strategy to follow remain.

To help answer these questions, three potential system-wide funding strategies were considered, each with a different approach to maximizing the use of limited transportation funding. The three approaches are based on the policy discussion from Section III – Policy Element, and presentation material provided to the TCTC at a financial workshop in January 2007. The first two strategies focus on prioritizing projects based on projected funding revenues from federal and state sources, while the third strategy outlines options for increasing local revenues.

## **ALTERNATIVE 1: STATUS QUO**

This alternative represents status quo as detailed on the Long Range Financial Summary table included in Appendix M. The revenues received since 1998 are extrapolated to estimate the revenue in each category expected by 2020 and 2030. The modes of transportation that have historically received funding from each source will be assumed to receive these funds into the future.

Highway deficiencies are identified in the RTP through the analysis of existing LOS, truck volumes, and future LOS (Table 7, 11, 16) and accident rates (Table 9). Under this alternative, no new local road projects are funded beyond the approved RTIP. This would potentially eliminate consideration of the North-South connector and/or the Columbia Bypass. The use of STIP dollars for local road rehabilitation, reconstruction, or replacement would be very limited. Transit would not improve significantly. The majority of pedestrian and bicycle projects would rely on competitive grant funding at the federal and state level or not be funded at all.

The Status Quo will not achieve the goals and policies and LOS criteria of the General Plan. Traffic volumes would continue to increase due to local and regional development, as well as continued increases in recreational and tourist traffic. The County would experience lower LOS conditions than proposed in the GP and higher delays on the roadway system. RTP projects would be selected and prioritized on the basis of available revenue and providing the greatest improvement in traffic operating conditions and safety. Overall system improvements for mobility and accessibility would be very limited.

Cost estimations utilized in the RTP are based on engineering judgments and allocations of Joint Costs. Allocations of cost from existing Caltrans bids were used to develop a cost function of RTP transportation projects. The basic idea in this method is that each expenditure item can be matched to particular characteristics of the plan. For proposed construction projects in the RTP, basic costs were classified according to (1) labor, (2) material, (3) construction equipment, (4) construction supervision, (5) property/right-of-way acquisition, and (6) general office overhead costs. These basic costs are then allocated proportionally to various tasks, which are subdivisions of a project to formulate a projected future cost.

Table 26 compares the projected short-range and long-range costs from Table 24 with the projected revenues from Table 25. As Table 26 shows, there is a surplus of approximately \$44 million in STIP dollars that may or may not actually be realized. However, if it is, the STIP surplus can be applied to help offset the local road deficit of approximately \$82 million in RTIF funded projects. This would still leave a deficit of approximately \$34 million. To cover the deficit, some RTP projects will have to be eliminated. In addition, there is a \$133 million deficit for road maintenance that will remain under the "Status Quo" approach.

## **ALTERNATIVE 2: ROAD EMPHASIS**

In this alternative, all funding that is required to be directed toward certain uses continues to be directed as such (bridges, SHOPP, safety, etc.). The big difference in this alternative is that all anticipated revenues from the Regional Improvement Program (RIP) shares beginning in the 2014 STIP are programmed to Arterial Collector road maintenance and operation of the City and County. This would represent a major benefit of about \$3.5 million annually to local road maintenance programs consistent with stated goals of local elected officials. However, it is unknown whether the State will allow these funds to be programmed to local road maintenance until all capacity increasing projects on the State highway system are funded.

Alternative 2 also proposes to fund capacity improvements on the collector road system with RTIF and increased visitor taxes to cover the cost burden caused by interregional travelers. Although it is unknown at this time how much impact fees would need to be increased in this alternative, counties that use this financial approach typically have traffic impact fees in the \$20,000 - \$30,000 per housing unit. Appendix U provides a summary of relevant fee programs from various jurisdictions. Tuolumne County is has one of the lowest fee programs from the jurisdictions surveyed and does not fully fund the GP circulation element capacity expansion necessary to maintain desired LOS. The rationale for funding local capacity from the RTIF is that development and tourist traffic pays its own way, while public funds are prioritized for system preservation. Tuolumne County is aware that project costs for many of the road projects in the 1996 RTP have increased by 372 percent in current 2006 dollars. Increasing the RTIF 372 percent would be difficult at best.

Other potential sources of revenue to help pay for Alternative 2 include the following:

- Sales tax increase (one percent already rejected in 1986)
- Local gas tax increase (five percent suggested)
- Transient occupancy tax (one percent county-wide)
- Utility tax (one to four percent)
- Vehicle miles traveled (VMT) tax (0.3 cent per mile)
- Parcel tax (\$100 per parcel)
- Toll roads (\$1.00 per vehicle eastbound on SR 108 west of Tulloch Road)

Some of these alternative sources would require a public vote and 2/3 approval or legislative action if revenue is dedicated for transportation projects. While this requirement has been difficult to meet by most rural counties in the past, the future funding picture has never been clearer. Without additional revenue sources, Tuolumne County will not be able to deliver significant new transportation improvements during the life of the RTP. Consequently, travel demand will continue to increase with local and regional growth causing greater levels of congestion and delay, unless travel demand is reduced.

### **ALTERNATIVE 3: INCREASE REGIONAL TRAFFIC IMPACT FEE TO PAY FOR LOCAL CAPACITY**

As with the previous alternative, all restricted fund sources will continue to be directed to required uses. All revenues from the STIP (RIP and IIP) will continue to be programmed to capacity increasing projects on the State Highway System. The RTIF revenues will continue to be used as adopted by ordinance. However, with the recognition that STIP revenues are inadequate to fully fund needed local capacity increasing projects, the unfunded need for these local projects will be covered by increased development impact traffic mitigation fees. The rationale for this alternative is that the STIP covers the burden caused by interregional travelers and development impact fees cover the cost burden imposed by local development projects. Capacity increasing projects on the county and city arterial/collector road systems would be paid for by increases in the development impact traffic mitigation fee program. The most recent estimates of costs show that RTIF funded project costs have increased by approximately 372 percent. Local road maintenance programs would be enhanced through implementation of Permanent Road Divisions Assessment Districts (PRDAD) and other financing instruments utilized by other counties and cities.

Table 26 shows an estimated deficit of \$156 million for Tier 2 (unfunded) capacity projects. These projects are desired by the County and local jurisdictions to help meet GP LOS thresholds. In order to fully fund this amount from the RTIF, the fee would have to be increased to approximately \$10,100 per dwelling unit. This fee represents a 284 percent increase over the current RTIF of \$2,630. The RTP update does not provide enough information to legally update

the RTIF program, but only provides estimates of potential impact fee levels under the different financial alternatives.

## **FINANCIAL RECOMMENDATION**

It is evident from the financial summary that the current STIP funding projections and projected RTIF revenues over 20 years are not adequate to cover the cost of existing and future transportation needs in the County given current LOS policy thresholds. The TCTC is therefore at an important milestone concerning the appropriate actions to achieve both general plan and RTP transportation goals and policies. The County can continue to rely on questionable STIP funding and modest levels of RTIF revenues to improve the transportation system, or they can take consider more aggressive steps to bring about a paradigm shift in the way transportation investment is accomplished. What is clear from the financial summary is that continuing the "status quo" approach will not meet the existing or future transportation needs in the County.

In developing a system-wide financial strategy based on Alternatives 2 and 3, the TCTC should consider the following actions and/or concepts:

Accept lower levels of LOS where the reduction in traffic volumes clearly outweighs the environmental and funding implications. A change in GP policies to allow LOS C, D, or E in highly congested areas would be necessary to reduce the number of deficient roadways

Limit the number of bypasses and/or road widening consistent with new LOS targets. The RTP analysis of bypass alternatives (Columbia, Me-wuk Long-Barn Expressway) did not show a significant need for the projects during the life of this RTP.

Require new developments to pay for their share of additional impacts to the system. This probably means a significant increase in the RTIF to help cover funding shortfalls for local capacity

Continue to aggressively pursue through the CTC and legislature additional local and state funding sources, especially for maintenance needs

Where possible, expand the use of TDM, TSM, and ITS alternatives to achieve RTP goals and policies

## **VI. ENVIRONMENTAL ASSESSMENT**

"The Tuolumne County Transportation Council (TCTC) has determined that a program level Environmental Impact Report (EIR) should be prepared for the Tuolumne County 2006/2007 Regional Transportation Plan (RTP). The project, as defined by CEQA Statutes, Section 21065, is the preparation of the 2006/2007 revision of the 1996 Regional Transportation Plan (RTP).

Guidelines § 15168 as an EIR that examines the environmental impacts of a series of actions that can be characterized as one large project and are related either: (1) geographically, (2) as logical parts in the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The TCTC has sought the assistance of Stantec Consulting, Inc. to evaluate the environmental effects of the RTP and to present the results in a program-level EIR. The program-level EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) statutes and guidelines. This is an informational document intended to inform the public, decision makers, responsible or interested agencies and the general public of the potential environmental effects of the proposed project. The EIR also identifies where applicable, mitigation measures that can be implemented to reduce or avoid the potential adverse environmental effects. CEQA requires that major consideration be given to avoiding adverse environmental effects. The lead agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including the economic and social benefits of a proposed project, in determining whether a proposed project should be approved.

Section 15123 (b) (1) of the Guidelines for Implementation of the California Environmental Quality Act (State of CEQA Guidelines) provides that the DRTP EIR shall identify and summarize each significant effect with proposed mitigation measures that would reduce or avoid that effect. This information is summarized in Appendix X, Table S-1, Summary of Impacts and Mitigation Measures. The EIR analyzes the Regional Transportation Plan's effects on the following environmental issue areas:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Hazards & Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing/Employment
- Public Services/Utilities
- Recreation
- Transportation/Circulation
- Global Climate Change

The mitigation measure evaluation is organized within the EIR by environmental issue area. Each issue contains a section describing the following:

- **Criteria for Significance** - The standard by which impacts are measured or the threshold of significance.
- **Impact** - A description of each impact associated with an environmental issue area. Each impact will be listed by number for future reference.
- **Mitigation Measures** - A description of the measure to reduce or avoid a significant impact.
- **Significance After Mitigation** - A statement indicating whether the mitigation measure will reduce an impact to a level less than significant.

The 2006/07 RTP EIR is a separate document and is available for public review at the Tuolumne County Transportation Council office, local libraries, and via the internet. The TCTC office is located at 2 South Green Street, Sonora, California 95370 and is open during regular business hours."