

STATE ROUTE 49

REALIGNMENT STUDY



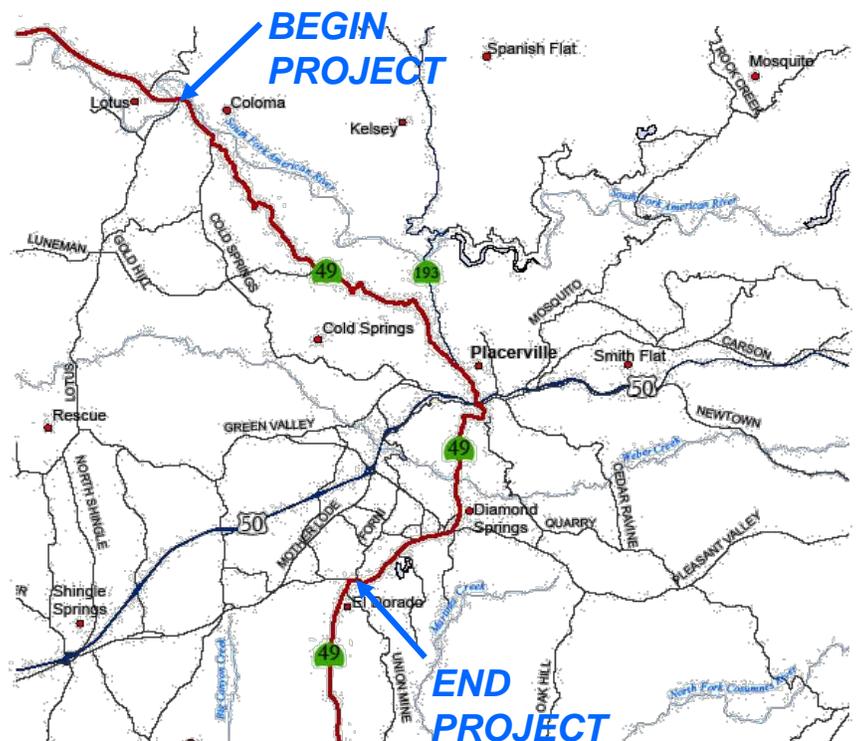
May 6, 2010

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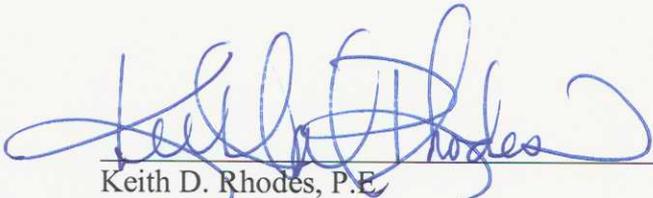
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TYLIN INTERNATIONAL



STATE ROUTE 49 REALIGNMENT STUDY

This State Route 49 Realignment Study has been prepared under the direction of the following Registered Engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.



Keith D. Rhodes, P.E.
Project Manager

5/6/10

Date



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EXECUTIVE SUMMARY

On January 10, 2008, El Dorado County Transportation Commission (EDCTC) submitted an application to Caltrans for a 2008/2009 Partnership Planning Grant to fund the State Route 49 (SR 49) Realignment Study from Coloma to El Dorado. On August 29, 2008, Caltrans notified EDCTC that the SR 49 Realignment Study had been selected for funding in Fiscal Year 2008/2009.

The SR 49 Realignment Study is a preliminary Project Initiation Document (PID), essentially a feasibility study that recommends three feasible alternative alignments based upon their ability to meet the project goals and objectives. The geographic limits of the study are from the intersection of SR 49 with Lotus Road in the town of Coloma to the intersection of SR 49 with Pleasant Valley Road in the town of El Dorado in El Dorado County. SR 49, also known as the Golden Chain Highway, passes through many historic mining communities within the geographic limits of the study, including the towns of El Dorado and Diamond Springs, the City of Placerville, and the town of Coloma. Per Streets and Highways Code 263, SR 49 between the town of Coloma and the town of El Dorado is eligible to be nominated for official designation as a State Scenic Highway.

The primary goals of the project are: 1) eliminate the at-grade intersection of SR 49 and U.S. 50 and the existing alignment of SR 49 through Marshall Gold Discovery State Historic Park (MGDSHP); 2) relieve SR 49 traffic impacts to densely populated residential areas and business districts of the City of Placerville and town of Diamond Springs; and 3) improve the safe and efficient transport of goods and people while maximizing the utilization of existing local roads to achieve improved conditions in the corridor in the most cost effective manner possible.

The purpose of the study is to demonstrate that there are feasible transportation solutions that fulfill the project goals and objectives, not to establish all possible alternatives that may satisfy the goals and objectives of the project. Therefore, the alternatives considered in this study are provisional rather than conclusive and are not intended to limit other alternatives from being considered in a future Project Initiation Document (PID), such as a Project Study Report (PSR). In addition to identifying possible alternatives that may satisfy the purpose and need of the project, infeasible alternatives were also identified so that the alternatives studied in a PSR can focus on those alternatives that are potentially feasible as recognized in this study.

Public involvement and outreach were major components of the State Route 49 Realignment Study. In an effort to involve a broad range of potentially affected interests, EDCTC ratified 22 groups/entities on February 5, April 2, and June 4, 2009, as members of the SR 49 Realignment Study Stakeholder Advisory Committee (SAC). The purpose of the SAC was to provide both policy and technical guidance to the EDCTC during the development of the SR 49 Realignment Study. The project scope of work included six SAC meetings and two public open houses.

Following the February and March 2009 SAC meetings and April 2009 Public Open House, 52 alternative alignments were submitted to EDCTC for evaluation during the Level 1, Intermediate Level 1, and Level 2 Screening processes. The 52 potential alternative alignments were evaluated during the Level 1 Screening based on how well each alternative met the project purpose and need and its constructability and operational feasibility. Alternatives were scored on a basic "Yes" or "No" scoring.

The results of Level 1 Screening recommended 10 alternatives for advancement to the Intermediate Level 1 Screening. The goal of the Intermediate Level 1 Screening was to determine which three out of the 10 alternatives would best result in satisfying the project purpose and need when compared to one another. The 10 alternatives were evaluated on how well they met the purpose and need and were scored from one to four (weighted) according to the following point system:

- 1 = No improvement or unacceptable impact
- 2 = Marginal improvement or high impact
- 3 = Acceptable improvement or moderate impact
- 4 = Substantial improvement or low impact

The results of the Intermediate Level 1 Screening recommended the following three Alternative Alignments for advancement to Level 2 Screening:

- ▣ **Alternative 3E:** Begin at Lotus Road/State Route (SR) 49 Intersection. Lotus Road to Green Valley Road, Green Valley Road to Missouri Flat Road, Missouri Flat Road to SR 49 (Pleasant Valley Road), SR 49 to El Dorado.
- ▣ **Alternative 5G:** Begin at Lotus Road/SR 49 Intersection. Lotus Road to Gold Hill Road, Gold Hill Road to Cold Springs Road, Cold Springs Road to Pierroz Road, Pierroz Road to Placerville Drive, Placerville Drive to Ray Lawyer Drive, Ray Lawyer Drive to the proposed Ray Lawyer Drive Extension, Ray Lawyer Drive Extension to SR 49, SR 49 to the proposed Diamond Springs Parkway, Diamond Springs Parkway to Missouri Flat Road, Missouri Flat Road to SR 49 (Pleasant Valley Road), SR 49 to El Dorado.
- ▣ **Alternative 5H:** Begin at Lotus Road/SR 49 Intersection. Lotus Road to Gold Hill Road, Gold Hill Road to Cold Springs Road, Cold Springs Road to Pierroz Road, Pierroz Road to Placerville Drive, Placerville Drive to Ray Lawyer Drive, Ray Lawyer Drive to US 50 via the proposed Ray Lawyer Drive Interchange, US 50 to Missouri Flat Road (Missouri Flat Interchange), Missouri Flat Road to SR 49 (Pleasant Valley Road), SR 49 to El Dorado.

Figures ES.1, ES.2, and ES.3 illustrate Alternatives 3E, 5G, and 5H, respectively. Alternatives 3E, 5G, and 5H were then evaluated in the Level 2 Screening based how well they met transportation goals, such as safety, mobility, accessibility, and multi-modal opportunities, as well as their responsiveness to environmental goals, such as noise, cultural resources, land use, planning, biological resources, and air quality. The alternatives were then scored from one to four (non-weighted) using the same point system used in the Intermediate Level 1 Screening.

The Level 2 Screening resulted in the following ranking of the three alternatives and their associated estimated construction cost. Cost was a non-criterion, but was determined for informational purposes.

1. Alternative 5H – \$23.6 million
2. Alternative 3E – \$17.4 million
3. Alternative 5G – \$28.7 million

The results of the Level 1, Intermediate Level 1, and Level 2 Screening processes were presented to the public at Open House #2 on October 14, 2009. The purpose of the Open House was to provide an overview of the study process and present key highlights from the SR 49

Realignment Study, including the project's history, schedule, and alternatives evaluated. Attendees had the opportunity to discuss the project with Project Team members from Caltrans, El Dorado County Department of Transportation, El Dorado Transit, California State Parks, EDCTC, and the project consultant.

An overview of the study and the results of the Level 1, Intermediate Level 1, and Level 2 Screening processes were presented to the EDCTC Commissioners on November 4, 2009 and Placerville City Council on December 14, 2009.

Based on comments received during the six SAC meetings, the two Open Houses, the EDCTC Commissioners meeting, and Placerville City Council meeting, the Draft SR 49 Realignment Study was prepared and presented to the EDCTC Commissioners in February 2010. The Final SR 49 Realignment Study was presented to the EDCTC Commissioners in March 2010.

While funding for the ultimately selected alignment may become available for a complete project that addresses all roadway improvements identified in this and subsequent analyses, the EDCTC and Caltrans may identify funding sources that will allow increments of the total project to be constructed in segments with independent utility. The EDCTC, in cooperation with Caltrans, will prioritize and analyze the incremental segments of the project as independent elements of the project-wide impact analysis documents to facilitate the rapid development of key safety and circulation improvements as funding sources are identified.

The “next steps” in this project development effort will be to secure funding for the preparation of a Project Initiation Document (PID). The use of State funds for capital improvements on the State Highway System (SHS) requires a Caltrans approved PID.

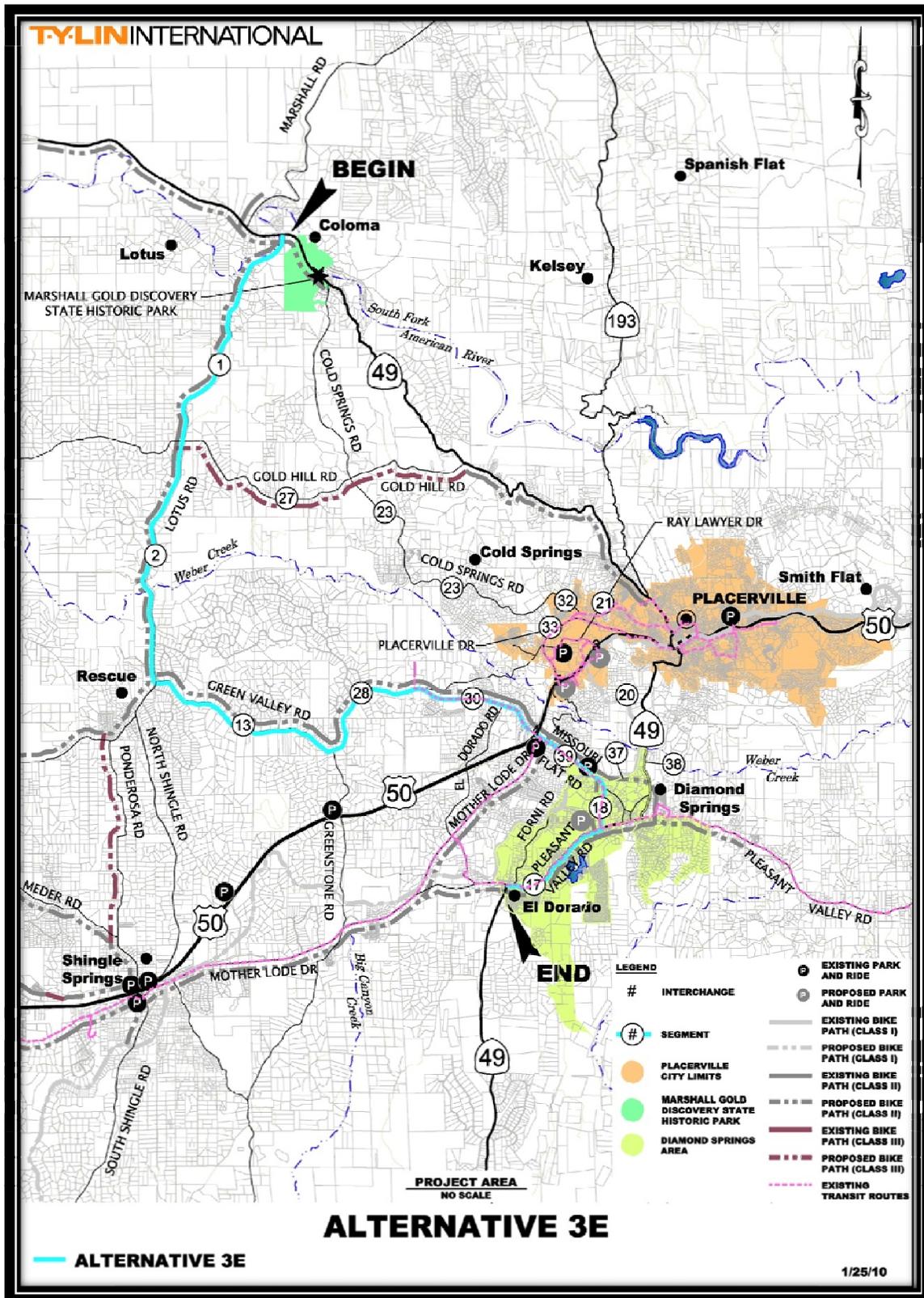


Figure ES.1 – Alternative 3E

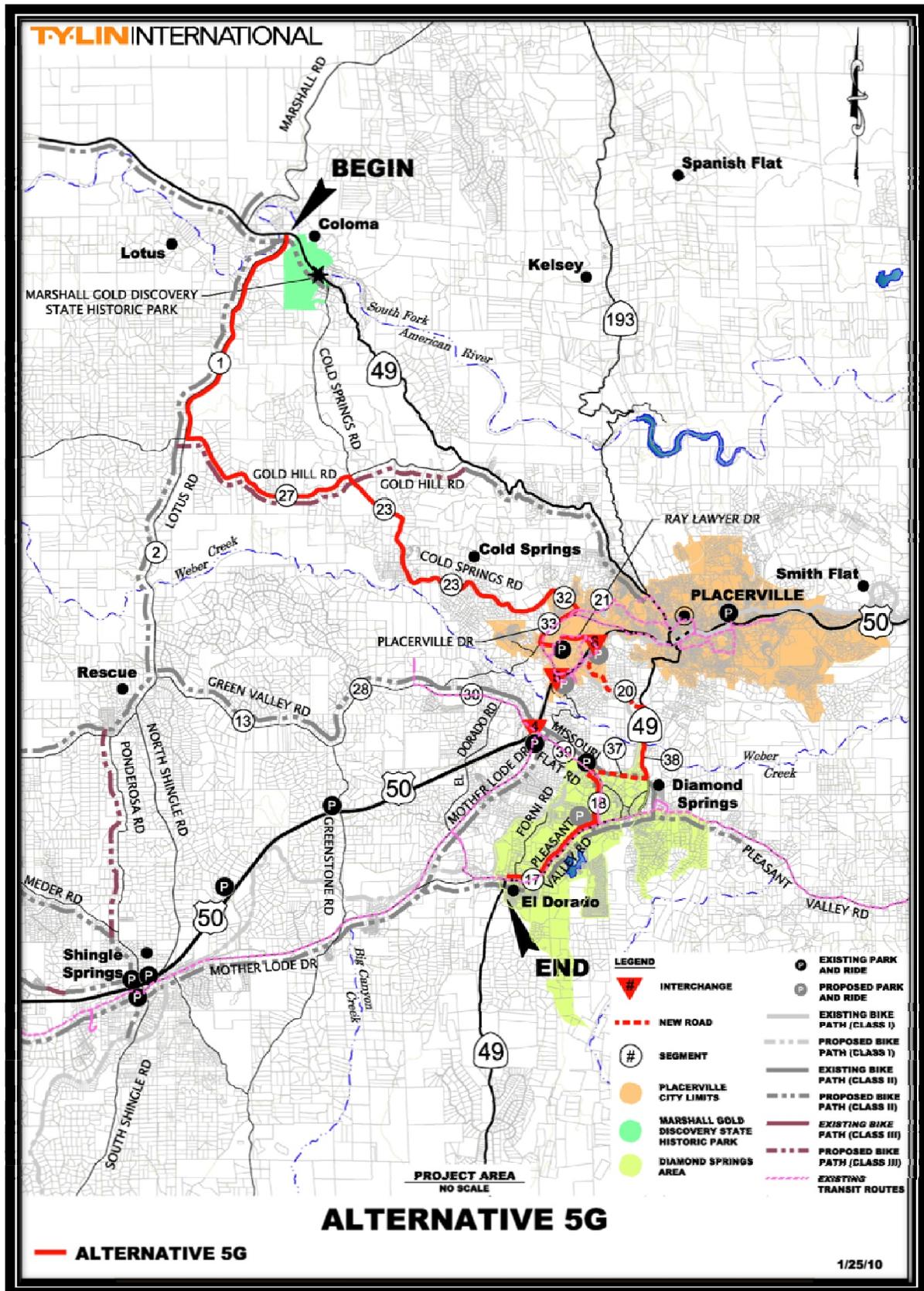


Figure ES.2 – Alternative 5G

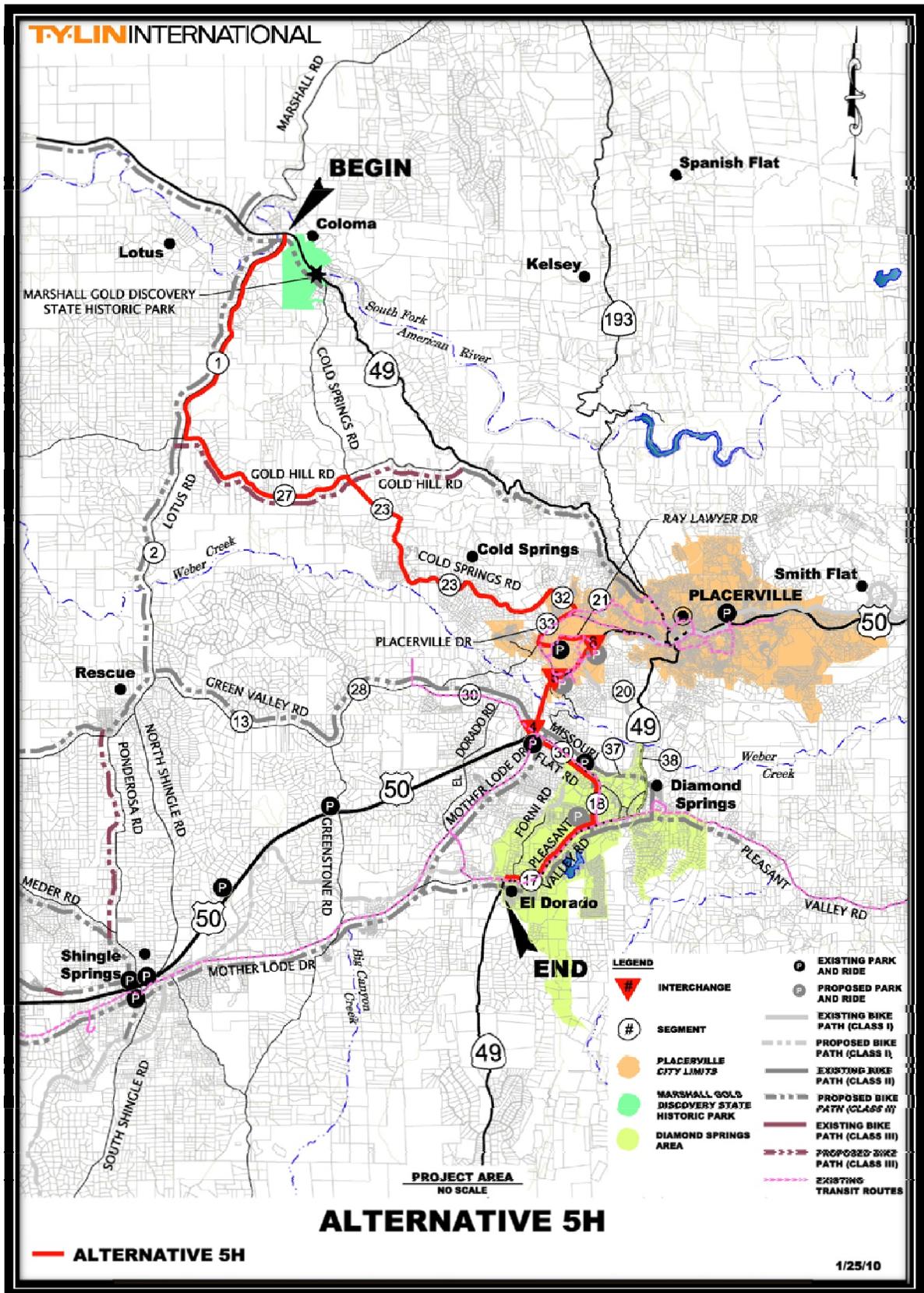


Figure ES.3 – Alternative 5H

STATE ROUTE 49 REALIGNMENT STUDY

1. INTRODUCTION

The El Dorado County Transportation Commission (EDCTC) is the Regional Transportation Planning Agency (RTPA) for El Dorado County. EDCTC represents the regional transportation planning interests and is responsible for coordinating regional transportation for the western slope of El Dorado County and the City of Placerville.

In August 2008, Caltrans awarded the EDCTC a Partnership Planning Grant as the lead agency for the development of the State Route 49 (SR 49) Realignment Study. The SR 49 Realignment Study is a feasibility study to explore a variety of alternatives that realign SR 49 from the intersection of SR 49 with Lotus Road in the town of Coloma to the intersection of SR 49 with Pleasant Valley Road in the town of El Dorado in El Dorado County. The project area also includes U.S. 50 within the project limits and all significant local roadways and trails. The SR 49 Realignment Study explores alternative alignments of SR 49 between Coloma and El Dorado that will:

- ▣ Improve interregional and regional conditions on the state and regional transportation system by improving traffic operations.
- ▣ Improve the safe and efficient transport of goods and people (i.e. tourists and local traffic) along SR 49 from Coloma to the community of El Dorado while minimizing impacts to historic, cultural, and natural resources.
- ▣ Examine alternatives that eliminate the existing at-grade intersection of SR 49 and U.S. 50 and the alignment of SR 49 through Marshall Gold Discovery State Historic Park.
- ▣ Explore alternatives that relieve SR 49 traffic impacts to densely populated residential areas and business districts of the City of Placerville and town of Diamond Springs.
- ▣ Reduce travel times within the corridor and the total vehicle-hours traveled during peak commute times.
- ▣ Consider and analyze land uses identified in the City of Placerville and El Dorado County General Plans to ensure that potential new alignments are compatible with planned zoning and land uses in the project area.
- ▣ Consider how potential new alignments may affect jobs, corridor demographics, population growth and distribution projections, as well as current and future traffic demand and transportation needs.
- ▣ Evaluate the utilization of existing local roads, which may reduce the amount of resources required to achieve improved conditions in the corridor.
- ▣ Consider alternatives that maximize bicycle, pedestrian, and transit opportunities; contribute to the remedy for current and future deficiencies in transportation safety in the corridor; and maintain a context sensitive solutions approach to local and interregional transportation issues.

The SR 49 Realignment Study demonstrates three viable build alternatives that satisfy the purpose and need of the project. These alternatives range in cost from \$17.4 million to \$28.7 million for construction only. These costs are preliminary estimates for planning purposes and will be further refined in a PSR.

The anticipated Caltrans Project Development Category for this project is Category 2A. It may require modification of existing access control, reconstruction of existing intersections and local roads, acquisition of new rights of way, and a California Transportation Commission (CTC) approved route adoption, but will not require a Freeway Agreement or Controlled Access Highway Agreement.

Finally, the SR 49 Realignment Study does not guarantee a future project, but provides an opportunity for Caltrans, governing local agencies, and residents of El Dorado County to initiate, in a cooperative effort, the evaluation of a future project that meets the goals and objectives of the County's transportation needs.

2. BACKGROUND

SR 49 is the main north-south arterial connecting El Dorado County and the other "Mother Lode" Counties in the Sierra Foothills. SR 49, also known as the Golden Chain Highway, passes through many historic mining communities within the geographic limits of the study, including the towns of El Dorado and Diamond Springs, the City of Placerville, and the town of Coloma. Per Streets and Highways Code 263, SR 49 between the town of Coloma and the town of El Dorado is eligible to be nominated for official designation as a State Scenic Highway.

As the major transportation link between commercial centers, residential areas, and the county seat, it has been crucial to the economy of the region since before California statehood. While the current major traffic flows in the region are east-west, there is a sizable and growing north-south travel demand created by economic growth in the region, increased interregional commerce, and increased recreational activity. SR 49 is the key link--and in many cases the only link--serving these activities. According to the Caltrans SR 49 Transportation Concept Report (TCR), the growing congestion on SR 49 is beginning to have spillover impacts on other elements of the El Dorado County road system, as traffic diverts to avoid congestion. However, others believe that spillover impacts are not a result of SR 49 congestion, but due to travelers utilizing more direct routes to local destinations.

The location and present state of the current alignment of SR 49 between Coloma and El Dorado, along with increased traffic demand due to growth in the county, growth in interregional commerce, and significant increases in recreational use of the area, have resulted in impaired traffic operations and inefficient movement of people, goods, and services. The present alignment of SR 49 routes local, regional, and interregional commercial traffic through densely populated residential areas and the business districts of the City of Placerville and the towns of Coloma, Diamond Springs, and El Dorado. The physical alignment of SR 49 has changed little over the last 100-plus years. The route in its present state has numerous short radius curves, switchbacks, and a considerable number of grades in excess of 7%. In addition to the alignment being very poor and inadequate for modern transportation demands, narrow roadway widths, limited passing opportunities, and heavy volumes of logging trucks and recreational vehicles degrade traffic operations and safety. The basic width of the traveled way is only 18 feet and there are few usable shoulders. From Placerville to Marshall Road, SR 49 is a conventional two-lane highway.

From the El Dorado County/Placer County line in the north, the current alignment of SR 49 climbs out of the American River canyon and winds south through the town of Cool and

Marshall Gold Discovery State Historic Park in Coloma before reaching the City of Placerville, where SR 49 makes an at-grade intersection with U.S. 50. After crossing U.S. 50 and passing through downtown Placerville, the route heads south, crossing Weber Creek, and then west through the towns of Diamond Springs and El Dorado. From El Dorado, SR 49 turns south, crossing the Cosumnes River and continuing to the El Dorado County/Amador County line.

Through the towns of El Dorado and Diamond Springs, SR 49 provides access to residential development with signalization and left turn pockets. Within the towns of El Dorado and Diamond Springs are numerous at-grade crossings and driveways. Commercial establishments built very close to the roadway and on street parking contribute to the narrowness of the roadway and limit the ability to widen it. In the town of Diamond Springs, SR 49 makes a left turn onto Diamond Road and continues north towards Placerville. During the afternoon peak traffic hour, the queue of cars can reach 1/2 mile at Diamond Road. As a result, drivers have difficulty turning onto SR 49 and resort to taking circuitous routes around town to avoid this intersection. Although zoned primarily for rural residential use, the towns of El Dorado and Diamond Springs are experiencing a substantial increase in low to medium density residential development. Population growth along this segment is expected to continue with high-density residential, industrial, and commercial land uses becoming more common. According to the Caltrans SR 49 Transportation Concept Report (TCR), existing roadway is quite narrow and is built along unstable hills in many areas.

As SR 49 approaches the City of Placerville, the alignment becomes increasingly winding, with speed advisories as low as 15 mph, with few shoulders and numerous driveway accesses. Commuters use the roadway in large part to reach U.S. 50, while substantial amounts of recreational traffic use the roadway to reach wineries, historical locations, parks, ski resorts, and other locations in the “Gold Country” along the Sierra Nevada foothills.

SR 49 through the City of Placerville is the western border of its downtown area. As a city street within the city limits of Placerville, SR 49 is a narrow, heavily traveled, winding urban street that courses through town on Sacramento Street, heads northwest on Pacific Street, heads west for a very short distance on Main Street, then continues north on Spring Street, where it crosses U.S. 50, and finally continues northwesterly on Coloma Street. Visibility is hindered due to rugged terrain, the winding nature of the alignment, the notably heavy amount of traffic this segment carries, and on-street parking in some areas. As a city street, there are numerous signalized intersections, side streets, and driveways on this segment, which also has no shoulders. The intersection of SR 49 and U.S. 50 regularly experiences long delays, blocking nearby streets and intersections. According to the Caltrans SR 49 TCR, the Department of Finance asserts the El Dorado County’s population is projected to increase by 76% by the year 2015, with a large percentage of this growth occurring in the Placerville area. This segment of SR 49 passes through the City of Placerville’s central business district, where land use is commercial and medium-density residential. Placerville is the county seat for El Dorado County, and is a major commercial and tourism focus.

SR 49 north of Placerville is narrow, has minimal shoulders, and winds its way through hilly terrain from the City of Placerville northwest to Gold Hill, through the small historic

community of Coloma, then north through Cool. Coloma is home to Marshall Gold Discovery State Historic Park, site of the discovery of gold in 1848, and the park is bisected by SR 49.

3. THE PROJECT PROCESS

The development of the SR 49 Realignment Study was divided into three distinct phases:

- ▣ Phase 1 – Purpose and Need/Screening Criteria
- ▣ Phase 2 – Alternative Analysis
- ▣ Phase 3 – Documentation

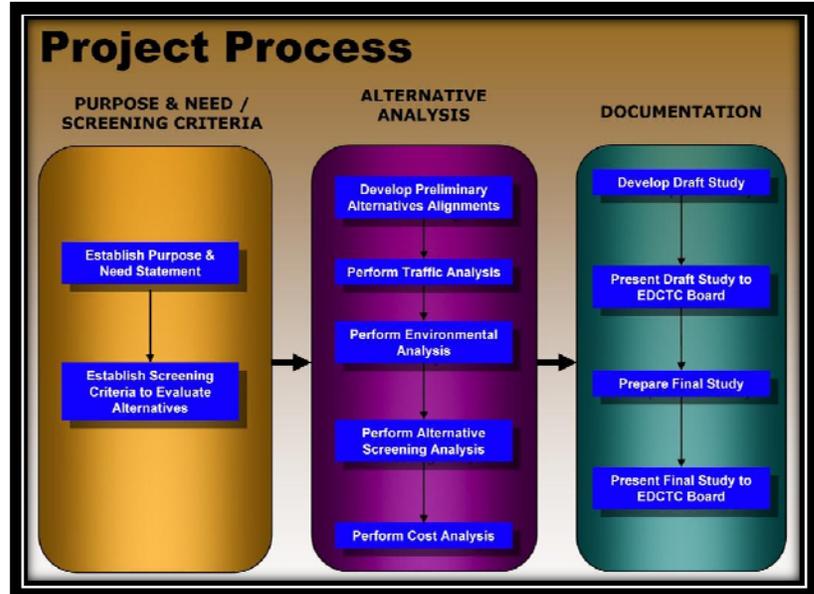
Phase 1 – Purpose and Need/Screening Criteria:

Phase 1 involved the establishment of the project purpose and need and screening criteria. The project purpose and need is the foundation by which all alternatives were developed and measured. Therefore, public input during this phase was critical to ensure early public comment on the development of the purpose and need and influence the direction of the project. The public, as well as the Project Development Team (PDT), also had the opportunity to comment on the screening criteria, which were established based on the agreed purpose and need.

Phase 2 – Alternative Analysis:

Phase 2 involved the development and screening of alternatives. Public input was also solicited to obtain additional insight on potential alternatives that may best satisfy the project purpose and need.

Following the development of the preliminary alternatives, each alternative was evaluated against the screening criteria established in Phase 1 to determine three feasible alternatives for recommendation for further evaluation. A traffic analysis and environmental constraints analysis was performed on the three recommended alternatives. In addition, a preliminary cost estimate was developed for the three recommended alternatives.



Phase 3 – Documentation:

Phase 3 involved preparing the SR 49 Realignment Study to document the project process. In addition, presentations to the EDCTC Commissioners, El Dorado County Board of Supervisors, and Placerville City Council were conducted during this phase.

4. NEED AND PURPOSE

The following project purpose and need was developed through consultation with the Project Development Team (PDT) and the Stakeholder Advisory Committee (SAC) and feedback received during the April 30, 2009 Public Open House:

SR 49 provides a regional and interregional route for the movement of goods and people within El Dorado County. The purpose of the SR 49 Realignment Study is to evaluate potential alternative alignments for the safe and efficient transport of goods and people (i.e. tourists and local traffic) along SR 49, from Coloma to the community of El Dorado, while minimizing impacts to historic, cultural, and natural resources.

The study is needed to evaluate potential alignments that will eliminate the existing alignment of SR 49 through Marshall Gold Discovery State Historic Park and the at-grade intersection of SR 49 and U.S. 50. The study will respond to current and projected regional and local traffic demand on the state and local road systems along SR 49 and U.S. 50, especially through densely populated residential areas and the business districts of the City of Placerville and the communities of Coloma, Diamond Springs, and El Dorado. The sharp curves and steep grades of the existing alignment within the study area, in conjunction with the commercial, regional, and local traffic, are not adequate for modern transportation demands, resulting in congestion and reduced traffic safety for vehicle, bicycle, and pedestrian travel. The study will focus on the use of existing roads to reduce the amount of resources necessary to achieve improved conditions in the SR 49 corridor and support the adopted general plans of El Dorado County, City of Placerville, and the Marshall Gold Discovery State Historic Park.

Key Project Goals

- ▣ Improve interregional and regional conditions on the state and regional transportation system by improving traffic operations.
- ▣ Explore alternatives that relieve SR 49 traffic impacts to densely populated residential areas and business districts of the City of Placerville and the towns of El Dorado and Diamond Springs.
- ▣ Reduce travel times within the corridor and the total vehicle-hours traveled during peak commute times.
- ▣ Consider and analyze land uses identified in the City of Placerville, El Dorado County, and Marshall Gold Discovery State Historic Park General Plans to ensure that potential new alignments are compatible with planned zoning and land uses in the project area.
- ▣ Consider how potential new alignments may affect jobs, corridor demographics, population growth and distribution projections, as well as current and future traffic demand and transportation needs.
- ▣ Consider alternatives that maximize bicycle, pedestrian, and transit opportunities; contribute to the remedy for current and future deficiencies in transportation safety in the corridor; and maintain a context sensitive solutions approach to local and interregional transportation issues.

5. ALTERNATIVES

5.1 Design Criteria

A Design Criteria Memorandum (DCM) was prepared (see Attachment G) that presents a range of design criteria that was used when analyzing alternative alignments. The proposed design criteria were used to assist in estimating costs and evaluating alternatives.

The design criteria were collected from the following three sources:

1. El Dorado County Highway Design Manual (Local Agency Standards)
2. Caltrans Design Information Bulletin (DIB) 79-03 “Design Guidance and Standards for Roadway Rehabilitation Projects” (State Agency Standards)
3. Caltrans Highway Design Manual (State Agency Standards)

The SR 49 Transportation Concept Report (TCR) provides useful information that guided the geometric design criteria identified in the DCM. The SR 49 TCR is a Caltrans prepared long-term planning document that evaluates the conditions of SR 49 and establishes a concept of what SR 49 should look like at the end of a twenty-year planning period. Figures 5.1 and 5.2 summarize the functional classification and design designation of the project limits of SR 49 as identified in the SR 49 TCR. The design designation represents the basic factors that control the design of a given highway. Highway features, such as design speed, are influenced principally by the character of terrain, economic considerations, environmental factors, type and anticipated volume of traffic, functional classification of the highway, and whether the area is rural or urban.

Figure 5.3 highlights three major components of the basic design criteria used in the analysis of alternatives for this study – design speed, typical cross section width, and right of way width. The El Dorado County Highway Design Manual, Caltrans DIB 79-03, and Caltrans Highway Design Manual were then used to identify the corresponding standards.

Figure 5.4 illustrates the proposed typical section for SR 49.

Figure 5.1 – Functional Classification

State Route 49		
Designation	Classification	Terrain
Conventional Highway	Rural/Urban ⁽¹⁾	Rolling

⁽¹⁾ The project area is mostly rural. However, there are sections of urban classification including the areas within the city limits of Placerville, El Dorado, and Diamond Springs.

Figure 5.2 – Design Designation

State Route 49 (Sources: SR 49 TCR, September 2000 ; HDM)			
	TCR Segment 2 ⁽⁸⁾	TCR Segment 3 ⁽⁹⁾	TCR Segment 4 ⁽¹⁰⁾
ADT (2010) ⁽¹⁾	16616	32340	7396
ADT (2030) ⁽²⁾	23522	76623	17865
DHV ⁽³⁾	3528	11493	2680
Truck % (T) ⁽⁴⁾	6%	6%	10%
Directional Split (D) ⁽⁵⁾	55%	55%	64%
LOS ⁽⁶⁾	E	F	E
Concept LOS ⁽⁷⁾	E	F	E

- ⁽¹⁾ ADT (2010) – The average daily traffic, in number of vehicles, for the construction year.
- ⁽²⁾ ADT (2030) – The average daily traffic for the future year used as a target in design. ADT values for the year 2030 are projected based on an annual 5% traffic growth as identified in the TCR.
- ⁽³⁾ DHV – The two-way design hourly volume of vehicles. DHV calculated using 0.15*ADT. DHV is used to determine the number of lanes required for a highway facility based on a desired Level of Services (LOS).
- ⁽⁴⁾ T – The truck traffic volume expressed as a percent of the DHV (excluding recreational vehicles).
- ⁽⁵⁾ D – The percentage of the DHV in the direction of heavier flow.
- ⁽⁶⁾ LOS – Level of Service. LOS ranges from A through F, which represents driving conditions from the least congested to most congested, respectively. LOS is a factor in determining the traffic capacity of a highway facility.
- ⁽⁷⁾ Concept LOS – Level of Service based on the planned conceptual geometry of the facility in 20 years.
- ⁽⁸⁾ TCR Segment 2 – From Union Mine Road south of El Dorado to Sacramento Street south of Placerville (PM ED 9.494/13.984).
- ⁽⁹⁾ TCR Segment 3 – From Sacramento Street south of Placerville to the junction of SR 193 (PM ED 13.984/15.685).
- ⁽¹⁰⁾ TCR Segment 4 – From the junction of SR 193 to the El Dorado/Placer County Line (PM ED 15.685/38.233).

Figure 5.3 – General Roadway Design Criteria

(For more details regarding the Basic Design Criteria, see Attachment G)

	Local Agency*	Caltrans (DIB 79-03)**	HDM (New Construction)	Proposed
<i>Basic Design Criteria</i>				
Design Speed (mph)	Index 101.2	HDM Table 101.2	Table 101.2	
SR 49 (Rural)	55	50 - 60	50 - 60	55
SR 49 (Urban)	45	30 - 60	30 - 60	45
Typical Cross Section				
Minimum Lane Width (ft)	Index 301.1	Index 3.3.3.6.1.1	Index 301.1	
SR 49 (Rural)	12	12	12	12
SR 49 (Urban)				
Minimum Shoulder Width (ft)	Index 301.1	Index 3.3.3.6.1.2.1	Table 307.2	
SR 49, ADT < 250	8	0	2 or 4, ADT < 400	8
SR 49, 251 < ADT < 1000		2		
SR 49, 1001 < ADT < 3000		4	8, ADT > 400	
SR 49, ADT > 3001		8		
Minimum R/W Width (ft)	Index 301.1	HDM Index 306.1	Index 306.1	
SR 49 (Rural)	60	40 - 82 ⁽²⁾⁽³⁾	130	40 - 82 ⁽²⁾⁽³⁾
SR 49 (Urban)				

- * Local agency standards taken from El Dorado County Highway Design Manual
- ** Caltrans DIB 79-03 gives design guidance and standards for Roadway Rehabilitation (3R) Projects. Design Criteria not fully covered by DIB 79-03 will default to the Caltrans Highway Design Manual (HDM) criteria for new construction, unless noted otherwise.
- ⁽¹⁾ The project area is mostly rural. However, there are sections of urban classification including the areas within the city limits of Placerville, El Dorado, and Diamond Springs.
- ⁽²⁾ DIB 79-03 does not specify a minimum R/W width. The 82' shown here is meant to convey the width of R/W required to construct the minimum widths of the cross section components that are specified by DIB 79-03, which sum to the full R/W width. 82' = 24'(2-12' lanes) + 16'(2-8' shoulders) + 6'(2-3' chokers) + 36'(2-18' catch to hinge). The 40' shown here is meant to convey the width of R/W under several constraints; therefore, limited to edge of shoulder to edge of shoulder. 40' = 24'(2-12' lanes) + 16'(2-8' shoulders).
- ⁽³⁾ Recommended 130' minimum width will be used when feasible.

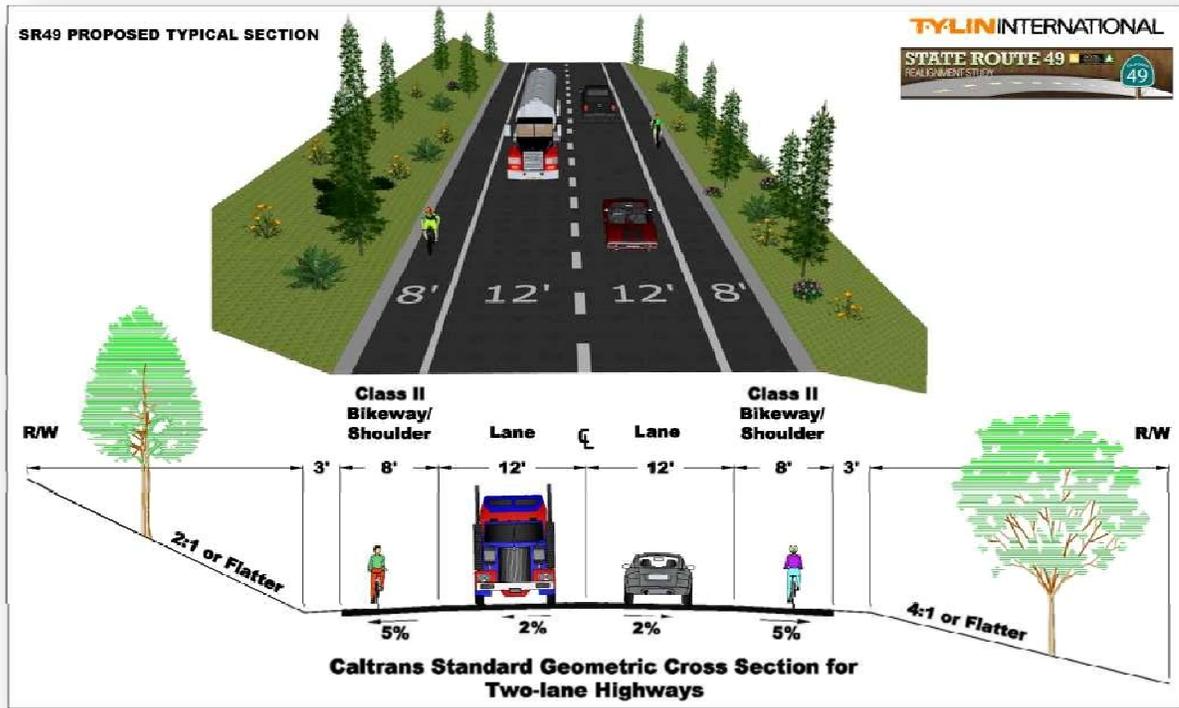


Figure 5.4 – State Route 49 Proposed Typical Section

5.2 Project Alternatives Analyzed

Input from the first public open house held on April 30, 2009, the SAC, and the PDT resulted in 52 conceptual alignment alternatives that span the entire length of the corridor between Coloma and El Dorado (See Attachment C-1). The 52 alternatives were comprised of various combinations of 39 individual conceptual roadway segments identified in Figure 5.5.

In an effort to simplify the process of evaluating these alternatives, the 52 conceptual alignment alternatives were sorted into 11 groups containing sub-groups of alternatives (See Figure 5.6). For example, Group 1 is comprised of the sub-group of alignment alternatives 1A, 1B, and 1C. All 52 alignment alternatives begin in Coloma, and were divided into sub-groups based on which one of the following individual segments the alignment alternative begins with in Coloma: Segment 1, 25, 26, 34, or 35.

With the exception of the No-Build alternative, the 11 groups of conceptual alternatives are color-coded (e.g. Alternative 9 is brown, 11 is yellow, etc.) as shown on Attachment C-1 and Figure 5.6. Attachment C-1 graphically displays each of the 39 individual segments, the 52 color coded alignment alternatives, and identifies key interchanges within the project area. Figure 5.6 is a legend of the 11 groups of conceptual alternative alignments by color code and details the segments that make up each alternative alignment. For example, Alternative 1A is comprised of Segments 1, 2, 3, Interchange #1, and Segments 4, 5, and 6. Figure 5.5 describes each of the 39 individual conceptual alignment alternative segments (e.g. Segment #1 is Lotus Road from SR 49 at Coloma to Gold Hill Road).

SEGMENT #	NAME OF ROAD	FROM	TO	miles	min
1	Lotus Rd	SR49 @ Coloma	Gold Hill Rd	3.4	5.0
2	Lotus Rd	Gold Hill Rd	Green Valley Rd	3.5	4.0
3	N. Shingle Rd	Green Valley Rd	IC#1	4.8	8.0
4	Mother Lode Dr	IC#1	Greenstone Rd	3.0	6.0
5	Mother Lode Dr	Greenstone Rd	Pleasant Valley Rd	1.1	2.0
6	New Road Connection	Pleasant Valley Rd	SR 49 south of El Dorado	0.8	1.0
7	Pleasant Valley Rd	Mother Lode Dr	El Dorado Rd	0.8	1.0
8	New Road Connection	El Dorado Rd	SR 49 south of El Dorado	0.4	1.0
9	El Dorado Rd	Mother Lode Dr	Pleasant Valley Rd	0.9	2.0
10	Mother Lode Dr	Pleasant Valley Rd	El Dorado Rd	1.0	1.0
11	El Dorado Rd	Mother Lode Dr	IC#3	1.1	3.0
12	New Road Connection	Green Valley Rd	IC#3	1.8	2.0
13	Green Valley Rd	Lotus Rd	Greenstone Rd	2.7	4.0
14	Greenstone Rd	Green Valley Rd	IC#2	1.0	1.0
15	Greenstone Rd	IC#2	Mother Lode Dr	1.7	2.0
16	Pleasant Valley Rd	El Dorado Rd	SR 49 at El Dorado	0.4	1.0
17	Pleasant Valley Rd (SR 49)	SR 49 @ El Dorado	Missouri Flat Rd	1.6	3.0
18	Missouri Flat Rd	Proposed Diamond Springs Parkway	Pleasant Valley Rd (SR 49)	0.9	1.0
19	SR 49	Proposed Diamond Springs Parkway	Missouri Flat Rd	1.4	2.0
20	Proposed Ray Lawyer Dr Extension	IC#6	SR 49	2.0	3.0
21	Ray Lawyer Dr	Placerville Dr	IC#6	0.8	1.0
22	Proposed Mallard Lane Extension	Cold Springs Rd/Coolwater Creek	Ray Lawyer Dr	1.0	3.0
23	Cold Springs Rd	Gold Hill Rd	Coolwater Creek	3.2	5.0
24	Cold Springs Rd	SR 49	Gold Hill Rd	2.7	7.0
25	Coloma Bypass Option 1	Lotus Rd/SR49	Cold Springs Rd/SR 49	1.2	3.0
26	Coloma Bypass Option 2	Marshall Rd	Cold Springs Rd/SR 49	2.4	5.0
27	Gold Hill Rd	Lotus Rd	Cold Springs Rd	2.8	3.0
28	Green Valley Rd	Greenstone Rd	Missouri Flat Rd	1.8	2.0
29	Green Valley Rd	Missouri Flat Rd	Ray Lawyer Dr	2.0	6.0
30	Missouri Flat Rd	Green Valley Rd	IC#4	1.7	2.0
31	Placerville Dr	Ray Lawyer Dr	IC#5	0.6	1.0
32	Cold Springs Rd	Coolwater Creek	Placerville Dr	1.5	3.0
33	Placerville Dr	Cold Springs Rd / Pierroz Road	Ray Lawyer Dr	0.6	1.0
34	New Road Connection	Beach Court/SR49	Pleasant Valley Rd	8.8	12.0
35	New Road Connection	Beach Court/SR49	Green Valley Rd	7.3	8.0
36	SR 49 Route Adoption 1964	Marshall Rd @ SR 49	IC#5	7.9	9.0
37	Proposed Diamond Springs Parkway	Bradley Dr	Missouri Flat Rd @ SPRR Xing	0.9	1.0
38	SR 49	Proposed Ray Lawyer Dr Extension	Proposed Diamond Springs Parkway	0.7	1.0
39	Missouri Flat Rd	IC#4	Proposed Diamond Springs Parkway	0.9	1.0
IC#1	S. Shingle Rd-Ponderosa Rd/US 50 Interchange	IC#1	IC#2	3.6	3.0
IC#2	Greenstone Rd/US 50 Interchange	IC#2	IC#3	1.9	2.0
IC#3	El Dorado Rd/US 50 Interchange	IC#3	IC#4	1.0	1.0
IC#4	Missouri Flat Rd/US 50 Interchange	IC#4	IC#5	0.8	0.8
IC#5	Western Placerville Dr/US 50 Interchange	IC#5	IC#6	0.8	0.8
IC#6	Ray Lawyer Dr/US 50 Interchange				

Figure 5.5 – Roadway Segments for Level 1 Screening

# of Alts	Alternative #	Segments	miles	min
1	NO-BUILD		14.1	26.0
2	1	A 1 2 3 IC#1 4 5 6	16.6	26.0
3		B 1 2 3 IC#1 4 5 7 8	17.0	27.0
4		C 1 2 3 IC#1 4 5 7 16	17.0	27.0
5	2	A 1 2 13 14 IC#2 15 5 6	14.2	19.0
6		B 1 2 13 14 IC#2 15 5 7 8	14.6	20.0
7		C 1 2 13 14 IC#2 15 5 7 16	14.6	20.0
8	3	A 1 2 13 28 29 21 IC#6 20 38 19 17	19.9	31.0
9		B 1 2 13 28 29 21 IC#6 20 38 37 18 17	20.3	31.0
10		C 1 2 13 28 29 21 IC#6 IC#5 IC#4 39 18 17	19.2	28.6
11		D 1 2 13 28 29 31 IC#5 IC#4 39 18 17	18.2	27.8
12		E 1 2 13 28 30 IC#4 39 18 17	16.5	22.0
13	4	A 1 2 13 12 IC#3 11 9 8	13.8	21.0
14		B 1 2 13 12 IC#3 11 10 6	14.3	20.0
15		C 1 2 13 12 IC#3 11 10 7 8	14.7	21.0
16		D 1 2 13 12 IC#3 11 10 7 16	14.7	21.0
17		E 1 2 13 12 IC#3 11 9 16	13.8	21.0
18	5	A 1 27 23 22 21 IC#6 20 38 19 17	16.9	26.0
19		B 1 27 23 22 21 IC#6 20 38 37 18 17	17.3	26.0
20		C 1 27 23 22 21 IC#6 IC#5 IC#4 39 18 17	16.2	23.6
21		D 1 27 23 22 31 IC#5 IC#4 39 18 17	15.2	22.8
22		E 1 27 23 32 33 31 IC#5 IC#4 39 18 17	16.3	23.8
23		F 1 27 23 32 33 21 IC#6 20 38 19 17	18.0	27.0
24		G 1 27 23 32 33 21 IC#6 20 38 37 18 17	18.4	27.0
25		H 1 27 23 32 33 21 IC#6 IC#5 IC#4 39 18 17	17.3	24.6
26	6	A 26 25 24 23 22 21 IC#6 20 38 19 17	17.0	33.0
27		B 26 25 24 23 22 21 IC#6 20 38 37 18 17	17.4	33.0
28		C 26 25 24 23 22 21 IC#6 IC#5 IC#4 39 18 17	16.3	30.6
29		D 26 25 24 23 22 31 IC#5 IC#4 39 18 17	15.3	29.8
30		E 26 25 24 23 32 33 31 IC#5 IC#4 39 18 17	16.4	30.8
31		F 26 25 24 23 32 33 21 IC#6 20 38 19 17	18.1	34.0
32		G 26 25 24 23 32 33 21 IC#6 20 38 37 18 17	18.5	33.0
33		H 26 25 24 23 32 33 21 IC#6 IC#5 IC#4 39 18 17	17.4	31.6
34	7	A 34 8	9.2	13.0
35		B 34 16	9.2	13.0
36	8	A 35 28 14 IC#2 15 5 6	13.7	16.0
37		B 35 28 14 IC#2 15 5 7 8	14.1	17.0
38		C 35 28 14 IC#2 15 5 7 16	14.1	17.0
39	9	A 35 29 21 IC#6 20 38 19 17	15.8	24.0
40		B 35 29 21 IC#6 20 38 37 18 17	16.2	24.0
41		C 35 29 21 IC#6 IC#5 IC#4 39 18 17	15.1	21.6
42		D 35 29 31 IC#5 IC#4 39 18 17	14.1	20.8
43		E 35 30 IC#4 39 18 17	12.4	15.0
44	10	36 31 IC#5 IC#4 39 18 17	12.7	15.8
45	11	A 25 24 23 22 21 IC#6 20 38 19 17	14.6	28.0
46		B 25 24 23 22 21 IC#6 20 38 37 18 17	15.0	28.0
47		C 25 24 23 22 21 IC#6 IC#5 IC#4 39 18 17	13.9	25.6
48		D 25 24 23 22 31 IC#5 IC#4 39 18 17	12.9	24.8
49		E 25 24 23 32 33 31 IC#5 IC#4 39 18 17	14.0	25.8
50		F 25 24 23 32 33 21 IC#6 20 38 19 17	15.7	29.0
51		G 25 24 23 32 33 21 IC#6 20 38 37 18 17	16.1	29.0
52		H 25 24 23 32 33 21 IC#6 IC#5 IC#4 39 18 17	15.0	26.6

Figure 5.6 – Legend of Level 1 Alternatives

6. ALTERNATIVE SCREENING PROCESS

To meet the stated project purpose, and address the project need, a three-tiered screening process was used to evaluate alternative alignments and their potential for adverse environmental impacts: Level 1, Intermediate Level 1, and Level 2 screening. The SAC, PDT, and the general public provided input on the development of the performance criteria utilized to screen the various alternatives studied.

6.1 *Level 1 – Initial Screening Analysis and Results*

Level 1 consisted of an initial screening analysis to identify reasonable alternative alignments that met the general purpose and need for the proposed project, as well as being constructible and operationally feasible. Using criteria based solely on the purpose and need of the project, alternatives were assigned either a “yes” or “no”, then were comparatively scored and ranked based on the level of meeting the purpose and need of the project. Alternative alignments that were found to be unreasonable or infeasible, based on their relative scores, were eliminated from further evaluation in this study. The evaluation was accomplished by the PDT, SAC, and public through project meetings and public outreach venues.

Level 1 Screening Criteria:

[Criteria 1A – Ability to Meet the Purpose and Need:](#) An alternative must have a theoretical capability to fulfill the following elements of the project purpose and need.

- ▣ Improve traffic operations for existing and future traffic demands, and the efficient movement of people, goods, and services on SR 49 from Coloma to El Dorado;
- ▣ Improve interregional and regional conditions on the SR 49 and regional transportation system by improving traffic operations from Coloma to El Dorado;
- ▣ Ensure compatibility with planned zoning and land uses in the project area identified in the El Dorado County General Plan and polices, City of Placerville General Plan, and the Marshall Gold Discovery State Historic Park General Plan;
- ▣ Eliminate the existing alignment of SR 49 through Marshall Gold Discovery State Historic Park;
- ▣ Eliminate the at-grade intersection of SR 49 and U.S. 50;
- ▣ Reduce travel times within the corridor and the total vehicle-hours traveled in the corridor during peak traffic times;
- ▣ Relieve SR 49 traffic impacts to densely populated residential areas and business districts of the City of Placerville and town of Diamond Springs;
- ▣ Minimize environmental impacts and concerns (i.e. jobs, corridor demographics, cultural resources, population growth and distribution projections, existing and future development);
- ▣ Reduce the amount of resources required to achieve improved conditions in the corridor by the utilization of existing local roads;
- ▣ Maximize multi-modal opportunities locally and interregionally (i.e. bicycle, pedestrian, and transit);
- ▣ Contribute to the remedy for current and future deficiencies in transportation safety in the SR 49 corridor;
- ▣ Maintain a context sensitive solutions approach to local and interregional transportation issues.

Criteria 1B – Constructability and Operational Feasibility: An alternative must also be theoretically feasible to construct and operate, and should not cause or result in:

- ▣ Excessive cost to construct;
- ▣ Serious community disruption; or
- ▣ Unacceptable adverse social, economic, or environmental impacts.

Scoring:

For each alternative, a *Yes* or *No* determination was made as to whether the alternative will fulfill the project purpose and need. The determination was based on how well the alternative addressed the elements of the project purpose and need. Alternatives that did not meet the stated purpose and need (those which scored a cumulative majority of “No” in both Criteria 1A: *Ability to Meet the Purpose and Need* and Criteria 1B: *Constructability and Operational Feasibility*) were recommended for elimination from further consideration in the study. For a detailed summary of the scoring assumptions for the Level 1 Screening, refer to Attachment C-5, “Alternatives for Level 1 Screening – Scoring Assumptions”.

Out of a maximum score of 16 “Yes” determinations, nine of the 52 alternatives that received a score between 13 and 16 were initially recommended to advance to the Level 2 screening analysis. Those alternatives were 1C, 2C, 3B, 3C, 3D, 3E, 5E, 5G, and 5H that are described as follows:

Alternative 1C:

Alternative 1C begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to North Shingle Road. Alternative 1C continues south across the U.S. 50/Ponderosa Road interchange to Mother Lode Drive. Alternative 1C continues east on Mother Lode Drive to Pleasant Valley Road, and continues east until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 1C covers a distance of 17.0 miles and has a travel time of 27.0 minutes.

Alternative 2C:

Alternative 2C begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Green Valley Road intersection. Alternative 2C continues east along Green Valley Road to Greenstone Road. From Greenstone Road, Alternative 2C continues south under U.S. 50 to Mother Lode Drive. From Mother Lode Drive it continues east to Pleasant Valley Road where it continues east until it reaches the Pleasant Valley Road/SR 49 intersection in the community of El Dorado. Alternative 2C covers a distance of 14.6 miles and has a travel time of 20.0 minutes.

Alternative 3B:

Alternative 3B includes two new roadway segments: the Ray Lawyer Drive Extension and the Diamond Springs Parkway. Alternative 3B begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Green Valley Road intersection. Alternative 3B continues east along Green Valley Road to Ray Lawyer Drive. From Ray Lawyer Drive, it continues east over U.S. 50 and connects to the proposed Ray Lawyer Drive Extension. The Ray Lawyer Drive Extension continues south until intersecting with existing SR 49 approximately 2.0 miles south from its proposed intersection with Ray Lawyer Drive and Forni Road. Alternative 3B continues south on SR 49 to the proposed Diamond Springs Parkway, which is an east-west roadway that will

connect SR 49 to Missouri Flat Road. From Missouri Flat Road, Alternative 3B will continue south to Pleasant Valley Road, where it continues west until it reaches the Pleasant Valley Road/SR 49 intersection in the community of El Dorado. Alternative 3B covers a distance of 20.3 miles and has a travel time of 31.0 minutes.

Alternative 3C:

Alternative 3C begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Green Valley Road intersection. Alternative 3C continues east along Green Valley Road to Ray Lawyer Drive. From Ray Lawyer Drive, it continues eastward to the proposed U.S. 50/Ray Lawyer Drive interchange and onto westbound U.S. 50. Alternative 3C will continue along westbound U.S. 50 to the Missouri Flat Road interchange, where it will continue south to Pleasant Valley Road and then to Pleasant Valley Road until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 3C covers a distance of 19.2 miles and has a travel time of 28.6 minutes.

Alternative 3D:

Alternative 3D begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Green Valley Road intersection. Alternative 3D continues east along Green Valley Road to the Ray Lawyer Drive/Placerville Drive intersection. From Placerville Drive, it continues westward to the Western Placerville Drive/U.S. 50 interchange. Alternative 3D continues along westbound U.S. 50 to the Missouri Flat Road interchange, where it turns south onto Missouri Flat Road. Alternative 3D continues south and then west on Pleasant Valley Road until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 3D covers a distance of 18.2 miles and has a travel time of 27.8 minutes.

Alternative 3E:

Alternative 3E begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Green Valley Road intersection. Alternative 3E continues east along Green Valley Road and then connects to Missouri Flat Road. From Missouri Flat Road, Alternative 3E crosses U.S. 50 and continues south to Pleasant Valley Road where it continues west until it reaches the Pleasant Valley Road/SR 49 intersection in the community of El Dorado. Alternative 3E covers a distance of 16.5 miles and has a travel time of 22.0 minutes.

Alternative 5E:

Alternative 5E begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Gold Hill Road intersection. Alternative 5E continues east toward the Gold Hill Road/Cold Springs Road intersection. Alternative 5E continues south along Cold Springs Road to Pierroz Road and then Placerville Drive. From Placerville Drive, it continues west to the Western Placerville Drive/U.S. 50 interchange and westbound U.S. 50. Alternative 5E continues along westbound U.S. 50 to the Missouri Flat Road interchange, where it takes Missouri Flat Road south to Pleasant Valley Road, and then west on Pleasant Valley Road until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 5E covers a distance of 16.3 miles and has a travel time of 23.8 minutes.

Alternative 5G:

Alternative 5G includes two new roadway segments: the Ray Lawyer Drive Extension, which will continue south approximately 2 miles from its proposed intersection with Forni Road to intersect with SR 49, and the Diamond Springs Parkway, which will connect SR 49 to Missouri Flat Road. Alternative 5G begins at the SR 49/Lotus Road intersection in Coloma and continues south along Lotus Road to the Lotus Road/Gold Hill Road intersection. Alternative 5G continues east on Gold Hill Road to the Gold Hill Road/Cold Springs Road intersection. Alternative 5G then continues southeast along Cold Springs Road to Pierroz Road and Placerville Drive. Alternative 5G continues southwest along Placerville Drive to Ray Lawyer Drive, which it follows eastward over the U.S. 50 overpass to the proposed Ray Lawyer Drive Extension. The Ray Lawyer Drive Extension continues south until it intersects with existing SR 49. Alternative 5G continues south on SR 49 to the proposed Diamond Springs Parkway and continues on it to Missouri Flat Road. From Missouri Flat Road, Alternative 5G continues south to Pleasant Valley Road, which it follows in a westerly direction until it reaches the Pleasant Valley Road/SR 49 intersection in the community of El Dorado. Alternative 5G covers a distance of 18.4 miles and has a travel time of 27.0 minutes.

Alternative 5H:

Alternative 5H begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Gold Hill Road intersection. Alternative 5H continues east on Gold Hill Road to the Gold Hill Road/Cold Springs Road intersection. Alternative 5H then continues southeast along Cold Springs Road to Pierroz Road and Placerville Drive. Alternative 5H continues southwest along Placerville Drive to Ray Lawyer Drive, which it follows to the proposed Ray Lawyer Drive Interchange and westbound U.S. 50. Alternative 5H continues along westbound U.S. 50 to the Missouri Flat Road interchange, where it takes Missouri Flat Road south to Pleasant Valley Road, which it continues on to the west until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 2C covers a distance of 17.3 miles and has a travel time of 24.6 minutes.

The SAC's review of the nine recommended alternatives raised concerns about the potential impacts of Alternative 1C and the decision not to recommend Alternatives 10 and 11B for further analysis. The issues and concerns involving Alternatives 1C, 10, and 11B and the final list of alternatives recommended for advancement to the Intermediate Level 1 screening analysis are described below:

Alternative 1C:

Alternative 1C received a score of 13, which recommended it as was one of the nine alternatives for advancement to Intermediate Level 1 Screening. However, the SAC and PDT concurred that compared to other alternatives, Alternative 1C posed potentially significant impacts to the City of Placerville's business district due to the alignment's distance from the city limits. Therefore, the SAC and PDT agreed that Alternative 1C should not be recommended for advancement to Intermediate Level 1 Screening.

Alternative 10:

Alternative 10 is the Caltrans SR 49 1964 Route Adoption and it received a score of nine in the Level 1 Screening, not qualifying it for advancement to the Intermediate Level 1 analysis. However, the SAC and PDT concurred that due to the alignment's potential

importance to the corridor, Alternative 10 should be advanced to the Intermediate Level 1 Screening and be further evaluated.

Alternative 11B:

Alternative 11B incorporates the Coloma Bypass, Mallard Lane Conceptual Alignment, Ray Lawyer Drive Extension, and the Diamond Springs Parkway. It received a score of nine, thereby not advancing as a recommended alternative for advancement to the Intermediate Level 1 Screening. However, State Parks expressed a strong interest in seeing at least one of the Coloma Bypass alternatives from Groups 6 and 11 moved forward for further evaluation in the Intermediate Level 1 Screening. Although all nine alternatives that were initially recommended to move forward to the Intermediate Level 1 Screening remove the alignment of SR 49 out of the MGDSHP, only the Coloma Bypass alternatives from Groups 6 and 11 meet the full intent of the Park's General Plan which expresses a desire to eliminate through vehicle traffic in the park to improve pedestrian safety, reduce impacts to historic structures, and enhance visitor experience. State Parks, the SAC, and PDT concurred with advancing Alternative 11B to the Intermediate Level 1 Screening. In addition to State Parks' concerns, Alternative 11B was advanced because it also addressed the interests of the City of Placerville by incorporating the Mallard Lane Conceptual Alignment, Ray Lawyer Drive Extension, and the Diamond Springs Parkway.

Results:

Therefore, based on the results of the Level 1 Screening and the recommendations of the SAC and PDT the following 10 alternatives, plus the No-Build, were recommended for advancement to the Intermediate Level 1 Screening Analysis: 2C, 3B, 3C, 3D, 3E, 5E, 5G, 5H, 10, and 11B. The results of the Level 1 screening analysis are summarized in Attachment C-4, "Alternatives for Level 1 Screening – Results."

6.2 Intermediate Level 1 Screening Analysis

Intermediate Level 1 Screening Analysis consisted of a comparative evaluation of the 10 alternatives advanced from the Level 1 screening process: 2C, 3B, 3C, 3D, 3E, 5E, 5G, 5H, 10, and 11B. As in the Level 1 Screening, alternatives in the Intermediate Level 1 Screening were evaluated against how well they met the project's purpose and need. However, while the Level 1 scoring was based on a simple "yes/no," alternatives in the Intermediate Level 1 Screening received a weighted score from 1 to 4 for their responsiveness to the Intermediate Level 1 Screening criteria derived from the project purpose and need. Alternatives were then ranked based on their cumulative score and the three alternatives with the highest cumulative scores were advanced to the Level 2 Screening. The evaluation of alternatives during the Intermediate Level 1 Screening was performed by the PDT, SAC, and the public through project meetings and public outreach.

Criteria:

The criteria for the Intermediate Level 1 Screening were goals derived from the project purpose and need and are identified in Figure 6.1. Areas of emphasis included safe and efficient mobility of goods, services, and people; accessibility between residential areas, communities, and business districts; maximized use of existing local roads; minimized environmental impacts; and compatibility with affected jurisdiction's general plans. Safety, due to its high degree of importance to the general public, SAC, and PDT, received the

highest weight of 20%. With the exception of the environmental goal (Goal 6) that received a weight of 5%, the remaining goals each received a weight of 15%. Since the environmental impacts associated with each alternative were relatively equal, the environmental goal provided the least opportunity to distinguish one alternative from another and was therefore given the lowest weight.

The criteria did not address the project goals of removing the alignment of SR 49 from Marshall Gold Discovery State Historic Park (MGDSHP) and eliminating the at-grade intersection of SR 49/US 50. Since both are critical to the success of the project and are accomplished by all 10 alternatives, they were not included in the screening criteria. However, while all 10 alternatives would *remove* the alignment of SR 49 from MGDSHP, they would not *eliminate* vehicle traffic from MGDSHP. Even though the alignment of SR 49 would be removed from MGDSHP, the existing segment of road through MGDSHP would remain and its disposition would be determined in a future project phase during the relinquishment process.

Scoring:

Scoring definitions are as follows:

- 1 = No improvement or unacceptable impact
- 2 = Marginal improvement or high impact
- 3 = Acceptable improvement or moderate impact
- 4 = Substantial improvement or low impact

For a detailed summary of the scoring assumptions for the Intermediate Level 1 Screening, refer to Attachment D-5, “Alternatives for Intermediate Level 1 Screening – Scoring Assumptions.”

Alternative 10 (1964 adopted route) received the highest score of 12.7 out of a maximum 14.6. However, it is acknowledged that Alternative 10 is an infeasible alternative due to its relatively high cost (a minimum of six new bridges will be required) and right of way impacts which include right of way acquisitions valued at approximately \$30 million. Therefore, Alternative 10 was dropped from further analysis and the following alternatives that ranked two through four were proposed for advancement to the Level 2 Screening: Alternative 3E was ranked second, 5H was third, and 5E and 5G were tied for fourth. Alternative 5G was selected to advance instead of 5E because it is the only alternative of the four that utilizes the Ray Lawyer Drive Extension, which allows one of the alternatives to satisfy a goal of the City of Placerville’s General Plan, which is to maintain the alignment of SR 49 within the city limits. Alternatives 3E, 5G, and 5H are described as follows:

Alternative 3E:

Alternative 3E begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Green Valley Road intersection. Alternative 3E continues east along Green Valley Road and then connects to Missouri Flat Road. From Missouri Flat Road, Alternative 3E crosses U.S. 50 and continues south to Pleasant Valley Road where it continues west until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 5G covers a distance of 16.5 miles and has a travel time of 22.0 minutes.

Alternative 5G:

Alternative 5G includes two new roadway segments: the Ray Lawyer Drive Extension, which will continue south approximately 2 miles from its proposed intersection with Forni Road to intersect with SR 49, and the Diamond Springs Parkway, which will connect SR 49 to Missouri Flat Road. Alternative 5G begins at the SR 49/Lotus Road intersection in Coloma and continues south along Lotus Road to the Lotus Road/Gold Hill Road intersection. Alternative 5G continues east on Gold Hill Road to the Gold Hill Road/Cold Springs Road intersection. Alternative 5G then continues southeast along Cold Springs Road to Pierroz Road and Placerville Drive. Alternative 5G continues southwest along Placerville Drive to Ray Lawyer Drive, which it follows eastward over the U.S. 50 overpass to the proposed Ray Lawyer Drive Extension. The Ray Lawyer Drive Extension continues south until it intersects with existing SR 49. Alternative 5G continues south on SR 49 to the proposed Diamond Springs Parkway and continues on it to Missouri Flat Road. From Missouri Flat Road, Alternative 5G continues south to Pleasant Valley Road, which it follows in a westerly direction until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 5G covers a distance of 18.4 miles and has a travel time of 27.0 minutes.

Alternative 5H:

Alternative 5H begins at the SR 49/Lotus Road intersection in Coloma, and continues south along Lotus Road to the Lotus Road/Gold Hill Road intersection. Alternative 5H continues east on Gold Hill Road to the Gold Hill Road/Cold Springs Road intersection. Alternative 5H then continues southeast along Cold Springs Road to Pierroz Road and Placerville Drive. Alternative 5H continues southwest along Placerville Drive to Ray Lawyer Drive, which it follows to the proposed Ray Lawyer Drive Interchange and westbound U.S. 50. Alternative 5H continues along westbound U.S. 50 to the Missouri Flat Road interchange, where it takes Missouri Flat Road south to Pleasant Valley Road, which it continues on to the west until it reaches the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. Alternative 5H covers a distance of 17.3 miles and has a travel time of 24.6 minutes.

Results:

Alternatives 3E, 5G, and 5H were the alternatives advanced from the Intermediate Level 1 Screening to the Level 2 Screening. For a detailed summary of the results of the Intermediate Level 1 Screening refer to Attachment D-4, “Alternatives for Intermediate Level 1 Screening – Results.”

6.3 Level 2 – Comparative Screening Analysis

The Level 2 Screening consisted of a comparative evaluation of the three alternatives (3E, 5G, and 5H) that were advanced from the Intermediate Level 1 screening process, plus the No-Build alternative. The three alternatives, as well as the No-Build alternative, received a non-weighted score from 1 to 4 for their response to each of the transportation benefits criterion and environmental criterion. The cumulative score for each alternative was determined and the three alternatives were then ranked one through three based on their score. It is assumed that the alternative with the highest score will theoretically provide the greatest degree of transportation benefit and the lowest potential for environmental impacts. The evaluation was performed by the PDT, SAC, and the public through project meetings

and public outreach. Preliminary cost estimates were provided for each alternative for the purpose of comparison only and were not used in scoring or ranking alternatives. The results of the comparative evaluation are summarized in Attachment E-4, “Alternatives for Level 2 Screening – Results.”

Criteria:

The criteria for the Level 2 screening were established from the project purpose and need and were more refined than those identified in the previous two screening levels. The criteria and goals contained within the criteria are identified in Figures 6.2 and 6.3. Areas of emphasis include safe and efficient mobility of goods, services, and people; accessibility between residential areas, communities, and business districts; maximized use of existing local roads; minimized environmental impacts; and compatibility to affected General Plans.

Scoring:

Scoring definitions are as follows:

- 1 = No improvement or unacceptable impact
- 2 = Marginal improvement or high impact
- 3 = Acceptable improvement or moderate impact
- 4 = Substantial improvement or low impact

Results:

The Level 2 Screening resulted in the following ranking of the four alternatives:

- ▣ Rank #1 – Alternative 5H (Scored 113 out of 184)
- ▣ Rank #2 – Alternative 3E (Scored 110 out of 184)
- ▣ Rank #3 – Alternative 5G (Scored 104 out of 184)
- ▣ Rank #4 – No-Build (Scored 40 out of 184)

The estimated construction cost for these alternatives are as follows (excludes right-of-way and project development support costs):

- ▣ Alternative 5H – \$23.6 million
- ▣ Alternative 3E – \$17.4 million
- ▣ Alternative 5G – \$28.8 million
- ▣ No-Build – \$0 million

6.4 Project Alternatives Selected

Based on the results of the Level 2 Screening, alternatives 5H, 3E, and 5G are recommended for further evaluation in a Project Study Report (PSR).

INTERMEDIATE LEVEL 1 SCREENING CRITERIA		
%Wt	Goal	Criteria
20%	Goal 1: Safe transport of goods and people (i.e. commercial, regional, and local) regionally and interregionally for vehicle, bicycle, and pedestrian travel (i.e. improve sharp curves, steep grades, and traveled way of SR 49 for modern transportation demands).	# of curves with advisory speed limits per mile
		# of grades >7%
		# of constraints that prevent widening (i.e. side-slopes >2:1, and right of way requiring removal of buildings)
		# of school zones
15%	Goal 2: Efficient transport of goods and people (i.e. commercial, regional, and local) regionally and interregionally for vehicle, bicycle, and pedestrian travel	Travel time reduction (Regional)
		Travel time reduction (Local)
		Vehicle-miles traveled reduction
15%	Goal 3: Improve accessibility for commercial, regional, and local traffic between residential areas and business districts of the City of Placerville, Diamond Springs, and El Dorado.	Alignment within the City of Placerville city limits.
		Alignment within the Diamond Springs business district.
		Alignment within the El Dorado business district.
		Population (within 1/2 mile buffer of alternative) divided by route distance
		Employment (within 1/2 mile buffer of alternative) divided by route distance
15%	Goal 4: Improve accessibility for commercial, regional, and local traffic between residential areas, communities, and business districts along SR 49 from El Dorado to Coloma.	Population within 1/2 mile Buffer of Alternative
		Employment within 1/2 mile Buffer of Alternative
15%	Goal 5: Maximize the use of existing roads to minimize resources required to achieve improved conditions in the SR 49 corridor and support the projected land uses of the adopted El Dorado County and City of Placerville General Plans.	Use of existing local roads only
		# of new bridges required
5%	Goal 6: Minimize impacts to historic, cultural, and natural resources.	Potential to conflict with historic resources including structures, towns and districts.
		Located in a 7.5-minute quadrangle in which special-status species have been previously recorded as identified in the California Natural Diversity Database (CNDDDB).
		Potential to impact bodies of water as identified on the National Wetland Inventory.
		Located within or adjacent to Areas More Likely to Contain Asbestos.
15%	Goal 7: Ensure compatibility with land uses in the project area identified in the El Dorado County General Plan, City of Placerville General Plan, and the Marshall Gold Discovery State Historic Park General Plan.	Buffer for More Likely to Contain Asbestos or Fault Line
		No conflicts with other planned projects & consistent with all current General Plans
100%		

Figure 6.1 – Intermediate Level 1 Screening Criteria

LEVEL 2 SCREENING CRITERIA		
Criterion 2A: Transportation Benefits	Objective	Criteria
Transportation Goal 1: Safe transport of goods and people (i.e. commercial, regional, and local) regionally and interregionally for vehicle, bicycle, and pedestrian travel (i.e. improve sharp curves, steep grades, and traveled way of SR 49 for modern transportation demands)	Increase safety	# of curves with advisory speed limits per mile
		# of grades >7%
		# of constraints that prevent widening (i.e. side-slopes >2:1, and right of way requiring removal of buildings)
		# of school zones
Transportation Goal 2: Efficient transport of goods and people (i.e. commercial, regional, and local) regionally and interregionally for vehicle, bicycle, and pedestrian travel	Increase vehicular mobility	Travel time reduction (Regional)
		Travel time reduction (Local)
		Roadway segment performance (Regional). Miles of Alignment operating at acceptable LOS.
		Vehicle-miles traveled reduction
Transportation Goal 3: Improve accessibility for commercial, regional, and local traffic between residential areas and business districts of the City of Placerville, Diamond Springs, and El Dorado	Improve vehicular accessibility	Alignment within the City of Placerville city limits
		Alignment within the Diamond Springs business district
		Alignment within the El Dorado business district
		Population (within 1/2 mile buffer of alternative) divided by route distance
		Employment (within 1/2 mile buffer of alternative) divided by route distance
Transportation Goal 4: Improve accessibility for commercial, regional, and local traffic between residential areas and business districts along SR 49 from Coloma to El Dorado	Improve vehicular accessibility	Population within 1/2 mile Buffer of Alternative
		Employment within 1/2 mile Buffer of Alternative
Transportation Goal 5: Maximize the use of existing roads to minimize resources required to achieve improved conditions in the SR 49 corridor and support the projected land uses of the adopted El Dorado County and City of Placerville General Plans	Utilize existing local roads for realignment	Use of existing local roads only
		# of bridge widenings required
		# of new bridges required
Transportation Goal 6A: Relieve SR 49 traffic impacts to Downtown business district of City of Placerville.	Realign SR 49 from Downtown business district of City of Placerville	Alignment within the business district.
Transportation Goal 6B: Relieve SR 49 traffic impacts to business districts of Diamond Springs.	Realign SR 49 from business district of Diamond Springs	Alignment within the business district.
Transportation Goal 8: Maximize multi-modal opportunities locally and interregional (i.e. bicycle, pedestrian, and transit) as specified in the Caltrans Deputy Directive (DD) 64.	Identify increase in, or proximity to transit routes, park and ride lots, and pedestrian and bicycle trails and facilities	# of bicycle facility connections (existing or feasible future)
		# of transit facility connections (existing or feasible future)
		# of park-n-ride facility connections (existing or feasible future)
Transportation Goal 10A: Relieve SR 49 traffic impacts to densely populated residential areas of the City of Placerville.	Realign SR 49 from densely populated residential areas of City of Placerville	# of residential streets connections
		# of residential areas directly impacted
Transportation Goal 10B: Relieve SR 49 traffic impacts to densely populated residential areas of the Diamond Springs.	Realign SR 49 from densely populated residential areas of Diamond Springs	# of residential streets connections
		# of residential areas directly impacted

Figure 6.2 – Criterion 2A – Level 2 Screening Criteria

LEVEL 2 SCREENING CRITERIA		
Criterion 2B: Responsiveness to Environmental Goals	Objective	Criteria
Environmental Goal 1: Maintain visual integrity along the project corridor.	AESTHETICS / VISUAL - Avoid/minimize potential impacts on aesthetics to the area	Would the project result in substantial degradation to the existing visual character or quality of the site and its surroundings?
Environmental Goal 2: Maintain agricultural land uses adjacent to the project corridor.	AGRICULTURAL RESOURCES - Avoid / minimize potential impacts to agricultural lands (e.g., Farmland and lands under Williamson Act Contracts).	Would the project result in the conversion of Farmland or conflict with Williamson Act Contracts?
Environmental Goal 3: Strive to achieve and maintain established local, State and Federal air quality standards.	AIR QUALITY - Avoid / minimize potential impacts on air quality	Would the project result in an exceedance of established air quality emissions?
Environmental Goal 4: Maintain and protect wildlife and wildlife habitat resources of significant biological and ecological value.	SPECIES - Avoid / minimize potential impacts on native and special-status plant and wildlife species	Would the project result in an impact to native or special-status plant and wildlife species or their habitat?
Environmental Goal 4: Maintain and protect fisheries resources of significant biological and ecological value.	WATERS OF THE U.S./WETLANDS - Avoid / minimize potential impacts to waters of the U.S. and wetlands	Would the project result in impacts to waters of the U.S. and/or wetlands? <i>Acres of vegetation removal</i>
Environmental Goal 4: Maintain and protect vegetation resources of significant biological and ecological value.	TREES - Avoid / minimize oak tree removal	Would the project result in the removal of oak woodlands?
Environmental Goal 5: Preserve and protect historic and archaeological resources.	CULTURAL RESOURCES - Avoid / minimize potential impacts to historic and archaeological resources	Would the project result in impacts to historic and/or archaeological resources?
Environmental Goal 6: Maintain geological integrity of the natural environment.	GEOLOGY/SOILS - Avoid/minimize potential impacts on geology/soils to the area	Would the project result in increased risk from geologic conditions (such as liquefaction, ground-shaking, landslides), result in soil erosion, or result in exposure of the project to unstable soils? Would the project result in increased risk of exposure to naturally occurring asbestos?
Environmental Goal 7: Protect adjacent land uses and travelers from exposure to hazards and hazardous materials.	HAZARDS/HAZARDOUS MATERIALS - Avoid / minimize potential impacts to increased risk of hazards and exposure to hazardous materials	Would the project result in an increased risk of exposure of workers and/or the public to hazards and/or hazardous materials? Would the project impair an adopted emergency response or evacuation plan?
Environmental Goal 8: Maintain water quality in the environment.	HYDROLOGY AND WATER QUALITY - Avoid / minimize potential impacts to water quality	Would the project have the potential to degrade water quality or alter drainage patterns?
Environmental Goal 9: Protection and conservation of existing land uses adjacent to the project corridor.	LAND USE AND PLANNING - Avoid / minimize potential conflicts with the County General Plan, City General Plan, and/or the Marshall Gold Discovery State Historic Park General Plan.	Would the project conflict with the County General Plan, City General Plan, and/or the Marshall Gold Discovery State Historic Park General Plan?
Environmental Goal 10: Ensure that adjacent land uses are not subjected to noise beyond acceptable levels.	NOISE - Avoid / minimize potential noise impacts to adjacent land uses.	Would the project result in increased noise levels in exceedance of accepted noise standards?
Environmental Goal 11: Protect existing residences consistent with applicable planning documents.	POPULATION AND HOUSING - Avoid / minimize potential displacement of existing residences.	Would the project result in displacement of a substantial number of existing residences?
Environmental Goal 12: Provide public services to project corridor.	PUBLIC SERVICES - Avoid / minimize potential impacts on public services.	Would the project result in potential impacts to public services (such as fire, police, schools, parks), public service facilities, or response times?
Environmental Goal 13: Promote recreational opportunities along the project corridor.	RECREATIONAL - Avoid/minimize potential impacts on existing or planned recreational facilities	Would the project result in impacts to existing or planned recreational facilities?
Environmental Goal 14: Provide the safe, orderly, and efficient movement of people and goods.	TRANSPORTATION AND CIRCULATION - Avoid / minimize potential impacts to the transport of people and goods within the project corridor.	Would the project result in worsened roadway operations and/or inefficient delivery of goods and services? Would the project result in inadequate emergency access?
Environmental Goal 15: Provide sufficient utility and service systems to the project corridor.	UTILITIES AND SERVICE SYSTEMS - Avoid/minimize potential impacts on utilities and service systems.	Would the project result in disruptions to utilities and/or services, require construction of additional service facilities, and/or comply with federal, state and local statutes related to solid waste?

Figure 6.3 – Criterion 2B – Level 2 Screening Criteria

7. ALTERNATIVES NOT SELECTED OR ANALYZED

The intent of the SR 49 Realignment Study is not to establish a complete set of all possible alternatives; rather, the study intends to demonstrate that there are feasible transportation solutions to fulfilling the project purpose and need. Therefore, the alternatives not selected or analyzed in this study are not intended to be precluded from being considered in a PSR.

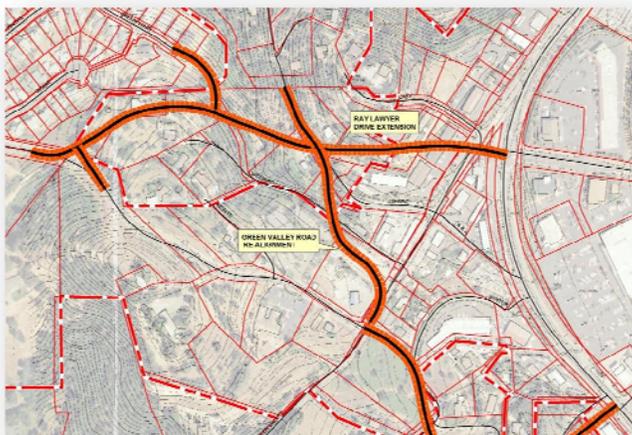
7.1 Notable Project Alternatives Not Selected

Mallard Lane Conceptual Alignment:

The proposed Mallard Lane Extension is identified as Segment 22 of the 39 individual conceptual roadway segments listed in Figure 5.5. Segment 22 extends from the Cold Springs Road/Coolwater Creek Road intersection to Ray Lawyer Drive, covers a distance of 1.0 miles, and has a travel time of 3 minutes. Alternative alignments 11A through 11D incorporate the use of Segment 22, which was highly recommended by the City of Placerville to be considered as an alignment alternative in the study. According to the City of Placerville, Segment 22 will meet the City of Placerville’s General Plan transportation goal to “support the relocation of Highway 49 to an alternate route through Placerville” which “promotes the development of a circulation system that preserves the historic nature and character of neighborhoods and districts, reinforces neighborhood identity and integrity, and minimizes adverse impacts on hillsides and vegetation.”



Source: Placerville Drive Conceptual Circulation Network



Source: Placerville Drive Conceptual Circulation Network

In addition, this segment is compatible with the City’s Placerville Drive Conceptual Circulation Network Plan. Alternatives incorporating Segment 22 were eliminated in the Level 1 and Intermediate Level 1 screening primarily because one of the key goals of the project emphasizes the use of existing roads to reduce the resources necessary to achieve improved conditions in the SR 49 corridor. The concern was that this segment, which will require new roads and several full-take right-of-way acquisitions of businesses, will require greater resources and have a larger environmental impact than other alternatives. Segment 22 is described in detail as follows:

Cold Springs Road Realignment – Beginning at the Cold Springs Road/Blacks Lane intersection, approximately 500 feet of Cold Springs Road is realigned to the southeast to a relocated Cold Springs Road/Coolwater Creek Road intersection approximately 200 feet

west of its original location. The relocated Cold Springs Road/Coolwater Creek Road intersection requires a 400' realignment of Coolwater Creek Road to the Coolwater Creek Road/Morning Dale Lane intersection. Six (6) or more parcels will be impacted, requiring either full or partial right-of-way acquisitions.

Ray Lawyer Drive Extension to Mallard Lane – Beginning at the Ray Lawyer Drive/Placerville Drive intersection, Ray Lawyer Drive will be extended approximately 0.4 miles to the northwest between Easy Street and Orchard Way, and connecting to Mallard Lane approximately 300' south of Drake Court. Ten (10) or more parcels will be *impacted* requiring either full or partial right-of-way acquisitions, including businesses.

Green Valley Road Realignment – Beginning at the Green Valley Road/Mallard Lane intersection, Green Valley Road will be realigned approximately 0.2 miles to the northeast connecting at a new intersection with the new Ray Lawyer Drive Extension and Debbie Lane. Eight (8) or more parcels will be impacted requiring either full or partial right-of-way acquisitions, including businesses.

Coloma Bypass:

The proposed Coloma Bypass is identified as Segments 25 and 26 of the 39 individual conceptual roadway segments listed in Figure 5.5. Segment 25 extends from the Lotus Road/SR 49 intersection to the Cold Springs Road/SR 49 intersection, covers a distance of 1.2 miles, and has a travel time of 3 minutes. Segment 26 extends from the Marshall Road to the Cold Springs Road/SR 49 intersection, covers a distance of 2.4 miles, and has a travel time of 5 minutes. Alternative alignments in Groups 6 and 11 incorporate the use of segments 26 and 25, respectively, which are the Coloma Bypass options as identified in the Marshall Gold Discovery State Historic Park (MGDSHP) General Plan. These two segments are the only options which fully meet the goals of the MGDSHP General Plan of both removing the alignment of SR 49 from the park and providing the ability to eliminate vehicle traffic on a portion of Main Street in Coloma for pedestrian safety. For these reasons, State Parks – Gold Fields District highly recommended including these segments in an alternative alignment.

The two Coloma Bypass segments require the construction of new bridge(s) across the South Fork of the American River, relocating SR 49 to the north side of the river, and rerouting all vehicular traffic around Main Street in Coloma and the historic core of the park unit. These two conceptual segments options are described in detail as follows:

Segment 25 – Coloma Bypass Option 1: Construct two bridges—one upstream of the Mount Murphy Bridge and a second downstream of the North Beach area--which will create a bypass around Coloma from approximately the corner of Main and Sacramento Streets to the intersection of Lotus Road and SR 49. State Parks views this as the more feasible option.

Segment 26 – Coloma Bypass Option 2: Construct one bridge upstream of the Mount Murphy Bridge that will create a bypass that approximately follows the alignment of Carvers Road to Marshall Road. This option becomes problematic when considering the residential community along Carvers Road and the steep topography towards Marshall Road.

Alternatives incorporating Segments 25 and 26 were eliminated in the Level 1 and Intermediate Level 1 screening primarily because one of the key goals of the project emphasizes the use of existing roads to reduce the amount of resources necessary to achieve improved conditions in the SR 49 corridor. The concern that these segments, which will require one or two bridges across the South Fork of the American River, will require far greater resources and have much larger environmental impacts than other alternatives resulted in them not being recommended to advance to Level 2 Screening.

However, following the Level 1 and Intermediate Level 1 screenings State Parks stated a desire to see alternatives incorporating Segments 25 and 26 evaluated in a PSR. Potential issues associated with these segments include:

- El Dorado County will need to replace the Mount Murphy Bridge regardless of the alignment of SR 49;
- The potential availability of federal funding from the Highway Bridge Program (HBP) to cover nearly 90% of the costs of replacement of the Mount Murphy Bridge; and
- A majority of the Coloma Bypass could be located on State Park right-of-way on the north side of the river. Many of the potential environmental impacts regarding cultural and visual resources are within the park. State Parks will need to consider the potential benefits a bypass will provide to the historic core of the park unit versus the potential environmental impacts the bypass will have on the park and surrounding area.

For a more detailed discussion of the ideas and concerns expressed by State Parks – Gold Fields District regarding the Coloma Bypass options as they relate to the SR 49 Realignment Study, refer to Attachment J-2, “State Parks Letter to EDCTC dated October 26, 2009.”

[SR 49 Route Adoption of 1964:](#)

The SR 49 Route Adoption of 1964 is identified as Segment 36 of the 39 individual conceptual roadway segments listed in Figure 5.5. Segment 36 extends from the Marshall Road/SR 49 intersection to the Western Placerville Drive/U.S. 50 interchange, covers a distance of 7.9 miles, and has a travel time of 9 minutes. Alternative alignment 10 incorporates Segment 36, which is the SR 49 route adopted by the CTC in 1964. On March 19, 1964, the CTC (formerly State Highway Commission) adopted a new alignment for SR 49 between U.S. 50 and Auburn in Placer County in response to the potential construction of the Auburn Dam. The adopted new alignment for SR 49 is identified as Alternative 10 in the SR 49 Realignment Study. Its limits are from U.S. 50 near the El Dorado County Fairgrounds to 0.5 miles west of the South Fork of the American River in Coloma. This alignment was originally adopted as a freeway but was later redesignated a controlled-access highway.

Caltrans began design of the adopted new alignment in 1970. The Environmental Impact Statement (EIS) was submitted to Caltrans Headquarters on September 3, 1975. A prehistoric Native American site (El Dorado No. 58) was discovered within the adopted alignment just north of Thompson Hill Road and final approval of the EIS was held up pending resolution of the matter. At that time, Caltrans shelved the project because of the constraints in funding for highways.

In 1988, the CTC denied El Dorado County’s request for an engineering study to set line and grade for the Coloma Bypass, using the alignment adopted in 1964. The decision was influenced by the extent of development within the 130’ right-of-way prism required for the alignment. Therefore, the 1964 adopted alignment was no longer a viable option. Right-of-way for the 1964 alignment was never secured (see Figure 7.1). In addition, without environmental clearance, the CTC declared that the study will be a wasted effort and that the project was unlikely to be added into the State Transportation Improvement Program (STIP).

Parcels Contiguous with or Contained within the 1964 SR 49 Alignment				
	Structure Value	Land Value	# of Parcels Contiguous with or Contained within the 1964 Alignment	Acres
Totals for All Parcels	\$20,540,868	\$11,784,844	140	1866.76
Average Structure Value	\$146,720			
Average Per Acre Value		\$6,313		
	Structure Value	Land Value	TOTAL ESTIMATED VALUE: STRUCTURES AND LAND	
Totals for Parcels within 130' ROW 1964 Alignment	\$2,878,264	\$789,122	\$3,667,386	125.00

* Total value of structures that existed within the 130' ROW of the 1964 alignment as of 2008.
 ** Total value of land, based on an average adjacent land values per acre, that is within the 130' ROW of the 1964 alignment.
 Data Source: El Dorado County Surveyor's Office GIS Dept. 2008
 Study Source: EDCTC, 2009

Figure 7.1 – Parcels Contiguous with or Contained within the 1964 SR 49 Alignment

Rescinding the 1964 route adoption was proposed during the 1980’s, but was never approved, and therefore is still an adopted route. As an adopted alignment, it was considered as an alternative alignment in the SR 49 Realignment Study and evaluated based on the same criteria that all other alternative alignments were evaluated by. For more information regarding the 1964 Route Adoption of SR 49, see Appendix L.

7.2 Project Alternatives Not Analyzed

The study did not analyze the following potential project alternatives due to their late identification during the study’s development. However, the potential alternatives should be considered for study in a PSR.

Combella Road Segment and SR 49 Upgrade Alternative: This segment is located along Cold Springs Road, Middletown Road, and Combella Road. The segment begins at the north end of Segment 33 at the intersection of Pierroz Road and Cold Springs Road and continues south on Cold Springs Road to Middletown Road and on to Combella Road which it follows to its intersection with SR 49. This segment will be used in conjunction with other alternative segments that connect to the south end of Segment 33 and allow for the bypass of the existing SR 49/U.S. 50 at-grade intersection. North of the Combella Road/SR 49 intersection, utilization of the existing SR 49 alignment is required. Several options are available with the Combella Road segment to eliminate SR 49 from the park and remain consistent with one of the key goals of the project: (1) SR 49 north to Gold Hill Road west; and (2) SR 49 north with a Coloma Bypass. These portions of existing SR 49 will require significant upgrading. For example, the segment of SR 49 from Combella Road north to the Gold Hill Road/SR 49 intersection may require significant curve correction improvements.

Additional alternatives that can be derived by utilizing the Combella Road Segment are:

- ▣ Follow Segment 25 (Coloma Bypass Option 1) to the existing SR 49 south to the Combella Road/SR 49 intersection. Follow Combella Road to Middletown Road to Cold Springs Road to Pierroz Road to Placerville Drive. From Placerville Drive take Ray Lawyer Drive to Ray Lawyer Drive Extension to existing SR 49. Follow SR 49 to Diamond Springs Parkway and Missouri Flat Road. Take Missouri Flat Road south to Pleasant Valley Road (SR 49), continuing on it to the Pleasant Valley Road/SR 49 intersection in the town of El Dorado. This alternative increases vehicle miles traveled by 3.6 miles but does not increase travel time. Travel time for this alternative is 25.8 minutes, which is less than the travel time for the No-build alternative of 26 minutes.
- ▣ Take Segment 1 (Lotus Road) to Gold Hill Road. Follow Gold Hill Road to the existing SR 49 and take it south to the Combella Road/SR 49 intersection. Take Combella Road to Middletown Road to Cold Springs Road to Pierroz Road to Placerville Drive. Follow Placerville Drive to U.S. 50 to the Missouri Flat Road Interchange. Follow Missouri Flat Road south to Pleasant Valley Road (SR 49), continuing on it to the Pleasant Valley Rd/SR 49 intersection in the town of El Dorado. This alternative increases vehicle miles traveled by 2.6 miles and increases travel time by two minutes.

County Route (SR 49 Alternate Truck Route) Alternative: Alternative alignments such as Alternative 1C (Lotus Rd to Green Valley Rd to North Shingle Rd to Mother Lode Dr to Pleasant Valley Rd to SR 49) and Alternative 3E (Lotus Rd to Green Valley Rd to Missouri Flat Rd to Pleasant Valley Rd/SR 49) could be designated as a County “E” Route to serve as a truck route. Direction signage in Coloma would advise southbound SR 49 truck traffic to take the alternate “E” Route to the town of El Dorado where it would continue southbound on SR 49. Direction signage in the town of El Dorado would advise northbound SR 49 truck traffic to take the alternate “E” Route to the town of Coloma where it would continue northbound on SR 49. This alternative would allow SR 49 to maintain its historic alignment between Coloma and El Dorado while relieving truck traffic impacts to densely populated residential areas and business districts of the City of Placerville and town of Diamond Springs. However, the alternative would not satisfy the project goal of eliminating the at-grade intersection of SR 49 and U.S. 50 or removing the alignment of SR 49 from Marshall Gold Discovery State Historic Park.

8. SYSTEM AND REGIONAL PLANNING

During the Level 2 Screening process the study analyzed whether or not Alternatives 3E, 5G, and 5H were compatible and consistent with relevant state and local plans and projects. The results of that analysis are provided below.

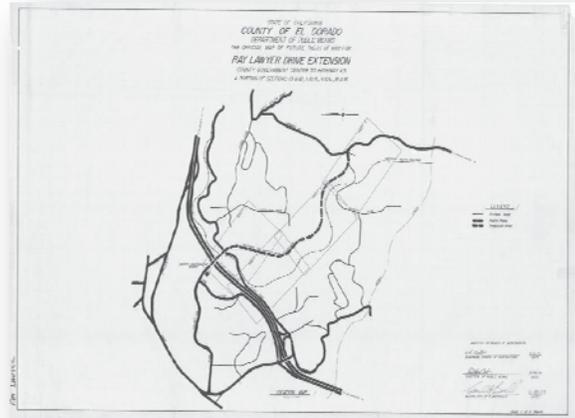
8.1 *SR 49 Transportation Concept Report (TCR)*

The roadway cross section proposed in this study is a 40’ section and is consistent with the Caltrans State Route 49 Transportation Concept Report (TCR), which identifies the concept for SR 49 between Coloma and El Dorado as a 40-foot-wide two-lane conventional highway, where feasible. The proposed cross section includes two 8’-foot shoulders and two 12-foot travel lanes (see Attachment B – Proposed Typical Cross Section).

8.2 El Dorado County General Plan

The alternatives explored in this study are compatible with planned zoning and land uses in the project area as identified in the El Dorado County General Plan and polices. The following are some of El Dorado County’s planned key projects based on zoning and land uses identified in the General Plan and were considered in the evaluation of an alternative’s compatibility with the General Plan:

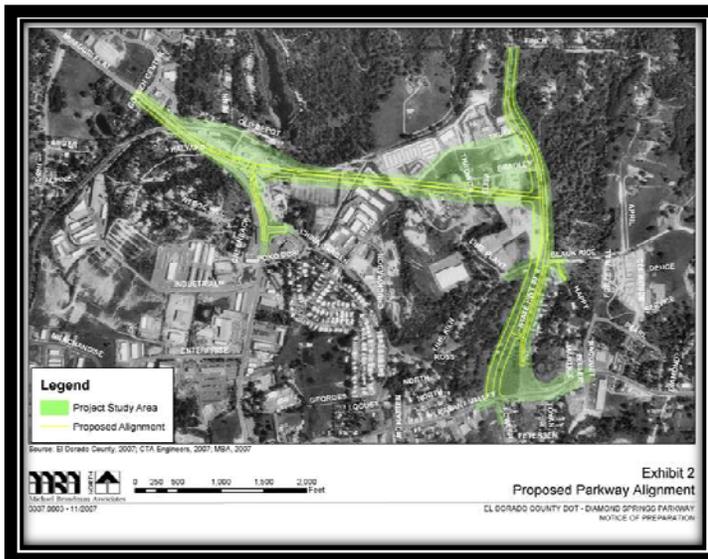
- ▣ SR 49 Widening in Diamond Springs
- ▣ Ray Lawyer Drive Extension
- ▣ Diamond Springs Bypass
- ▣ U.S. 50/Ponderosa Road/South Shingle Road Interchange Improvements
- ▣ U.S. 50/Missouri Flat Road – Phase 1B Interchange Improvements



Source: City of Placerville Public Works

Ray Lawyer Drive Extension: El Dorado County has identified the need for a connection from the proposed U.S. 50/Ray Lawyer Drive interchange (as part of the U.S. 50/Western Placerville Drive Interchange Project) and Ray Lawyer Drive to SR 49 south of the City of Placerville. In 1979, El Dorado County completed a county route adoption that extended Ray Lawyer Drive south and east parallel to the Sacramento-Placerville Transportation Corridor (SPTC). None of the alternatives presented in this study will preclude the County

from constructing this as a stand-alone project.



SR 49 Widening in Diamond Springs: El Dorado County has planned the SR 49 Widening Project located in Diamond Springs on SR 49 between Pleasant Valley Road and Bradley Drive. The project consists of widening SR 49 to a standard two-lane highway (providing 12-foot lanes and eight-foot shoulders), and creating a frontage road for the adjacent residences for access control. None of the alternatives presented in this study will

preclude the County from constructing this as a stand-alone project.

Diamond Springs Bypass: El Dorado County identified the need for a new east-west arterial connecting Missouri Flat Road to Pleasant Valley Road, both east and west of Diamond Springs. The new arterial will provide needed additional capacity and will remove through traffic from Pleasant Valley Road (SR 49) through “downtown” Diamond Springs--

especially at the Pleasant Valley Road/Missouri Flat Road and Pleasant Valley Road/SR 49 intersections. None of the alternatives presented in this study will preclude the County from constructing this as a stand-alone project. The El Dorado County Department of Transportation (DOT) is in the process of preparing an Environmental Impact Report (EIR) for the Diamond Springs Parkway Project. The preliminary roadway design depicts a new parkway beginning at Missouri Flat Road near its intersection with the SPTC, then heading north of China Garden Road eastward to SR 49. The project is identified in the County General Plan (2004) Circulation Map as a planned four-lane divided road and is part of DOT's five-year Capital Improvement Plan (CIP). Because the El Dorado County DOT is in the process of conducting the CEQA review for the Diamond Springs Parkway Project, it is anticipated that the evaluation of the project's consistency with applicable planning documents will be conducted during the project EIR.

[U.S. 50/Ponderosa Road/South Shingle Road Interchange Improvements:](#) El Dorado County is proposing a project that provides capacity improvements to the U.S. 50/Ponderosa Road/South Shingle Road Interchange. The project includes widening of the existing U.S. 50 overcrossing to accommodate five lanes and the realignment of the westbound loop on-ramp, ramp widenings, and widening of Ponderosa Road, Mother Lode Drive, and South Shingle Road. None of the alternatives presented in this study will preclude the County from constructing this as a stand-alone project.

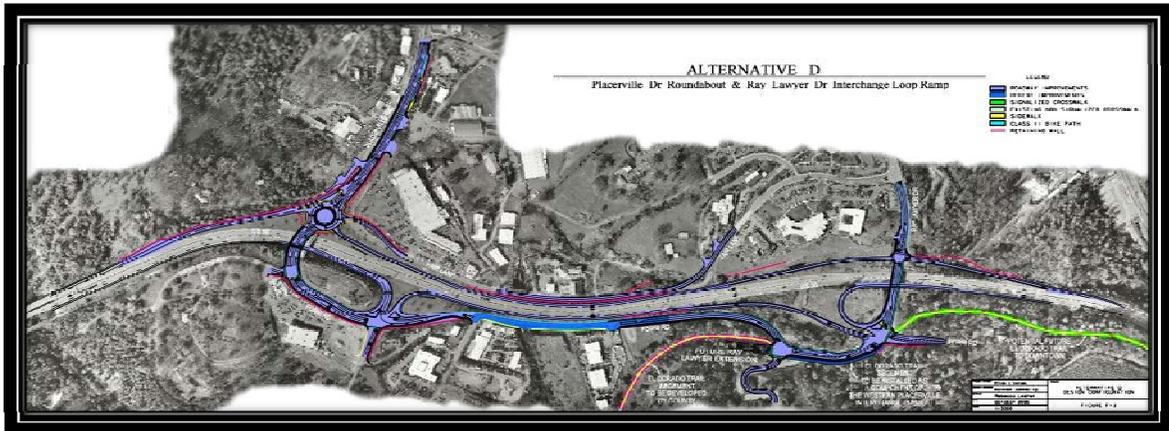
[U.S. 50/Missouri Flat Road – Phase 1B Interchange Improvements:](#) El Dorado County is proposing a project that modifies the existing U.S. 50/Missouri Flat Road interchange, widens the U.S. 50/Weber Creek bridges, and provides bicycle and pedestrian facilities between Missouri Flat Road and Western Placerville Drive/Forni Road interchanges. None of the alternatives presented in this study will preclude the County from constructing this as a stand-alone project.

8.3 City of Placerville General Plan

The City of Placerville General Plan states as a goal under Section III that the City “shall support the relocation of Highway 49 to an alternate route through Placerville”. Therefore, the alternatives explored in this study are compatible with the goals, planned zoning, and land uses in the project area as identified in the City of Placerville General Plan and polices. The following are some of the City's planned key projects based on zoning and land uses identified in the General Plan that assisted in the evaluation of alternatives concerning their compatibility:

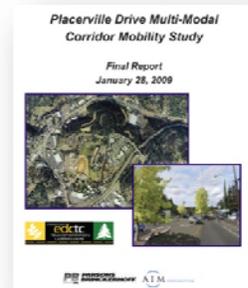
- ▣ U.S. 50/Western Placerville Interchanges Project
- ▣ Placerville Drive Multi-Modal Corridor Mobility Plan

[U.S. 50/Western Placerville Interchanges Project:](#) The City of Placerville is proposing to widen and improve segments of Forni Road, Fair Lane, Placerville Drive, and Ray Lawyer Drive. Improvements to these roadways will be made in conjunction with modifications and improvements to eastbound and westbound U.S. 50 ramps to and from Forni Road, Placerville Drive, and Ray Lawyer Drive. None of the alternatives presented in this study will preclude the City from constructing this as a stand-alone project.



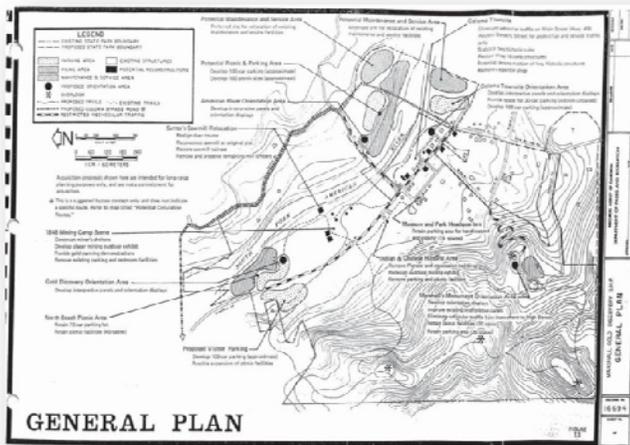
Source: City of Placerville Public Works

Placerville Drive Multi-Modal Corridor Mobility Plan: The Placerville Drive Multi-Modal Corridor Mobility Study focuses on Placerville Drive between the limits of the Placerville Drive/Forni Road interchange on the west, and the new Placerville Drive/U.S. 50 interchange on the east. The plan developed a concept for Placerville Drive that articulates a vision to integrate future land use with a multimodal roadway facility. None of the alternatives presented in this study will preclude the City from implementing the plan.



Source: EDCTC

8.4 Marshall Gold Discovery State Historic Park General Plan



Source: MGDSPH General Plan, 1979

The Marshall Gold Discovery State Historic Park (MGDSHP) General Plan was approved in 1979 and acknowledged the threat to the historic environment, the structural stability of buildings, and visitor safety created by traffic on SR 49 through Main Street in Coloma. The MGDSPH General Plan recommended the development of a “Coloma Bypass” road, which will help achieve two primary goals for traffic and circulation in the park:

1. Remove the alignment of SR 49 from the park; and
2. Eliminate all vehicular traffic through the park on a portion of Main Street for pedestrian safety and to simulate the park’s historic appearance during the gold rush period.

The MGDSHP General Plan describes two options for a Coloma Bypass which involve the construction of a new bridge(s) across the South Fork of the American River, relocation of the roadway on the north side of the river, and bypassing traffic around Main Street and the historic core of the park. The first option will construct two bridges, one upstream of the existing Mount Murphy Bridge, and a second downstream of the North Beach area, creating a bypass around Coloma approximately from the corner of Main and Sacramento Streets to the intersection of Lotus Road and SR 49. The second option will involve a single bridge upstream of the existing Mount Murphy Bridge and will create a bypass that approximately follows the alignment of Carvers Road to Marshall Road.

Although all the alternatives explored in the SR 49 Realignment Study are compatible with the stated goals identified in the MGDSHP General Plan, only the alternatives that proposed the Coloma Bypass meet the full intent of the General Plan for the park unit.

8.5 Multi-modal Planning Opportunities

The SR 49 Realignment Study evaluated the proposed alternatives for bicycle and pedestrian opportunities and potential conflicts with the El Dorado Transit Authority's various multi-modal transportation plans, the City of Placerville's Non-Motorized Transportation Plan and Pedestrian Plan, the El Dorado County Bicycle Transportation Plan (EDCBTP), and the El Dorado County Sacramento Placerville Transportation Corridor (SPTC) Master Plan.

Bicycle and Pedestrian Opportunities: The EDCBTP identifies rural roads that comprise bicycle transportation corridors within the county (see Figure 8.1). Among these roads are Green Valley Road, North Shingle Road, South Shingle Road, Pleasant Valley Road, and Mother Lode Drive. Many of these roads are being considered as possible alternative alignments for SR 49. The EDCBTP recognizes that new development along these roads could result in increased numbers of commute bicyclists and encourages the installation of Class II Bike Lanes, which can lead to possible improved connectivity within the overall bikeway system.

The proposed SPTC–El Dorado Trail corridor currently extends from the western El Dorado County line to the Camino area just east of Placerville. El Dorado County and the City of Placerville have developed segments of the trail between Missouri Flat Road and Forni Road and from Clay Street in the City of Placerville to Los Trampas Drive near Camino Heights.

Currently, there are two proposed projects within El Dorado Trail corridor, including the SPTC, which will provide a multi-modal transportation corridor extending from Shingle Springs to Camino. The segments proposed for consideration are listed below from east to west, two of which are currently underway:

- ▣ *Main Street to Ray Lawyer Drive in Placerville* – EDCTC and the City of Placerville are working with Caltrans to obtain the right of way necessary to open this segment as a natural trail and to construct a Class I bike path from the intersection of Placerville Drive and Forni Road to Ray Lawyer Drive.
- ▣ *Missouri Flat Road to Mother Lode Drive in El Dorado* - This segment is now open as a natural trail. EDCTC is currently seeking funding to construct a Class I bike

path in this segment from Missouri Flat Road to Mother Lode Drive in the town of El Dorado.

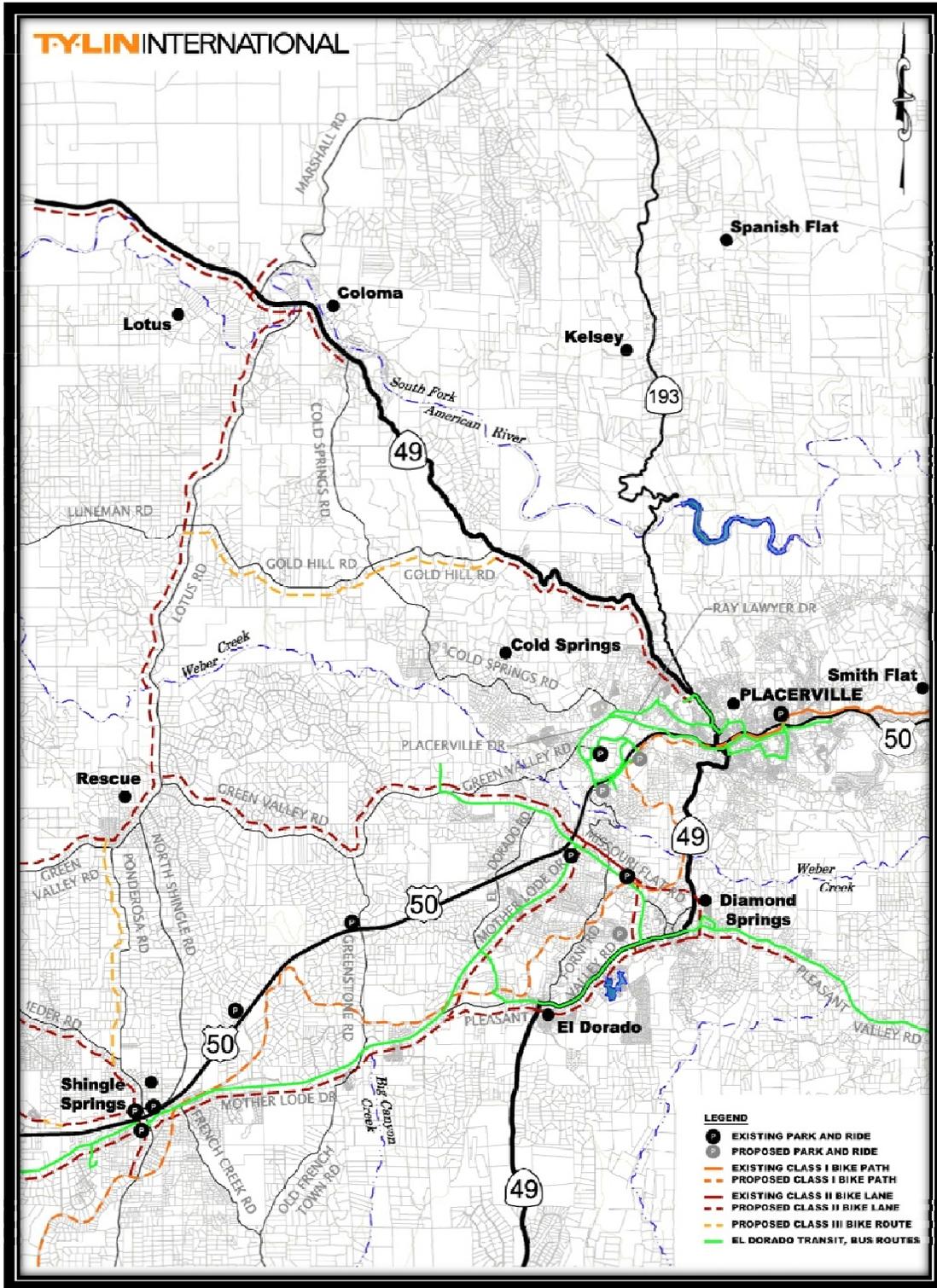


Figure 8.1 Map of Alternative Modes of Transportation (Source: EDC Transit and EDCBTP)

Additional segments of the El Dorado Trail, from Mother Lode Drive in El Dorado to the El Dorado County/Sacramento County line, are proposed by the EDCBTP to be developed with a Class I bike path, linking the El Dorado Trail with the City of Folsom’s bikeway system and the American River Bike Trail.

None of the alternatives presented in the SR 49 Realignment Study present any conflicts with the various multi-modal transportation plans previously mentioned.

Transit Opportunities: El Dorado Transit provides general public transit service throughout the County, connecting the communities of Pollock Pines, Camino, Placerville, El Dorado, Diamond Springs, Cameron Park, Shingle Springs and Grizzly Flat. El Dorado Transit offers scheduled fixed-route service, daily commute service to Sacramento, and Dial-A-Ride service in Placerville. El Dorado Transit also provides the Placerville Area Shuttle Service (PASS) and PASS Express, as well as a Trolley service that runs between November 28th and December 23rd in Placerville. El Dorado Transit has eight routes that may be affected by the alternatives evaluated in the SR 49 Realignment Study. Seven routes will be affected by Alternatives 5G and 5H, while Alternative 3E affects only two of the transit routes (see Attachment E-1 “Level 2 Screening – Map of Alternatives”). In addition, there are approximately 10 transit timepoints (key bus stops) located adjacent to the three alternative alignments:

1. Diamond Springs Timepoint 1 (Segment 39; Missouri Flat Transfer Center);
2. Diamond Springs Timepoint 3 (Segment 18; Diamond Springs Mobile Home Park);
3. Diamond Springs Timepoint 8 (Segment 17; El Dorado Transit Offices);
4. Diamond Springs Timepoint 9 (Segment 17; Lake Oaks Drive and Patterson Drive);
5. Diamond Springs Timepoint 10 (Segment 17; Union Mine High School Circle);
6. Diamond Springs Timepoint 11 (Segment 17; Pleasant Valley Road and Oro Lane);
7. Placerville – Eastbound Timepoint 9 (Segment 33; Big 5, Placerville Drive);
8. Placerville – Eastbound Timepoint 10 (Segment 33; M.O.R.E. Workshop);
9. Placerville – Eastbound Timepoint 13 (Segment 32; Hidden Springs Circle); and
10. Placerville – Eastbound Timepoint 14 (Segment 32; Cold Springs Dental).

Because a number of transit stations are located adjacent to the three alternative alignments, it is anticipated that transit service could be disrupted during construction activities. The proposed design for the SR 49 Realignment Project is not known at this time; therefore it cannot be determined whether the project will impact transit operations. It is anticipated that the lead agency will coordinate with El Dorado Transit prior to construction to minimize delays in transit operations; however, a project-specific evaluation of the project’s impact on transit facilities and operations will be required during the CEQA review of the SR 49 Realignment Project.

9. TRAFFIC ANALYSIS

9.1 Existing Conditions

To understand the existing traffic flow patterns along the three study alternatives (3E, 5G, and 5H), existing traffic counts were collected during the PM peak hour (between 4 and 6 PM) of an average weekday from available County sources. Based on the traffic counts and capacity thresholds along the study routes, the operating performance of each roadway segment was described in terms of level of service (LOS). LOS ranges from A through F,

which represents driving conditions from the least congested to most congested, respectively. In general, LOS A represents free-flow conditions and LOS F represents severe delay caused by stop-and-go conditions. Figure 9.1 summarizes volume capacity thresholds that were used to calculate LOS during the PM peak hour.

The traffic analysis conducted for the SR 49 Realignment Study did not include an origin-destination study, which is used to determine and analyze traffic travel patterns during a typical day or weekend. Consequently, the operating performances shown for each roadway segment during peak hour traffic levels for existing and future conditions do not reflect the influences of local, tourist, commercial, and through traffic. An origin-destination study will be conducted as part of the PSR to analyze the effects of local, tourist, commercial, and through traffic on existing and future peak hour traffic demands.

Figure 9.2 b below describes the LOS for each segment of the three alternatives during the PM peak hour for the existing conditions and future conditions in the year 2025. For roadway segments, the LOS capacity thresholds given are the combined two-way total volume. For freeway segments on U.S. 50, the LOS is calculated separately by direction, and those thresholds given below are one-way directional totals.

PEAK HOUR VOLUME THRESHOLDS AND LEVEL OF SERVICE FOR STUDY ROADWAYS					
Facility Type	Maximum Peak Hour Volume				
	LOS A	LOS B	LOS C	LOS D	LOS E
2-Lane Minor Highway	90	200	680	1,410	1,740
4-Lane Major Highway	120	290	790	1,600	2,050
2-Lane Arterial	--	--	970	1,760	1,870
4-Lane Arterial – Divided	--	--	1,920	3,540	3,740
2-Lane Freeway (by direction)	1,110	2,010	2,880	3,570	4,010

Source: Fehr & Peers, 2009

Figure 9.1 Peak Hour Volumes Thresholds & LOS for Study Roadways

PM Peak Hour Traffic Roadway Level of Service – Existing / Future Conditions			
Alternative	Segment	LOS	
		Existing	Future*
3E	1 – Lotus Rd from SR 49 @ Coloma to Gold Hill Rd	C	D
	2 – Lotus Rd from Gold Hill Road to Green Valley Rd	D	D
	13 – Green Valley Rd from Lotus Rd to Greenstone Rd	C	D
	28 – Green Valley Rd from Greenstone Rd to Missouri Flat Rd	C	D
	30 – Missouri Flat Rd from Green Valley Rd to IC#4	D	D
	39 – Missouri Flat Rd from IC#4 to Diamond Springs Parkway	D	F
	18 – Missouri Flat Rd from Diamond Springs Parkway to Pleasant Valley Rd (SR 49)	F	F
	17 – Pleasant Valley Rd (SR 49) to SR 49 @ El Dorado	D	F

* Assumes no improvements made to the existing roadway segments.

Figure 9.2 – Peak Hour Traffic LOS by Segment – Existing & Future Conditions

PM Peak Hour Traffic Roadway Level of Service – Existing / Future Conditions			
Alternative	Segment	LOS	
		Existing	Future*
5G	1 – Lotus Rd from SR 49 @ Coloma to Gold Hill Rd	C	D
	27 – Gold Hill Rd from Lotus Rd to Cold Springs Rd	C	C
	23 – Cold Springs Rd from Gold Hill Rd to Coolwater Creek Rd	C	C
	32 – Cold Springs Rd from Coolwater Creek Rd to Pierroz Rd	C	D
	33 – Placerville Dr from Pierroz Rd to Ray Lawyer Dr	C	D
	21 – Ray Lawyer Dr from Placerville Dr to IC#6	C	D
	IC#6 – Ray Lawyer Dr / U.S. 50 Interchange	C	D
	20 – Ray Lawyer Dr Extension from IC#6 to SR 49	C	D
	38 – SR 49 from Ray Lawyer Dr Extension to Diamond Springs Parkway	C	D
	37 – Diamond Springs Parkway from Bradley Dr to Missouri Flat Rd at SPTC Crossing	C	D
	18 – Missouri Flat Rd from Diamond Springs Parkway to Pleasant Valley Rd (SR 49)	F	F
	17 - Pleasant Valley Rd (SR 49) to SR 49 @ El Dorado	D	F
	5H	1 – Lotus Rd from SR 49 @ Coloma to Gold Hill Rd	C
27 - Gold Hill Rd from Lotus Rd to Cold Springs Rd		C	C
23 - Cold Springs Rd from Gold Hill Rd to Coolwater Creek Rd		C	C
32 - Cold Springs Rd from Coolwater Creek Rd to Pierroz Rd		C	D
33 - Placerville Dr from Pierroz Rd to Ray Lawyer Dr		C	D
21- Ray Lawyer Dr from Placerville Dr to IC#6		C	D
IC#6 - Ray Lawyer Dr / U.S. 50 Interchange		C	D,E
IC#5 – Placerville Dr / U.S. 50 Interchange from IC#5 to IC#6		C	D,E
IC#4 – Missouri Flat Rd / U.S. 50 Interchange from IC#5 to IC#4		C	D,E
39 – Missouri Flat Rd from IC#4 to Diamond Springs Parkway		D	F
18 - Missouri Flat Rd from Diamond Springs Parkway to Pleasant Valley Rd (SR 49)		F	F
17 - Pleasant Valley Rd (SR 49) to SR 49 @ El Dorado		D	F

* Assumes no improvements made to the existing roadway segments.

Figure 9.2 – Peak Hour Traffic LOS by Segment – Existing & Future Conditions (continued)

Most of the roadway segments of the three recommended alternatives operate at LOS C or better, except for segments of Lotus Road between Gold Hill Road and Green Valley Road, and Missouri Flat Road, Pleasant Valley Road, and SR 49 (south of U.S. 50). Missouri Flat Road operates at LOS D along the four-lane section just south of U.S. 50 and at LOS F along the two-lane portion just north of Pleasant Valley Road. Traffic operations on U.S. 50 and SR 49 in Placerville are at LOS C or better, which is generally appropriate for the roadway segments leading into Placerville. However, traffic operations in Placerville are controlled by the at-grade traffic signal controlled intersection on U.S. 50 at Canal Street and SR 49, and adjacent closely spaced intersections (south of U.S. 50), which the roadway

segment analysis methodology cannot account for. Field observations indicate congested conditions during the PM peak hour.

About one percent of travel on SR 49 (north or south of the study area) is through travel. Consequently, most trips in the study area have a local origin and/or destination. This information is based on a review of the existing conditions data collected for the study and a review of the base year El Dorado County TDF model. While this information is useful in describing the general characteristics of travel in the study area, it does not provide detail about who is using the facilities, like the percentage of travelers that are tourists and what percentage of tourist traffic is occurring in the peak hours. This data is important for determining if the proposed improvements are addressing the needs of travelers. Therefore, it is recommended that future traffic analysis include some or all of the following to answer these questions:

- ▣ A vehicle license plate survey
- ▣ A vehicle intercept survey
- ▣ Detailed origin/destination analysis

9.2 Future Conditions

The El Dorado County Travel Demand Forecasting (TDF) Model was used to forecast traffic flow patterns during the PM peak hour in the future year 2025. Travel characteristics under year 2025 conditions are expected to be similar to those described above under existing conditions. However, traffic volumes generally increase. In addition, PM peak hour flow on U.S. 50 is more balanced, which is consistent with increased employment in the study area. Figure 9.2 summarizes the operating performance of each study roadway segment during the PM peak hour in terms of LOS, which is based on 2025 forecasted volumes and roadway volume capacity thresholds, assuming no improvements are made to the existing roadways. Compared to existing conditions, most of the study facilities will operate at LOS D or worse, consistent with planned development. Residential and non-residential development growth in the study area is summarized below: (*Source: El Dorado County General Plan Model*)

- ▣ The number of households within the study area is forecast to increase by about 2,900 to a total of about 11,100 households by 2025.
- ▣ The number of jobs within the study area is forecast to increase by about 6,700 to a total of 18,900 jobs by 2025.

10. ENVIRONMENTAL CONSTRAINTS ANALYSIS

10.1 Aesthetics

The 2004 El Dorado County General Plan classifies visual resources into two categories: scenic resources and scenic views. No scenic resources are located immediately adjacent to the proposed three Alternative Alignments; however, one scenic resource (the historic townsite of Coloma--Marshall Gold Discovery State Historic Park) is located along the No-Build Alternative Alignment. The scenic resource is located along SR 49 in the Coloma area, and is identified as Locations 3a and 4b in the El Dorado County General Plan. Caltrans has identified the existing SR 49 alignment as eligible for state scenic highway status. If Caltrans designates SR 49 as a state scenic highway, the County will be required

to adopt a scenic corridor protection program for SR 49, which will protect views and place controls on incompatible land uses along the highway.

Within the proposed Alternative Alignments, there is one scenic view, as defined by the El Dorado County General Plan. The scenic view is in all directions along Cold Springs Road in the Gold Hill area, and provides views of rolling hills and ridgelines. This scenic view is located along Segment 23, which is included in Alternative Alignments 5G and 5H. If either Alternative Alignment is selected, it is likely to have a less-than-significant impact on the scenic view. The area is considered a scenic view for the views of the rolling hills and ridgelines, and modification to the roadway will not impact the scenic view.

The City of Placerville General Plan defines nine subareas within the city limits that provide input to the scenic resources and urban design analysis. Roadway segments considered for the SR 49 Realignment Project are located within three of the nine subareas. The three subareas are 1c, 3b and 7, as defined in the 1989 City of Placerville General Plan Background Report.

According to the City of Placerville General Plan Background Report, Subarea 1c consists of commercial uses in the foreground views with middleground views with scenic value; however, as stated in the General Plan Background Report, the foreground views dominate this subarea. Roadway Segments 21 (Ray Lawyer Drive) and 33 (Placerville Drive) are located within Subarea 1c.

Subarea 3b is predominantly suburban residential with grassland and agricultural areas. As stated in the General Plan Background Report, “Most portions of the residential area have high scenic value as do the grassland and agricultural area.” Roadway Segment 32 and the easternmost portion of Segment 23 is located within Subarea 3b.

Subarea 7 is comprised of rural residential and agricultural uses, and “the area should be considered as having high scenic resource value, particularly with respect to the Route 49 ‘scenic’ corridor” (City of Placerville, 1989b). The northern portion of roadway Segment 20 (the future Ray Lawyer Drive Extension) is located within Subarea 7.

Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will impact scenic resources and/or scenic views. Because Alternative 5G includes two new roadway segments (Segments 20 and 37), Alternative 5G’s visual resources impact is considered potentially significant until a project specific visual resources evaluation can be conducted. In order to determine the project’s effect on visual resources, a project-specific visual resources evaluation will be required during the CEQA/NEPA review of the SR 49 Realignment Project.

10.2 Agricultural Resources

“Farmland of Local Importance” is located adjacent to Segments 1, 2, 13, 23, 27, 28, 30, and 38. “Prime Farmland” is located adjacent to Segment 27 (Gold Hill Road). The El Dorado County General Plan identifies seven areas (Agricultural Districts) that are important to agriculture in the County. The Agricultural Districts are identified primarily by soils, which should be preserved for agricultural use. Portions of the project area (segments 1, 23, and 27) are located within the Gold Hill Agricultural District. Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will result in development of incompatible uses adjacent to

agriculturally zoned parcels. In order to determine the project’s impact on agriculturally zoned parcels, a project-specific agricultural resources evaluation--including evaluating distance of setback from proposed improvements and location of Williamson Act Contract lands with relation to the proposed improvements will be required during the CEQA/NEPA review of the SR 49 Realignment Project.

10.3 Air Quality

The project area is located within the Mountain Counties Air Basin (MCAB) and under the jurisdiction of the El Dorado County Air Quality Management District (EDCAQMD). El Dorado County is designated as non-attainment for the federal ozone standard. Under the state Ambient Air Quality Standards and based on 2004 designations, El Dorado County is designated non-attainment for ozone and PM₁₀. Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will result in exceeding the established federal, state and local air quality standards. In order to determine the project’s effect on air quality emissions (both construction-related and operational), a project-specific air quality evaluation will be required during the CEQA/NEPA review of the SR 49 Realignment Project.

10.4 Biological Resources

Vegetation

The project site occurs primarily within a rural residential area. A mix of annual grassland and oak woodland comprise the majority of the habitat types between residential properties. The following Figure 10.1 is a complete list of the estimated acreage of various habitat cover types observed along the proposed road alignments.

Waters and Wetlands

The alternative alignments affect habitats regulated by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act; the California Department of Fish and Game under Section 1601 of the California Fish and Game Code, the Central Valley Regional Water Quality Control Board under Section 401 of the Clean Water Act and the Porter-Cologne Act. These habitats could consist of ponds, wetland swales and channels and creeks. Numerous wetland features cross or parallel the proposed alignments.

Habitat Type	Proposed Alignments (acres)		
	3E	5G	5H
Oak woodland	53.8	64.9	47.7
Annual Grassland	40.8	33	28.7
Chaparral	5.9	2.9	2.9
Riparian	3.6	2.4	2.7
Rural Residential	21.4	31.6	32.4
Agriculture	0	1.7	1.7
Swale	0.87	0.83	1.05
Pond	1.2	0.45	0.45
Channel	0.98	0.09	0.09
Developed	66.8	72.9	88.1
Total	194.35	210.77	205.79

Source: Padre Associates, 2009a

Figure 10.1 Habitat Acreage Estimate

During surveys, wetland habitat was categorized by channel, swale, and/or pond habitat. For a list of acreage estimates for the proposed alignments, see Figure 10.1. Potential regulated waters and wetlands (in the form of channel/swale habitat and pond habitat) for each proposed alignment segment is depicted in Figures 3A-G of the Environmental Constraints and Opportunities Analysis (see Attachment H). Wetland acreage and locations are estimates based on windshield surveys and a review of topographic and U.S. Fish and Wildlife National Wetland Inventory (NWI) maps.

Vegetated roadside ditches, swales, ponds and creeks may be considered jurisdictional waters of the United States or wetlands regulated by the Corps and California Department of Fish and Game (CDFG). A preliminary jurisdictional delineation is recommended to determine whether the features mapped within the proposed alignments are subject to jurisdiction of the Corps and CDFG.

Soils

There are approximately 17.21 acres of serpentine soils on Alternative Alignment 3E and 14.35 acres on Alternative Alignments 5G and 5H. The majority of the serpentine soils are in the vicinity of Lotus Road between Gold Hill and Green Valley Roads. Serpentine rock and soils contain naturally occurring asbestos, a hazardous material that is regulated by the County of El Dorado and the State of California.

Special-Status Species

Plants: The results of a California Natural Diversity Database (CNDDDB) query indicate that there were three special-status plant species recorded within one mile of the proposed alignments (CNDDDB, 2009). These species include: Layne's ragwort (*Senecio layneae*), Jepson's onion (*Allium jepsonii*), and Red Hill soaproot (*Chlorogalum grandiflorum*). In addition to these three plants, Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*) and Stebbins' morning glory (*Calystegia stebbinsii*) have the potential to occur along the proposed alignments based on their soil and/or habitat preferences.

Layne's ragwort is a federally listed threatened and California-listed rare species. This species has the potential to occur along roadsides within the proposed alignments on serpentine soils. Two known occurrences of Layne's ragwort have been recorded along proposed Alignment 3E, and one known occurrence has been recorded along all three proposed alignments.

Jepson's onion is a CNPS List 1B plant species. This species has the potential to occur along roadsides within the proposed alignments on serpentine soils. The nearest recorded occurrence to the project site is within a quarter mile south of Alignment 3E.

Red Hills soaproot is a CNPS List 1B plant species. This species has the potential to occur near the proposed alignments on serpentine soils. The nearest recorded occurrence to the project site is approximately 0.75-mile west of Alignment 3E.

Stebbins' morning glory is a federal- and state-listed endangered plant species. This species has the potential to occur near the proposed alignments on serpentine soils. The nearest recorded occurrence to the project site is approximately 3.75 miles west of all the proposed alignments.

Brandegees' clarkia is a CNPS List 1B species. This species has the potential to occur along roadsides within the proposed alignments. The nearest recorded occurrence to the project site is approximately two miles east of Alignment 5H along the current SR 49 alignment.

Based on the proximity of rare plant species to the proposed alignments, surveys should be conducted along the selected alignments, and in particularly areas with serpentine soil. Surveys should be conducted within the blooming periods of the species of interest.

Wildlife: The results of a California Natural Diversity Database (CNDDDB) query indicate that there were three special-status wildlife species recorded within one mile of the alternative alignments (CNDDDB, 2009). These species include Foothill Yellow-Legged Frog (*Rana boylei*), Northern Pacific Pond Turtle (*Actinemys marmorata*), and Tri-Colored Blackbird (*Agelaius tricolor*). In addition to these two species, California red-legged frog (*Rana aurora draytonii*), California tiger salamander (*Ambystoma tigrinum*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) have the potential to occur along the proposed alignments based on their historical range and/or habitat preferences.

California red-legged frog (CRLF) is a federally listed threatened species and a California Species of Special Concern. The closest occurrence of a CRLF to the project site is one single juvenile frog seen in May of 2005 on the eastern edge of Folsom Lake, approximately eight miles from the project site. However, this occurrence is unverified (Barry, 2008). The closest critical habitat is located near Spivey Pond approximately eight miles from the easternmost road segment alignment. Spivey Pond is the closest verified CRLF occurrence to the proposed alignments approximately 12 miles east of the proposed alignments. Based on a review of aerial photography and topographic maps of the area surrounding the proposed alignment, there are many small farm ponds and channels near the proposed alignments that could provide habitat for the CRLF. To properly assess the habitat within a one-mile radius of the project site, a CRLF Site Assessment is recommended.

Valley elderberry longhorn beetle (VELB), a moderate-sized, brightly colored, and sexually dichromatic beetle, was listed as a threatened species by the USFWS on August 10, 1980. The likelihood of habitat for the VELB along the proposed alignments is high. The closest reported occurrence of the VELB to the project site is a cluster of blue elderberry shrubs containing VELB exit holes on the eastern edge of Folsom Lake, approximately seven miles from the project site. Critical habitat for the VELB occurs along the American River Parkway in Sacramento, approximately 20 miles from the project site. To properly identify blue elderberry shrubs, the obligate host plant of the VELB, a spring survey conducted during the blooming season (March through July), is recommended.

Northern Pacific pond turtle (NPPT) is a California Species of Special Concern. This species could occur within ponds or creeks along the proposed alignments. There is one known occurrence one mile east of Alternative Alignment 5G.

Foothill yellow-legged frog (FYLF) is a California Species of Special Concern. This species has the potential to occur within streams along the proposed alignments. There is a known population of FYLF on Indian Creek within 0.75 mile from the northern portion of the proposed alignments.

California tiger salamander (CTS) is a Federal Threatened species and California Species of Special Concern. Portions of the project site are at the upper limits of the species altitude range; however, CTS has the potential to occur within stockponds or vernal pools near the proposed alignments. The nearest known occurrence of this species is approximately 21 miles southwest of the project site.

Tricolored blackbird is a California Species of Special Concern. This species has the potential to occur within riparian habitat along the proposed alignments. The nearest known occurrence of this species is approximately one mile east of proposed Alternative Alignments 5G and 5H.

10.5 Cultural Resources

In October 2009, staff of the North Central Information Center (NCIC) of the California Historical Resources Information System conducted a records search of the study area. The records search indicates that limited portions of the project area were previously surveyed for cultural resources. Of the three alternative alignments (3E, 5G, and 5H), at least 27 past cultural resource surveys have covered a portion of one of the alternatives, bisected one of them, or were completed immediately adjacent to the proposed roadway alignment. The records search found that 40 prehistoric and historic-period cultural resources were recorded within one-eighth mile of one of the alternative routes. The sites include prehistoric bedrock milling sites, lithic scatters, and habitation locales, as well as historic period mining features, ditches, roads, refuse scatters, standing structures, cemeteries, water towers, roads, and a ranch complex.

Review of the above referenced historic maps and ethnographic sources did not identify any named Nisenan settlements along the three alternative alignments, although several are located nearby. Such village sites include *Pul Pull Mul* along Webber Creek, *In Dak* near Placerville, and *On Cho Ma* near Diamond Springs. The presence of numerous archaeological sites with bedrock mortars, and some with midden, indicate that small, seasonal villages were most likely situated within the study area. In addition to suggesting the location of historic features across the landscape, the historic references consulted help to define a range of expectations. It is anticipated that other features, related to gold mining, homesteading, agriculture, and infrastructure, are present within the study area.

The relatively few cultural resource surveys conducted within the study area produced a relatively large number of resources. The records search results indicate that portions of the potential realignment routes were previously surveyed (26 percent). A total of 40 cultural resources were documented immediately adjacent or within one eighth of a mile of one of the alternative routes. Documented resources include prehistoric bedrock milling sites, lithic scatters, and habitation locales, as well as historic-period mining features, ditches, roads, refuse scatters, standing structures, cemeteries, water towers, roads, and a ranch complex. Of the 40 cultural resource sites in the study area, approximately six lie within or adjacent to a potential alignment. The segment of Lotus Road, which follows the original Sacramento to Coloma Road, is a state historical landmark. While the significance of a few of the resources within the study area has been evaluated (per the National Register of Historic Places [NRHP] and California Register Historic Resources [CRHR] criteria), most have not. There is a high probability of encountering additional cultural resource sites that reflect the range of prehistoric and historic land uses documented herein.

In order to fully characterize the presence of cultural resources that could be impacted by the proposed project, an intensive pedestrian survey of all components of the preferred alternative is recommended. As such, areas to be used for equipment staging or material lay-down should be identified early in the planning process so that they may be included in the cultural inventory. Areas that were previously surveyed using current professional standards do not merit re-survey. In the event that prehistoric or historic-period resources are identified within a portion of the project site, complete avoidance may be the preferable strategy. If complete avoidance is not feasible, an evaluation of the resources' significance and integrity will be required.

Should the project require federal permitting, Section 106 of the National Historic Preservation Act will apply. In such a case, additional consultation with the lead federal agency and the California State Historic Preservation Officer (SHPO) will be required. Any resource that may be impacted should be evaluated relative to the criteria for listing on the National Register of Historic Places. The lead federal agency will be responsible for recommending whether specific resources are significant, and will play a leading role, in cooperation with the local lead agency for CEQA, in a finding of effect on the resources and the appropriate means of resolving adverse effects.

Finally, continued consultation with local Native American groups with knowledge of cultural resources in the project area (including but not limited to the Shingle Springs Band of Miwok Indians, the El Dorado Miwok Tribe, the El Dorado County Indian Council, and the Nashville-El Dorado Miwok), and the El Dorado Historical Society is recommended in order to identify potential undocumented resources.

10.6 Geology and Soils

Naturally Occurring Asbestos

Based on the El Dorado County Naturally Occurring Asbestos Review Area Map (July 22, 2005), all three alternative alignments have road segments that are located within areas "More Likely to Contain Asbestos". Road Segments 1, 2, 13 and 27 are located within areas "More Likely to Contain Asbestos" and within "Quarter Mile Buffer for More Likely to Contain Asbestos or Fault Line". Although it is unknown whether NOA occurs in these areas, there is the potential for NOA occurrence and disturbance. Based on this review, development of the three Alternative Alignments have the potential to disturb NOA.

Seismic Activity

Fault systems mapped in western El Dorado County include the West Bear Mountains Fault; the East Bear Mountains Fault; the Maidu Fault Zone; the El Dorado Fault; the Melones Fault Zone of the Clark, Gillis Hill Fault; and the Calaveras-Shoo Fly Thrust. No active faults have been identified in El Dorado County. One fault, part of the Rescue Lineament-Bear Mountains fault zone, is classified as a well-located late-Quaternary fault; therefore, it represents the only potentially active fault in the County. It is part of the Foothill Fault Suture Zone system, which was considered inactive until a Richter scale magnitude 5.7 earthquake occurred near Oroville on August 1, 1975. This fault is located near road Segment 2 (Lotus Road), which is part of Alternative Alignment 3E. All other faults located in El Dorado County are classified as pre-Quaternary (inactive) (El Dorado County General Plan Draft EIR, 2003).

Erosion

All construction will be consistent with the requirements of the County's Grading Ordinance and Storm Water Management Plan for Western El Dorado County. Application of these requirements and measures will prevent substantial erosion or topsoil loss. Following construction, all disturbed areas not paved will be revegetated consistent with measures to be identified within the Storm Water Pollution Prevention Plan (SWPPP) to ensure the long-term minimization of erosion and topsoil loss potential.

Unstable Soils

According to the United States Department of Agriculture, Soil Conservation Service's Soil Survey of El Dorado Area, California, dated April 1974, there are five soil associations in the western part of El Dorado County: Auburn-Argonaut association; Boomer-Auburn association; Rescue association; Serpentine rock land; and Auberry-Ahwahnee-Sierra association. The soils in these associations formed in material from weathered slates, schist's, metabasic igneous rocks, acid igneous rocks, basic igneous rocks, and serpentine rocks. If roadway modifications are proposed in areas where soils are likely to have moderate shrink-swell potential, the geotechnical characteristics of the soil should be described through field and laboratory tests prior to roadway design.

10.7 Hazards and Hazardous Materials

Site reconnaissance activities and government databases searches were conducted to acquire addresses for flagged properties of potential environmental concern along the project alignment. The results of the site reconnaissance and the database search are summarized in Figure 10.2.

Historically, the maintenance of railroad easements typically included the application of arsenic and/or petroleum products for weed control. The former Southern Pacific Railroad (SPRR) easement, which is now part of the El Dorado Trail, crosses Missouri Flat Road approximately 0.87 miles southeast of U.S. 50 (Alternative Alignment 3E, Segment 39). Previous grading and construction activities at this location appear to have removed any potential environmental concerns associated with past activities within the former SPRR easement. The northern portion of Segment 20 runs adjacent to the former SPRR easement. If planned grading and/or excavation activities encroach within the former SPRR easement, then soil testing for these contaminants prior construction activities may be warranted.

Several active LUST sites have been identified along the alternative alignments. Road improvement activities at these locations are not anticipated to come in contact with contaminated soil and/or groundwater. However, depending on road improvement activities at these locations, existing groundwater monitoring wells located in the subject roads and/or adjacent to the subject roads may be required to be abandoned prior to implementation of road improvement activities, and then replaced upon completion of those activities.

10.8 Hydrology and Water Quality

Hydrology

The alternative alignments are located primarily within the South Fork American River and Cosumnes River watersheds. The major tributaries contributing flow directly into the South Fork American River are Silver Fork American River, Silver Creek, Slab Creek, Rock

Creek, and Weber Creek. Upstream tributaries are Caples Creek, South Fork Silver Creek, and Jones Fork Silver Creek. The southern portion of the project area (along Pleasant Valley Road) is located within the Cosumnes River Watershed.

Potential flooding may occur where the alternative alignments cross over and/or run adjacent to rivers, streams and creeks. Based on the site reconnaissance completed and a review of USGS topographic maps, Alternative Alignment 3E runs adjacent to and/or crosses the American River, Granite Canyon Creek, Granite Creek, Weber Creek and Indian Creek, Dry Creek and Mound Springs Creek. Starting at Four Corners, Alternative Alignments 5G and 5H run adjacent to and/or cross Cold Springs Creek, Hangtown Creek, and Weber Creek.

Database Review of Properties of Potential Environmental Concern Adjacent to the Project Alignment					
Segment	Alternative Alignment	Facility Name and Address	Facility Address	Case Type	Site Status
30	3E	El Dorado County Corp Yard	2441 Headington Road, Placerville	LUST Site	Case-closed, March 19, 1996
18	3E, 5G, and 5H	Sierra Door & Supply	4415 Missouri Flat Road, Placerville	LUST Site; gasoline; aquifer used for drinking water	Open – site assessment complete; eligible for closure per EMD (9-30-09)
18	3E, 5G, and 5H	Former Pacific Bell	281 Industrial Boulevard, Placerville	LUST Site; gasoline; aquifer used for drinking water	Open – verification monitoring (semi-annual).
18	3E, 5G, and 5H	Former Celebrity Plating	4502 Missouri Flat Road, Placerville	DTSC – Hazardous Waste Management Program	Active – soil and groundwater affected by metal plating (chrome)
18	3E, 5G, and 5H	Former Teters Auto Wreckers	4487 Missouri Flat Road, Placerville	Rural County Survey Program	Site Screening for potential contamination from lead, PCBs, waste oil and mixed oil
17	3E, 5G, and 5H	Steve's Cheaper Mart (Tower No. 182)	130 Pleasant Valley Road, Diamond Springs	LUST Site; gasoline; aquifer used for drinking water	Open – remediation; groundwater extraction and soil vapor extraction
17	3E, 5G, and 5H	Poor Red's	6221 Pleasant Valley Road, El Dorado	LUST Site	Case-closed, September 11, 1996
23	5G and 5H	Cold Springs Store	1628 Cold Springs Road, Placerville	LUST Site; gasoline; aquifer used for drinking water	Open – remediation; vapor intrusion and water wells impacted
33	5G and 5H	Shell Service Station	150 Placerville Drive (at Armory Drive), Placerville	LUST Site; gasoline; aquifer used for drinking water	Open – verification monitoring
37	5G	Western El Dorado Recovery Systems MRF	4100 Throwita Way, Placerville	Solid Waste Facility – Transfer/Processing Facility	CIWMB Permit No. 09-AA-004. No violations reported
37	5G	WEDRS – Green Waste Recycling Center	4100 Throwita Way, Placerville	Solid Waste Facility – Composting	CIWMB Permit No. 09-AA-006. No violations reported
37	5G	WEDRS – CDI Recovery Operation (MVCDI)	4100 Throwita Way, Placerville	Solid Waste Facility – Transfer/Processing Facility	CIWMB Permit No. 09-AA-007. No violations reported
Notes: CDI = Construction Debris and inert material CIWMB = California Integrated Waste Management Board DTSC = Department of Toxic Substances Control LUST = Leaking Underground Storage Tank MRF = Material Recovery Facility Source: Padre Associates, 2009b					

Figure 10.2 Properties of Potential Environmental Concern

According to the Federal Emergency Management Agency (FEMA) Maps, a majority of the project area is located in an area determined to be outside of the 0.2 percent annual chance floodplain (500 year flood). However, road Segment 13 (Green Valley Road) parallels Dry

Creek and is located in Zone A, which is a special flood hazard area subject to inundation by the one percent annual chance flood. Segment 1 (Lotus Road) is in the vicinity of areas designated as Zone A; however, the roadway does not appear to be located immediately adjacent to Zone A. Segment 2 (Lotus Road) crosses Weber Creek, and at the creek crossing, the area is designated Zone A. Drainage studies of the selected alignment will be required to ensure that drainage conditions are at a level consistent with pre-project conditions.

Water Quality

Construction of any of the alignments will be subject to the National Pollutant Discharge Elimination System (NPDES) permit, which requires the use of Best Management Practices (BMPs), as outlined in the *Storm Water Management Plan for Western El Dorado County (SWMP)*, to minimize water quality impacts from construction activities. Coverage for the project under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity, Order No. 99-08 DWQ will be required prior to the beginning of construction. In accordance with the provisions of the General Permit and the SWMP, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) will be required to reduce or minimize discharge of pollutants from construction activities. Implementation of BMPs and the NPDES permit will minimize water quality impacts resulting from construction activities.

10.9 Land Use and Planning

The primary applicable land use plans within the project area are the 2004 El Dorado County General Plan, the 1989 City of Placerville General Plan, and the 1978 Marshall Gold Discovery State Historic Park General Plan. A detailed review of the project's consistency with the goals, objectives, and policies of the El Dorado County General Plan, the City of Placerville General Plan, and the Marshall Gold Discovery State Historic Park General Plan will be required during the CEQA/NEPA review. The alternative alignments are consistent with the land use plans specified in the aforementioned General Plans.

The 2005 El Dorado County Bicycle Transportation Plan identifies bicycle improvements along a number of the roadway segments proposed for realignment. Class II bicycle lanes are proposed along Lotus Road (Segments 1 and 2), Green Valley Road (Segments 13 and 28), and Pleasant Valley Road (Segment 17). Class III bicycle routes are proposed along Gold Hill Road (Segment 27). It is anticipated that realignment of SR 49 along any of the proposed alignments will result in the development of Class I bicycle paths, Class II bicycle lanes, and Class III bicycle routes consistent with the 2005 Bicycle Transportation Plan.

10.10 Noise

For the purposes of noise analysis, noise levels are measured based on their effect to noise-sensitive receptors, such as residences, schools, places of worship, and recreational areas, all of which are located within or adjacent to the alternative alignments. Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will result in exceeding the established noise levels as defined by the applicable General Plan Noise Elements (e.g., El Dorado County General Plan Health, Safety and Noise Element and the City of Placerville Health and Safety Element). In order to determine the project's effect on the noise environment (both construction-related and

operational), a project-specific acoustic evaluation will be required during the CEQA review of the SR 49 Realignment Project.

10.11 Population and Housing

All segments within the three alternative alignments are immediately adjacent to residential land uses (with the exception of Segments 18, 33, and 37). In some cases, existing residences are situated near the existing roadway. Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will require removal of residential structures and displacement of residents. It is anticipated, because of the narrow roadway corridors and close proximity of existing residences to the roadways that residences may require demolition, therefore displacing residents. A project-specific evaluation of the project's impact on housing and potential displacement of residents will be required during the CEQA review of the SR 49 Realignment Project.

10.12 Public Services

The El Dorado County Sheriff's Office provides service to the unincorporated areas of the County, while the City of Placerville Police Department provides service to the City of Placerville.

The project area is serviced by three fire protection districts: El Dorado County Fire Protection District (FPD), the Rescue FPD, and the Diamond Springs-El Dorado FPD. Fire stations 27 (6051 Gold Hill Road, Placerville), 73 (4302 Highway 49, Pilot Hill) and 74 (5122 Firehouse Road, Lotus) are located within the project area.

Six schools have been identified adjacent to the three Alternative Alignments: Sutter's Mill Elementary School (adjacent to Segment 1); El Dorado Adult School (adjacent to Segment 17); El Dorado Parent Participation Preschool (adjacent to Segment 21); Indian Creek School, the El Dorado County Office of Education: Charter Community School (adjacent to Segment 28); and Herbert Green School (adjacent to Segment 39).

Two education facility offices are located adjacent to the three Alternative Alignments: El Dorado Union School District (adjacent to Segment 18) and the El Dorado County Office of Education (adjacent to Segment 28).

One park facility is located along Segment 1: Henningsen Lotus Park (950 Lotus Road). The park offers a variety of active and passive recreation opportunities. Located on the South Fork American River, the park provides a boat launch and beach area. The park provides two soccer fields and a lighted softball/little league complex that provides year round youth sports.

Development of the SR 49 Realignment Project will not result in the need for new police, fire, school or park facilities; however, roadway widening or realignment may require right-of-way acquisition of police, fire, school or park facilities adjacent to existing roadways. Additionally, development of the SR 49 Realignment Project may result in some delayed emergency response times. It is anticipated that the construction contractor will be required to coordinate with the appropriate public services agencies to ensure delayed emergency response times will be minimized. Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will impact

police, fire, school or park facilities or response times. A project-specific evaluation of the project's impact on public service facilities and response times will be required during the CEQA review of the SR 49 Realignment Project.

10.13 Recreation

The 2005 El Dorado County Bicycle Transportation Plan identifies bicycle improvements along a number of the roadway segments proposed for realignment. Class II bicycle lanes are proposed along Lotus Road (Segments 1 and 2), Green Valley Road (Segments 13 and 28), and Pleasant Valley Road (Segment 17). Class III bicycle routes are proposed along Gold Hill Road (Segment 27). It is anticipated that realignment of SR 49 along any of the alternative alignments will result in the development of Class I bicycle paths, Class II bicycle lanes, and Class III bicycle routes consistent with the 2005 Bicycle Transportation Plan. Development of proposed bicycle facilities consistent with the 2005 Bicycle Transportation Plan is considered a beneficial effect of the SR 49 Realignment Project.

One park facility is located along Segment 1: Henningsen Lotus Park (950 Lotus Road). The park offers a variety of active and passive recreation opportunities. Located on the South Fork American River, the park provides a boat launch and beach area. The park provides two soccer fields and a lighted softball/little league complex that provides year-round youth sports.

It is not anticipated that the development of the SR 49 Realignment Project will result in the need for new park facilities; however, it is possible that development of the SR 49 Realignment Project will result in the need of right-of-way acquisition of park property. Because the design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will impact recreation facilities. A project-specific evaluation of the project's impact on recreation facilities and response times will be required during the CEQA review of the SR 49 Realignment Project.

10.14 Transportation

El Dorado Transit provides transit service throughout the county, connecting the communities of Pollock Pines, Camino, Placerville, El Dorado, Diamond Springs, Cameron Park, Shingle Springs and Grizzly Flat. There are approximately 10 transit timepoints located adjacent to the three Alternative Alignments. Because a number of transit stations are located adjacent to the three Alternative Alignments, it is anticipated that transit service could be disrupted during construction activities. Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will impact transit operations. It is anticipated that the EDCTC will coordinate with El Dorado Transit prior to construction to minimize delays in transit operations; however, a project-specific evaluation of the project's impact on transit facilities and operations will be required during the CEQA review of the SR 49 Realignment Project.

10.15 Conclusions

Based on a review of the available data, site visits, and consultation with interested parties, no environmental constraints were identified that will impede development of any of the three alternative alignments; however, wetland, endangered species and cultural resources permits will likely be required for project development, as well as the development of detailed CEQA/ NEPA analyses in subsequent project development phases.

This feasibility study anticipates that the project may have a significant effect on the environment and, therefore, the SR 49 Realignment project anticipates that the CEQA and NEPA environmental impact analyses will be required in subsequent project phases. While it is anticipated that these impact analyses will be reported in a CEQA Environmental Impact Report and a NEPA Environmental Assessment, the final determination of documentation requirements will rest with the respective CEQA and NEPA lead agencies. Other regulatory approvals will likely require analysis, reporting, coordination and permitting, include a streambed alteration agreement (California Department of Fish and Game), water quality certification (California Regional Water Quality Control Board), federal endangered species act (U.S. Fish and Wildlife Service) and wetlands/Waters of the United States permitting (U.S. Army Corps of Engineers).

11. RIGHT OF WAY

The three recommended alignments in this feasibility study are comprised primarily of existing roadways that will require modifications to meet Caltrans' two-lane conventional highway standards. The standard right-of-way width for a two-lane conventional highway per Caltrans standards is 130 feet for new construction; however, all but two of the roadway segments proposed are existing road segments. For rehabilitation type projects, the Caltrans Design Information Bulletin (DIB) 79-03 indicates a minimum right-of-way width of 82 feet to accommodate the minimum cross section components specified [82' = 24' (12'+12' lanes) + 16' (8'+8' shoulders) + 6' (3'+3' chokers) + 36'(18'+18' catch to hinge)]. Under severe constraints (i.e. limited to edge of shoulder to edge of shoulder), the minimum right-of-way width is the proposed cross section width of 40 feet [40' = 24' (12'+12' lanes) + 16' (8'+8' shoulders)]. Therefore, as a result of the proposed roadway widenings required for development of the SR 49 Realignment Project, right-of-way acquisitions will be required of commercial, industrial, residential, and agricultural properties, as well as police, fire, school, and/or park facilities adjacent to existing roadways.

12. UTILITIES

Pacific Gas & Electric (PG&E) supplies electricity and natural gas within the project area. Water service within the project area is provided by the El Dorado Irrigation District. AT&T provides telephone service within the County.

Because the proposed design for the SR 49 Realignment Project is not known at this time, it cannot be determined whether the project will require utility relocation; however, it is anticipated that widening and/or realigning the existing roadways will require some overhead and underground utility relocation. In the event that utility relocation is required, it is anticipated that Caltrans will coordinate with local utility providers early in the planning process to ensure that existing infrastructure in the project area is not damaged during construction activities, and that planned improvements to the underground utilities in the project area are coordinated with the roadway improvements. It is also anticipated that Caltrans will coordinate utility relocations with construction contractors and the various utility companies to ensure that the relocations are consistent with the project schedule and project design, and that the potential for interruption to service is minimized.

13. PROJECT COSTS

Conceptual preliminary construction costs for the three recommended alternatives were estimated and are summarized in Figure 13.1 below. For detailed cost estimates, refer to Attachment F.

Alignment	Conceptual Construction Cost* (in millions)
3E	\$17.4
5G	\$28.8
5H	\$23.6

* Estimated costs are for construction only. Excludes right-of-way and engineering support costs.

Figure 13.1 Conceptual Construction Costs Summary

14. COMMUNITY INVOLVEMENT

Public involvement and outreach were major components of the SR 49 Realignment Study. The EDCTC was committed to engaging the public in all phases of transportation planning during the study. In an effort to engage the general public in the development of the SR 49 Realignment Study and involve a broad range of potentially affected interests, the EDCTC Board ratified the following groups and organizations on February 5, April 2, and June 4, 2009, as members of the SR 49 Realignment Study Stakeholder Advisory Committee (SAC):

- ▣ Broadway Village Association
- ▣ California Outdoors
- ▣ California State Parks – Gold Fields District
- ▣ California Trucking Association
- ▣ Coloma Lotus Valley Community Association
- ▣ El Dorado Citizens for Smart Growth
- ▣ El Dorado County Office of Education
- ▣ El Dorado Youth Commission
- ▣ El Dorado County Parks and Recreation Commission
- ▣ El Dorado County Chamber of Commerce
- ▣ El Dorado County Historical Society
- ▣ El Dorado County Office of Emergency Services
- ▣ El Dorado Union High School District
- ▣ Farm Trails
- ▣ Friends of the Diamond Springs – El Dorado Community
- ▣ Greenstone Country Owners Association
- ▣ No Gridlock Committee
- ▣ Placerville Downtown Association
- ▣ Placerville Drive Business Association
- ▣ Sierra Club Maidu Group
- ▣ Taxpayers Association of El Dorado County
- ▣ Trails Now

The purpose of the SAC was to provide both policy and technical guidance to the EDCTC during the development of the SR 49 Realignment Study. The SAC was responsible for:

- Representing their constituents' key issues and concerns and distributing project information to their constituency.
- Assisting the EDCTC and PDT in evaluating the project alternatives by helping establish the performance criteria to be used for screening the various project alternatives.
- Meeting with the EDCTC and other key stakeholders during the development of the study.

The study conducted six SAC meetings and two public open houses. The SAC meetings and public open houses were held on the following dates:

- ▣ SAC Meeting #1 February 25, 2009
- ▣ SAC Meeting #2 March 30, 2009
- ▣ Open House #1 April 30, 2009
- ▣ SAC Meeting #3 May 18, 2009
- ▣ SAC Meeting #4 June 24, 2009
- ▣ SAC Meeting #5 July 22, 2009
- ▣ SAC Meeting #6 September 28, 2009
- ▣ Open House #2 October 14, 2009

The project introduction, Purpose and Need, and Screening Criteria were presented to the public at Open House #1 on April 30, 2009. The results of the Level 1, Intermediate Level 1, and Level 2 Screening processes were presented to the public at Open House #2 on October 14, 2009. The purpose of the open houses were to provide an introduction of the project, an overview of the study process, and present key highlights from the State Route 49 Realignment Study, including the project's purpose and need, history, schedule, and alternatives being discussed. Attendees had the opportunity to discuss the project with Project Team members from Caltrans, the El Dorado County Department of Transportation, El Dorado Transit, the EDCTC, and project consultant T.Y. Lin International.

Public Comments and Concerns:

The public outreach implemented for the SR 49 Realignment Study resulted in numerous public comments. Some of the comments were:

- ▣ Safety is an important issue to the public. Truck traffic through Placerville is a major concern due to the steep grades, sharp curves, and limited shoulders on SR 49.
- ▣ Honor existing historical heritage and the "Golden Chain". The public is very concerned that the historical heritage of the "Golden Chain", which is SR 49 passing through the various gold rush towns from Mariposa to Coloma and beyond, is recognized, honored, and preserved.
- ▣ Minimize impacts on existing businesses and residents.
- ▣ Remove SR 49 from Marshall Gold Discovery State Historic Park.
- ▣ Address intersection of SR 49 and U.S. 50.
- ▣ Reduce congestion on SR 49 through the Diamond Springs area.
- ▣ Address school-related safety issues. Many of the proposed alignments analyzed in the study enter various school zones, such as on Missouri Flat Road near the intersection of Green Valley Road where the El Dorado County Office of Education and Indian Creek School is located. This is impacted by Alternative 3E. On Lotus Road at the corner of Gold Hill Road is the Sutter's Mill School, which is impacted by all three of the

recommended alternatives identified in this study, Alternatives 3E, 5G, and 5H. Herbert Green Middle School, Charles Brown Elementary School and the Shenandoah High School are also impacted by all three of the recommended alternatives identified in this study.

- ▣ Maximize bicycling, pedestrian and transit opportunities.
- ▣ Improve emergency vehicle access.
- ▣ Consider land use impacts of alternatives to ensure consistency with the General Plans of El Dorado County, City of Placerville, and the Marshall Gold Discovery State Historic Park.

For a more complete listing of public comments received, see Attachment J, “Public Comments”.

15. PROJECT ISSUES

15.1 Funding the Project Study Report (PSR)

Funding or commitments for funding for the development of a PSR must be secured prior to any further project development. There are several sources of funding for the project on the federal, state and local levels. Figure 15.1 shows the current state and federal funding programs available for this type of project. Figure 15.1 is not intended to provide an exhaustive list of potential funding sources, but does list the most common and reliable funding programs for this type of project.

Potential State and Local Funding Programs Available for SR 49 PSR	
State Funds	
State Highway Account	Other State Funds To Be Determined.
Local Funds	
RSTP – Regional Surface Transportation Program	TIM ⁽¹⁾ – Traffic Impact Mitigation (TIM) Fee Program for the City of Placerville
PPM – Planning, Programming, & Monitoring	TIM ⁽²⁾ – Traffic Impact Mitigation (TIM) Fee Program for El Dorado County
LTF – Local Transportation Funds	

⁽¹⁾Only for those roads identified within the City of Placerville’s Fee Program

⁽²⁾Only for those roads identified within El Dorado County’s Fee Program

Figure 15.1 – Potential Federal, State, and Local Funding Programs available for SR 49 Project Study Report

15.2 Encroachments

The authority for Caltrans to control encroachments within the State highway is contained in the Streets and Highways Code and it is Caltrans' policy to prohibit private use of highway right-of-way. A realigned SR 49, as proposed by the three alternatives in this study, will become a State facility designated as a conventional highway and encroachments along the realigned SR 49 will be required to have approval from Caltrans District 3 Office of Permits. This has elicited concerns from existing businesses that may be required to adhere to State encroachment requirements in lieu of City or County requirements, a situation that may arise if an existing road such as Missouri Flat Road is redesignated as SR 49.

Encroachments on the existing SR 49 will need to be transferred from the State to the City or County.

15.3 Relinquishment

Relinquishment of the existing SR 49 to the City of Placerville and/or El Dorado County will be required if a realigned route is constructed. If realignment of SR 49 results in a new roadway designation as SR 49, then Caltrans will relinquish the old SR 49 to either the City of Placerville or El Dorado County depending on the location of the realigned SR 49. The City of Placerville and/or El Dorado County will be responsible for the maintenance and liability of the old SR 49.

Upon relinquishment, the old SR 49 may be renamed “Historic SR 49,” but the State will not keep and maintain both the new and old SR 49 routes as part of the State Highway System (SHS).

Before Caltrans relinquishes the old SR 49 to the City and/or County, an agreement will need to be entered into between the appropriate parties outlining the improvements that Caltrans will be responsible to make to the old SR 49 in order to bring it to an acceptable “state of good repair” prior to transferring ownership. The development of this agreement should commence during the PSR. At a minimum, it is recommended that discussions on the requirements for relinquishment occur during the initial phases of development of the PSR and be finalized before the route adoption process.

Relinquishment Process: The relinquishment of the old SR 49 to the City of Placerville and/or El Dorado County is accomplished by a CTC resolution. Caltrans initiates relinquishment action by the CTC when a route is superseded by relocation. This resolution is requested following construction of the project, after work on the facility to be relinquished is completed, and the facility is no longer needed for state highway purposes. Caltrans District 3 must submit Right-of-way Engineering information to the CTC to relinquish to the city or county the portion of a superseded State highway within the city or county. The information is prepared four months in advance of completion of construction to accommodate a ninety-day notice period to allow the local agency to state reasons and objections that the highway is not in a “state of good repair” as required before relinquishment. The scope of work and cost of the repair work should be defined during the Project Study Report (PSR) phase and the Project Approval and Environmental Document (PA&ED) phase of the project to construct the new alignment for SR 49.

15.4 Caltrans Design Standards

If a new alignment is constructed for SR 49, it will be required to adhere to the State’s design standards as identified in the Caltrans Highway Design Manual (HDM). The Design Criteria Memorandum (DCM) (see Attachment G) developed for this project provides a summary of key design standards to be adhered to per Caltrans standards. However, many of these standards might not be able to be satisfied due to the nature of the existing terrain and right-of-way, environmental or other constraints. One notable Caltrans design standard is the design speed for a conventional highway. SR 49 is designated as a two-lane conventional highway and the required design speed is between 50 and 60 miles per hour per HDM Table 101.2 and the Caltrans Design Information Bulletin (DIB) 79-03. The HDM does allow for flexibility in applying the design standards through the design

exception approval process, which enables the designer to tailor the design, as appropriate, to the specific circumstances while maintaining safety. Therefore, if the design speed of 55 mph, as recommended in the DCM, is determined to be infeasible for the site conditions, a more appropriate design speed will be determined, documented, and approved by Caltrans through the design exception process. All anticipated design exception approvals must be obtained prior to Caltrans approval of the PSR. The responsibility for approval of all exceptions to Mandatory Design Standards on the State Highway and local facility (within State right-of-way) projects rests with the Caltrans Division of Design-Design Coordinator. The responsibility for approval of all exceptions to Advisory Design Standards on the State Highway and local facility (within State right-of-way) projects rests with the Caltrans District Director.

15.5 *Eliminated Alternatives*

Based on the screening criteria established for the SR 49 Realignment Study, three out of the 52 alternatives were recommended for further study. However, although these three alternatives theoretically best satisfy the project purpose and need, they are not be construed as the only feasible alternatives that can satisfy the goals and objectives of the project. In addition, the intent of the study is not to establish a complete set of all possible alternatives; rather, the study intends to demonstrate that there are feasible transportation solutions to fulfilling the project purpose and need. Therefore, the alternatives recommended and rejected in this study were considered provisional rather than conclusive and are not intended to limit other alternatives from being considered in a PSR. Infeasible alternatives were also identified so that the alternatives studied in a PSR can focus on those alternatives that are potentially feasible as recognized in this study.

15.6 *Impacts to Business Districts*

Realignment of SR 49 has the potential to impact the business districts of the City of Placerville and town of Diamond Springs. During the development of the study local business owners from the City of Placerville and Diamond Springs voiced the concern that that their businesses may suffer severe financial impacts in the event that a realigned SR 49 bypasses their business locations. The SR 49 Realignment Study attempted to capture this concern in the screening criteria. However, a more detailed investigation will be required during the development of a PSR to further evaluate the impacts of the realignment of SR 49 on local businesses. It was suggested through public comments that a PSR should research the impacts of the Amador County SR 49 Sutter Creek Bypass on local businesses.

15.7 *Safety Concerns Along Cold Springs Road*

Two of the three recommended alternatives in the study, Alternatives 5G and 5H, utilize Cold Springs Road between Gold Hill Road and Placerville Drive. The public identified several safety issues that have plagued this segment of Cold Springs Road for many years. One of the safety issues included the high accident rate on the portion of Cold Springs Road from Browns Road to Pierroz Road. The accidents are primarily a result of drivers failing to properly negotiate the sharp curves and steep grades. According to the El Dorado County Department of Transportation Accident Site Analysis Summary for Cold Springs Road between Gold Hill Road and Pierroz Road, an average of 16 accidents occur per year with an average of 11 of the accidents resulting in injuries.

El Dorado County has considered a new north-south connector road that will extend Missouri Flat Road north of Green Valley Road to connect to Cold Springs Road. Public comment during the development of the study recommended that a PSR should include the proposed Missouri Flat Road Extension connector when considering Cold Springs Road as a potential segment for realigning SR 49. For more information regarding the Missouri Flat Road Extension connector, see Attachment J-5, “Concerns Regarding Cold Springs Road.”

15.8 Route Adoption

The Caltrans Project Development Procedures Manual (PDPM), states that route adoptions are needed for “any new alignment for an existing route and the establishment of a location for an unconstructed route”. Therefore, any realignment of SR 49, such as those identified in this SR 49 Realignment Study, will require a route adoption. Route adoption usually occurs through a resolution by the CTC following approval of the environmental document. Typically, during a route adoption, there is community consensus on route location. The CTC route adoption resolution, with accompanying CEQA environmental documentation, is required prior to submittal to the FHWA for compliance with NEPA and project approval.

15.9 State Route Connectivity with SR 193 and SR 153

The realignment of SR 49 may create an issue with the future dispositions of SR 193 and SR 153. SR 193 is a split-section California State Highway consisting of two sections: an east-west arterial road running from Lincoln to Newcastle, just west of Auburn, and a loop to the east off SR 49 from Cool to Georgetown, then turning south to rejoin SR 49 just north of Placerville approximately 0.8 miles north of U.S. 50. If SR 49 is realigned, relinquishment of this 0.8 mile segment of the existing SR 49 to the City of Placerville or El Dorado County may need to be excluded and remain under the jurisdiction of Caltrans in order to preserve connectivity of SR 193 with SR 49.

SR 153 is a one-half mile long road known as “the shortest State Highway” and includes a portion of Cold Springs Road and Monument Drive in Coloma and MGDShp. Monument Drive provides access to the Marshall Monument within MGDShp, a number of private properties and businesses along Monument Drive. SR 153 does not handle regional traffic. If SR 49 is realigned, State Parks will consider accepting ownership and maintenance responsibility only for the upper portion of Monument Drive, which is entirely surrounded by State Parks’ right-of-way.

16. PROJECT DEVELOPMENT SCHEDULE

The SR 49 Realignment Study is a preliminary step in the overall project development process. The goal of the study is to determine feasible alignments that satisfy the project purpose and need, as well as additional alignments to be considered for further examination in a PSR. Figure 16.1 below shows the typical Caltrans project development process that must be followed for any federal-aid project in California on the State Highway System (SHS).

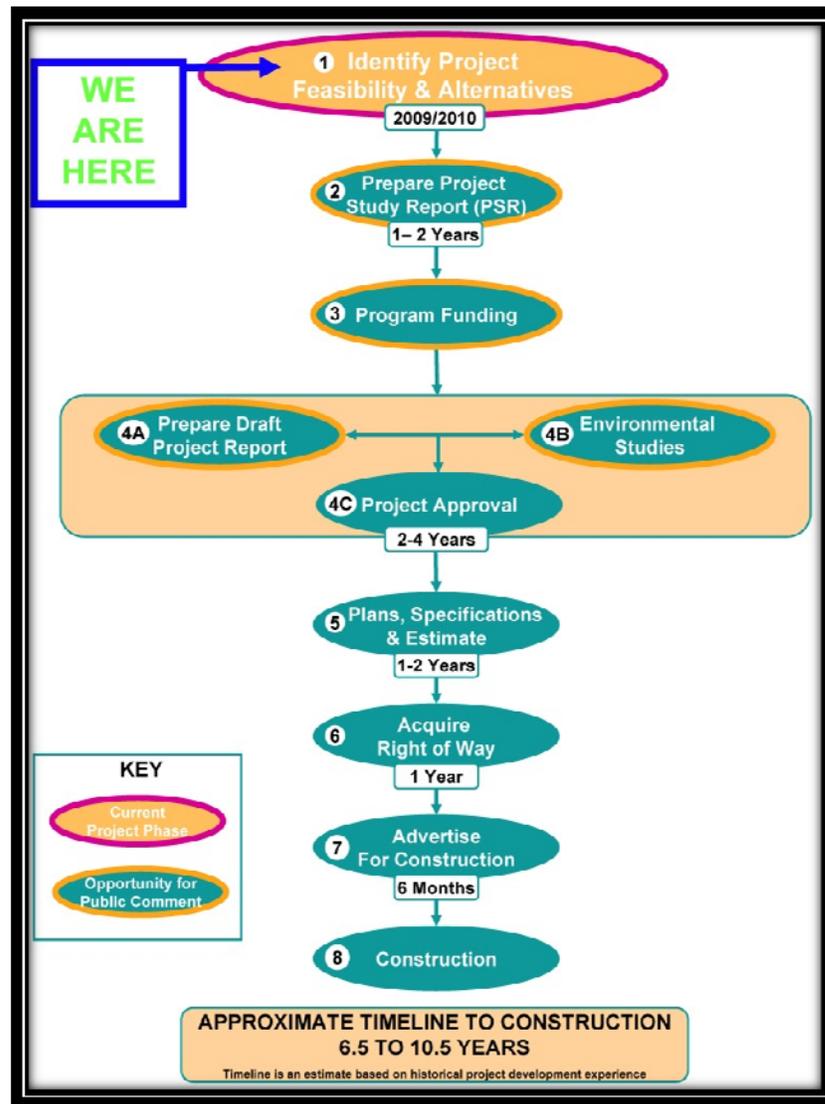


Figure 16.1 – Typical Schedule for the Project Development Process

17. RECOMMENDATIONS

17.1 General Recommendations:

As a project of regional significance and after careful evaluation of the alternatives presented in the SR 49 Realignment Study, realigning SR 49 from Coloma to El Dorado has been determined to be feasible. Based on the results of the Level 1, Intermediate Level 1, and Level 2 screening processes, Alignments 3E, 5G, and 5H are recommended for advancement into the Project Initiation phase of the project development process by means of a PSR as soon as funding can be secured. These alternatives meet the purpose and need of the project, and theoretically provide the best combination of engineering and construction feasibility with the best balance of transportation benefits and responsiveness to environmental goals. It should be noted that the results of this study will be used as input into the beginning of the Project Initiation phase and future project development process,

and that a major amount of additional, detailed study is required before the preferred project alignment is selected and final design can begin.

The potential SR 49 Realignment project will require environmental analysis to identify, assess and report potential impacts and opportunities to mitigate impacts that may occur within the entire project area. While funding for the ultimately selected alignment may become available for a complete project that addresses all roadway improvements identified in this and subsequent analyses, the EDCTC and Caltrans may identify funding sources that will allow increments of the total project to be constructed in segments with independent utility. The EDCTC, in cooperation with Caltrans, will prioritize and analyze the incremental segments of the project as independent elements of the project-wide impact analysis documents to facilitate the rapid development of key safety and circulation improvements as funding sources are identified.

Consistent with prioritizing segments with independent utility, EDCTC is undertaking a transportation planning effort in the Diamond Springs – El Dorado area. EDCTC is applying in April 2010 for a Caltrans Community-Based Transportation Planning Grant to execute a multi-modal transportation circulation study in response to the significant residential development and growth planned in the area and its potential impact on traffic circulation on area roads, including SR 49.

17.2 Type of Project Initiation Document (PID):

The outcome of the project initiation process is a Project Initiation Document (PID). A PID is technical report or an engineering document that establishes a well-defined purpose and need statement, proposed project scope tied to a reliable cost estimate, and schedule. The use of state funds for capital improvements on the State Highway System (SHS) requires an approved PID. The PID documents Caltrans' approval of the project (as defined by the scope, cost and schedule) to compete for State Transportation Improvement Program (STIP) funds. A PSR is a type of PID. The PSR is a format that meets statutory, CTC, and Caltrans requirements for STIP eligible projects. The Caltrans District 3 Director has discretion in prioritizing projects within District 3 for PID development and approves PIDs.

There are two major PID types that are used to program projects into the STIP:

- ▣ The PSR is used to program all support, right-of-way acquisition, and construction costs.
- ▣ The PSR-PDS (Project Study Report–Project Development Support) is used only to calculate the support costs needed to complete the project approval and environmental document (PA&ED) phase.

Both PID types use the same outline, however, the PSR-PDS does not require the same level of engineering detail as a PSR. The level of engineering detail and effort for developing a PSR-PDS is typically limited to that effort needed to develop the workplan for the PA&ED phase, and to develop a "ballpark" estimate of the construction cost. The construction estimate in a PSR-PDS is not a programming commitment; rather it is used to forecast long-range funding needs. This feasibility study anticipates that the project may have a significant effect on the environment and, therefore, the SR 49 Realignment project anticipates that the CEQA and NEPA environmental impact analyses will be required in subsequent project phases. While it is anticipated that these impact analyses will be reported in a CEQA Environmental Impact Report (EIR) and a NEPA Environmental

Assessment (EA), the final determination of documentation requirements will rest with the respective CEQA and NEPA lead agencies. Other regulatory approvals will likely require analysis, reporting, coordination and permitting, include a streambed alteration agreement (California Department of Fish and Game), water quality certification (California Regional Water Quality Control Board), federal endangered species act (U.S. Fish and Wildlife Service) and wetlands/Waters of the United States permitting (U.S. Army Corps of Engineers). The CEQA EIR Decision Tree process is shown in Figure 17.1. Consequently, the PID required by Caltrans is a PSR-PDS for STIP funded projects where the anticipated environmental determination is a Negative Declaration (ND) or EIR.

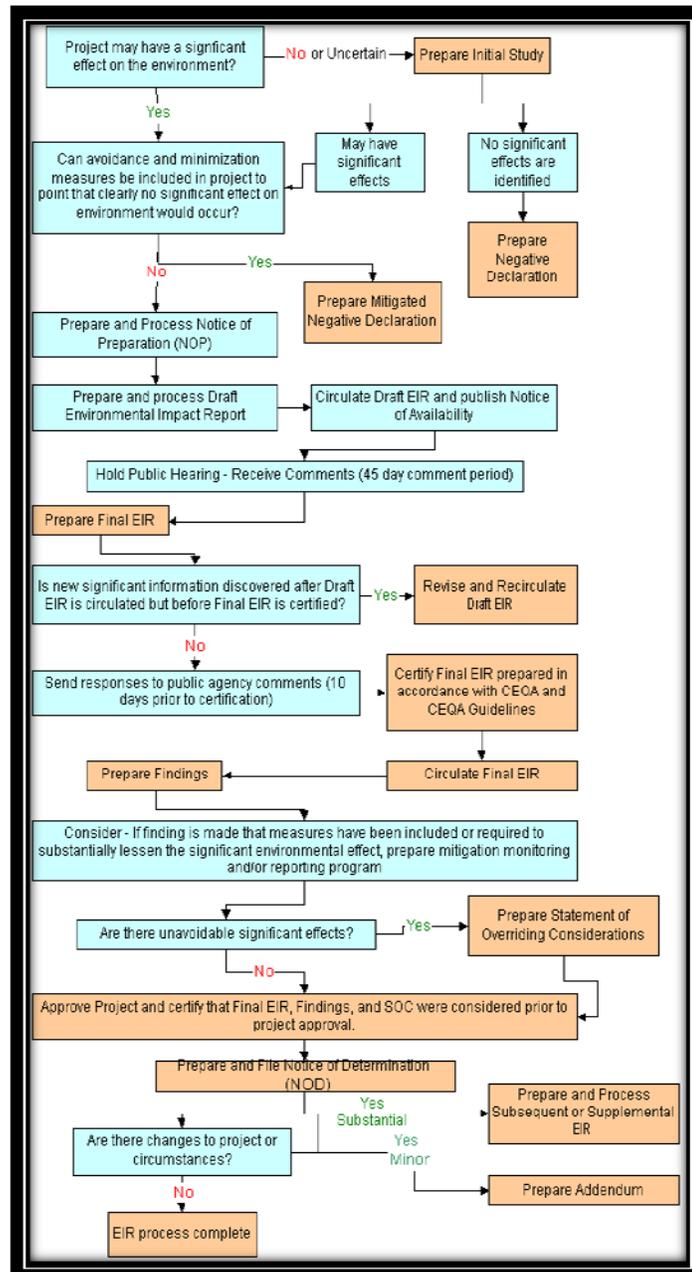


Figure 17.1 – CEQA Environmental Impact Report (EIR) Decision Tree
 Source: Caltrans Environmental Handbook, Volume I: Guidance for Compliance

17.3 Pre-PID Meeting:

This SR 49 Realignment Study recommends that EDCTC, El Dorado County, and the City of Placerville conduct a pre-PID meeting with Caltrans to communicate a shared view of the project and to establish an understanding of the procedures, roles, and responsibilities before the development of the PSR-PDS begins.

According to the Caltrans Project Development Procedures Manual (PDPM), the purpose of the pre-PID meeting is to:

- ▣ Review the PSR-PDS development process.
- ▣ Set the framework for getting consensus of purpose and need.
- ▣ Set the framework for agreeing on the design concept and scope, including relinquishment requirements.
- ▣ Agree on the basic design standards.
- ▣ Identify known design deficiencies and highlight areas requiring further investigation.
- ▣ Identify the funding sources, and if appropriate, identify the cooperative features of the project.

18. PROJECT CONTACTS

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HDR The Hoyt Company:	Kim Pallari	(916) 448-2440

19. RESOURCES

- ▣ *Caltrans Design Information Bulletin (DIB) 79-03; (design guidance for resurfacing, restoration, and rehabilitation (3R) type projects)*
- ▣ *Caltrans Environmental Handbook, Volume I: Guidance for Compliance*
- ▣ *Caltrans Highway Design Manual 2008*
- ▣ *Caltrans Project Development Procedures Manual, 2007*
- ▣ *Caltrans Transportation Funding Opportunities Guidebook - 2008*
- ▣ *City of Placerville General Plan*
- ▣ *City of Placerville General Plan Background Report – 1989*
- ▣ *City of Placerville Non-Motorized Transportation Plan*
- ▣ *City of Placerville Pedestrian Plan*
- ▣ *El Dorado County Bicycle Transportation Plan*
- ▣ *El Dorado County General Plan 2004*
- ▣ *El Dorado County Highway Design Manual (Local Agency Standards)*
- ▣ *El Dorado County Long-Range and Short-Range Transit Plan*
- ▣ *El Dorado County Transit Authority (EDCTA) Transit Route Maps*
- ▣ *Placerville Drive Multi-Modal Corridor Mobility Plan*

- ▣ *State Route 49 Long-Range Corridor Study, 1990*
- ▣ *State Route 49 Transportation Concept Report, September 2000*
- ▣ *Sacramento Placerville Transportation Corridor (SPTC) El Dorado Trail Priority Map*
- ▣ *1975 – Resolution Rescinding Previously Adopted Freeway Location South of Highway 50*
- ▣ *1982 – Notice of Intent to Consider Rescinding Adopted Controlled Access Highway Location*

20. LIST OF ATTACHMENTS

Attachment	A	Project Area Map
Attachment	B	Typical Cross Section
Attachment	C	Level 1 Screening
	C-1	Level 1 Screening – Map of Alternatives
	C-2	Level 1 Screening – Results
	C-3	Level 1 Screening – Scoring Assumptions
Attachment	D	Intermediate Level 1 Screening
	D-1	Intermediate Level 1 Screening – Map of Alternatives
	D-2	Intermediate Level 1 Screening – Results
	D-3	Intermediate Level 1 Screening – Scoring Assumptions
Attachment	E	Level 2 Screening
	E-1	Level 2 Screening – Map of Alternatives
	E-2	Level 2 Screening – Results
	E-3	Level 2 Screening – Scoring Assumptions
Attachment	F	Preliminary Cost Estimates
	F-1	Alternative 3E
	F-2	Alternative 5G
	F-3	Alternative 5H
Attachment	G	Design Criteria Memorandum
Attachment	H	Environmental Constraints and Opportunities Analysis
Attachment	I	Traffic Analysis Memorandum
Attachment	J	Public Comments
	J-1	Public Comments Matrix
	J-2	State Parks Letter to EDCTC dated October 26, 2009
	J-3	Media Articles
		Georgetown Gazette Article – October 22, 2009
		Sacramento Bee Article – October 16, 2009
	J-4	Concerns Regarding Cold Springs Road
	J-5	Public Meeting #1 Summary – April 30, 2009
	J-6	Public Meeting #2 Summary – October 14, 2009
	J-7	Additional Public Comments
	J-8	Stakeholders Advisory Committee (SAC) Meeting Minutes
	J-9	EDCTC Board Presentations, Meeting Minutes, and Staff Reports
Attachment	K	Project Development Team Members
Attachment	L	1964 State Route 49 Route Adoption Documents