

Supplemental Project Study Report – Project Development Support (PSR-PDS)

To

Request Programming for Capital Support of the Project Approval and Environmental Document (PA&ED) Phase in the 2024 STIP

On Route 49

Between 0.2 mile south of Main Street

And 0.2 miles north of Fifth Avenue

APPROVAL RECOMMENDED:

Darin Grossi, Executive Director,
Tuolumne County Transportation Council,
Project Sponsor Accepts risks identified in this
PSR-PDS and attached risk register

APPROVAL RECOMMENDED:

Marlon Regisford, D10 Deputy District Director,
Planning, Local Assistance, and Environmental

APPROVAL RECOMMENDED:

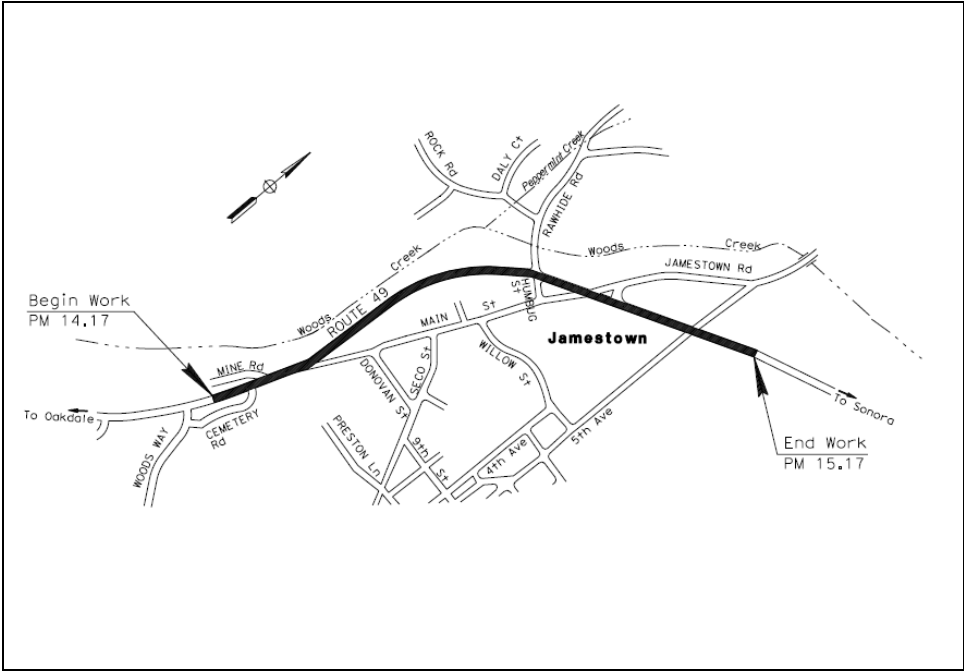
Michael Cook, Caltrans Project Manager

APPROVED:

Dennis T. Agar, District 10 Director

Date

Vicinity Map



This supplemental project study report-project development support has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

REGISTERED CIVIL ENGINEER

DATE



Table of Contents

<u>1.</u>	<u>INTRODUCTION</u>	Error! Bookmark not defined.
<u>2.</u>	<u>BACKGROUND</u>	2
<u>3.</u>	<u>PURPOSE AND NEED</u>	4
<u>4.</u>	<u>TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT</u>	5
<u>5.</u>	<u>MULTIMODAL PROJECT TRAFFIC ANALYSIS</u>	6
<u>6.</u>	<u>DEFICIENCIES</u>	11
<u>7.</u>	<u>ASSET MANAGEMENT</u>	13
<u>8.</u>	<u>CORRIDOR AND SYSTEM COORDINATION</u>	13
<u>9.</u>	<u>ALTERNATIVES</u>	15
<u>10.</u>	<u>RIGHT-OF-WAY</u>	17
<u>11.</u>	<u>STAKEHOLDER INVOLVEMENT</u>	17
<u>12.</u>	<u>ENVIRONMENTAL COMPLIANCE</u>	17
<u>13.</u>	<u>COMPLETE STREET</u>	17
<u>14.</u>	<u>CLIMATE ACTION PLAN FOR TRANSPORTATION INFRASTRUCTURE</u>	18
<u>15.</u>	<u>FUNDING</u>	20
<u>16.</u>	<u>DELIVERY SCHEDULE</u>	21
<u>17.</u>	<u>RISKS</u>	21
<u>18.</u>	<u>EXTERNAL AGENCY COORDINATION</u>	21
<u>19.</u>	<u>PROJECT REVIEWS</u>	22
<u>20.</u>	<u>PROJECT PERSONNEL</u>	22
<u>21.</u>	<u>ATTACHMENTS (NUMBER OF PAGES)</u>	23

1. INTRODUCTION

Project Description:

The California Department of Transportation (Caltrans) in cooperation with the Tuolumne County Transportation Council (TCTC) completed the Project Study Report-Project Development Support (PSR-PDS) Jamestown Widening project that proposes to widen State Route (SR) 49 from three lanes to five lanes in Tuolumne County in Jamestown from 0.2 miles south of Main Street to 0.2 miles north of Fifth Avenue. The PSR-PDS was approved on March 30, 2021 (see Attachment M). The primary purpose of the Supplemental PSR-PDS is to better explain community health and economic needs, how this project addresses these needs and aligns with California’s Climate Action Plan for transportation infrastructure (CAPTI). More specifically this project provides a new multi-modal project alternative that improves traffic operations (without new travel lanes) that serves all users of the SR 49 corridor (see Attachment A and B).

The SR 49 Safe, Healthy, and Equitable Streets Improvement project proposes a number of improvements. All three alternatives will include transit stops, a park and ride facility (P&R), and sidewalks. Additionally, Alternatives 1 and 2 both propose to widen SR 49 to five lanes. Alternative 1 achieves the widening on both sides of the highway, while Alternative 2 proposes to widen on the west side of the highway. The new Alternative 3 does not propose any widening but instead adds operational improvements on SR 49 including signal interconnect and other geometric improvements to the 5th Avenue, Rawhide, and Main Street intersections (no added travel lanes). The anticipated Environmental Documents are Environmental Impact Report (EIR) for CEQA and Environmental Assessment (EA) for NEPA. The project is determined to be Project Development Category 4A or 4B as outlined in the Project Development Procedures Manual based on the right of way needs and public meeting needs.

Description	Original PSR-PDS (5-lane build alternatives only)	Supplemental PSR-PDS (Operational Improvement Alternative added–Alternative 3)
Project Limits	10-Tuo-49-14.17/15.17	No Change
Number of Alternatives	5-lane Build Alternatives 1 and 2; No-Build Alternative	Alternative 3 (Operational Improvement)
Current Capital Outlay Support Estimate for PA&ED	\$2,730,000	\$2,730,000
Current Capital Outlay Construction Cost Range	\$14,454,000 (Alternative #2) \$14,945,000 (Alternative #1)	\$12,331,000
Current Capital Outlay Right-of-Way Cost Range	\$2,520,000 - \$2,550,000	No change
Funding Source	State Transportation Improvement Program-Regional Improvement Program (STIP-RIP)	Federal, State, Regional, and Local Funds

Type of Facility	conventional highway and expressway	No change
Number of Structures	None	None
Anticipated Environmental Determination or Document	California Environmental Quality Act (CEQA) – Environmental Impact Report (EIR); National Environmental Policy Act (NEPA) – Environmental Assessment (EA)	No change
Legal Description	In Tuolumne County, at Jamestown, from 0.2 miles south of Main Street to 0.2 miles north of Fifth Avenue	No change
Project Development Category	4A	4A or 4B

The remaining capital outlay support, right-of-way, and construction components of the project are preliminary estimates and are not suitable for programming purposes. Either a project report or a supplemental PID following the format of a PSR will serve as the programming document for the remaining components of the project. A project report will serve as approval of the “selected” or “preferred” alternative.

Other approvals required include:

- A longitudinal encroachment exception will be required for existing utilities along SR 49.
- A Design Standard Decision Document may also be required if the project does not meet expressway standards.
- The other option is to modify the Route Adoption Map from the expressway designation to conventional highway. The local agency does not agree with the expressway designation and so a revised map with California Transportation Commission approval will be required.
- A Freeway Maintenance agreement will be required to address responsibilities for the sidewalks, P&R, and green infrastructure or landscape improvements.
- The existing Electrical Maintenance agreement for the traffic signals may need to be updated.

2. BACKGROUND

The project concept was developed with the Project Initial Proposal (PIP) document that was approved on August 22, 2019. The PIP proposed widening this segment of SR 49 from three to five travel lanes. Widening SR 49 to five lanes was also one of the recommendations outlined in the draft SR 108/49 Corridor Study to provide congestion relief generated by an increase of traffic volume.

A planning level document to request programming for capital support was next developed or Project Study Report-Project Development Study (PSR-PDS) and approved on March 30, 2021, with a focus on adding travel lanes to improve traffic operations on SR 49.

The current Route Adoption Map approved on March 21, 1968 shows that the western half of the project with the dividing line at Rawhide Road is designated as a conventional highway and the eastern half as an expressway. As shown on the map, a bypass for Jamestown was considered by state and local officials for the western portion of the project when the route adoption was completed. The Route Adoption designated the eastern portion of SR-29 as an expressway and left the western portion to be relinquished for downtown Jamestown as a conventional highway. The future realigned SR 49 would have been constructed as an expressway. Currently, there are no state or regional plans to realign SR 49 in accordance with the Route Adoption Map to complete the full expressway.

In the fall of 2021, TCTC met with Caltrans District 10 management to address their concerns about serving the multi-modal needs of the community as well as improving operations that was not adequately addressed in the PSR-PDS. There was a discussion as to how to move the project forward and make the project eligible for CAPTI and other funding programs that focus on multi-modal users instead of vehicular Level of Service (LOS). This revised supplemental PSR-PDS provides an alternative to widening SR 49.

The 2022 Jamestown to Columbia Gold Rush Shared Use Path is a project that proposes to create a Class I shared use path continuously connecting the communities of Jamestown, Sonora, and Columbia. With these communities connected, the shared use path will address community needs by enhancing access to critical services aimed at people that do not have access to vehicles. These multi-modal facilities are essential for the low income, high poverty, and high unemployment areas of Jamestown and Sonora to link with Columbia College, Motherlode Job Training, and employment centers. Currently, transportation options are rather limited in the Jamestown area to primarily, personal vehicle use. There are no safe walking paths, no safe ways to cross the highway bisecting the community, and no safe and accessible parking to encourage carpooling.

The SR 49 Safe, Healthy, and Equitable Streets Improvement project overlaps with the Gold Rush Shared Use Path project that will provide essential arterial corridors to support pedestrian and bicycle usage. Additionally, these multi-modal corridors will be an important component of the region's Vehicle Miles Travelled (VMT) reduction plans. Coordination between these two projects will continue as these projects move forward.

Tuolumne County is concurrently working on a project to realign and replace a bridge on Rawhide Road, improve pedestrian facilities, construct retaining walls, and install a

new traffic signal on SR 49 (Rawhide Project EA 10-1N680). The Rawhide Project is in the design phase and anticipated to be in construction prior to this project. Project 10-1L200 will incorporate the improvements proposed by the Rawhide Project into subsequent phases of project development (see Attachment C).

3. PURPOSE AND NEED

Purpose:

The purpose of the project is to:

- Provide congestion relief, improve emergency evacuation, improve traffic operations, upgrade signals as appropriate, and provide other geometric improvements.
- Provide paved shoulders, bike lanes or multi-use paths, and sidewalks along SR 49, and safe pedestrian access across SR 49, to facilitate a safer facility for pedestrians and bicyclists.
- Improve economic opportunities for the rural and low-income disadvantaged community and promote and facilitate ridesharing, clean vehicles, and improved access to public transit for all users of the corridor by adding a P&R facility, electric car charging facilities, and transit stops.

Need:

There is a need to address:

- Traffic demand
 - Increase in truck traffic, commuter traffic, local traffic, and recreational traffic has resulted in congestion and delay on SR 49 within the project limits.
 - There is a need to improve traffic operations and emergency evacuation capacity within the project limits.
- Bicycle and pedestrian access and use
 - There are no paved shoulders, bike lanes, or sidewalks along SR 49 in the project area. There are no crosswalks. Consequently, bicyclists and pedestrians are required to use the shoulders along the route and cross the highway in a random manner.
- Multi-modal connectivity and Economic Opportunities
 - Multi-modal travel opportunities are limited or non-existent along SR 49 in the project area because there are no P&R facilities, electric car charging stations, or transit stops along the route within the project limits.
 - Rural and low-income residents lack adequate access to income opportunities. There is a need for low-cost forms of transportation to access jobs, education, and other opportunities.

4. TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT

The Supplemental Traffic Engineering Performance Assessment (TEPA) (see Attachment D) was prepared in accordance with Appendix S, Article 5 of the Project Development Procedures Manual to include an analysis of a multimodal alternative or Alternative 3 that serves all users of the SR 49 corridor without adding additional travel lanes. At this stage of the project development process, existing traffic data, transportation reports and other readily available information were used for the Supplemental TEPA. More in-depth traffic engineering efforts and intersection control will be further evaluated following the Intersection Control Evaluation during the PA&ED phase to refine the geometrics and scope of work, and ultimately produce the environmental document and obtain project approval.

A summary of the LOS in the Existing and Design Year 2047 is shown in the following table:

Segment	AM Peak Hour			PM Peak Hour		
	Existing	Design Year No Build	Design Year Build	Existing	Design Year No Build	Design Year Build
South of Main Street	E	E	E	E	E	E
Main Street to Rawhide Road	E	E	E	E	E	E
Rawhide Road to Fifth Avenue	E	E	E	E	E	E
North of Fifth Avenue	D	E	E	E	E	E

Based on the table above, all segments within the project limits are projected to operate with LOS “E” in the Design Year that is the same as the No-Build alternative.

The total network performance for the Design Year 2047 is summarized in the Measure of Effectiveness table below:

Measure of Effectiveness	No-Build Alternative		Alternative 3		Comparison	
	AM	PM	AM	PM	AM	PM
Vehicle Hours of Delay	63	168	55.4	80.2	-12%	-53%
Vehicle Miles of Travel	1,947	2,229	1,983.7	2,430.9	2%	9%
Average Speed (mph)	16	10	17	16	6%	60%
Total Fuel Consumption	81	174	84.5	131.5	5%	-24%

Note: Results are from SimTraffic V.10 analysis.

Alternative 3 is expected to improve total fuel consumption, vehicle hours of delay, and average speed that meets the project's purpose and need to reduce traffic congestion and delays within the project limits. There is a slight increase in vehicle miles of travel however it is abated by the significant multimodal facilities proposed including a shared use path, sidewalks, curb ramps, transit stops, and P&R.

5. MULTI MODAL PROJECT TRAFFIC ANALYSIS

Wood Rodgers has performed a comparative traffic analysis as a traffic consultant for TCTC (see Attachment E). Operational analyses were performed including intersection LOS, queueing, roadway segment LOS, and quantification of network performance measures including delay, average speed, fuel consumption, and emissions. A detailed VMT analysis was prepared for each alternative including quantification of emissions.

In the analysis tables in this section and the report in Attachment E, the alternatives discussed are No-Build, Alternative A and Alternative B. Alternative A is either Alternative 1 or 2 since they have the same geometric features and so for the purposes of the traffic analysis they are the same. Alternative B is considered as Alternative 3.

Adjusted total network performance:

MOE	Peak Hour	Existing (2019)			Opening Year (2027)			Design Year (2047)		
		Scenario			Scenario			Scenario		
		1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B
Total Stops	AM	2,699	1,984	2,442	3,645	2,254	2,900	5,847	2,976	4,684
	PM	3,014	2,139	2,861	5,273	2,701	3,742	7,293	4,126	8,752
	FRI	5,509	2,596	3,915	6,181	3,265	6,177	9,331	5,428	11,779
Total Vehicle Hours of Delay	AM	49	22	36	98	26	48	268	40	106
	PM	87	30	45	178	35	68	466	57	267
	FRI	205	38	74	359	44	160	814	91	411
Vehicle Hours of Travel	AM	138	101	115	204	111	139	490	142	218
	PM	192	123	144	302	136	177	967	186	472
	FRI	353	143	187	641	160	289	2,178	238	896
Vehicle Miles Traveled	AM	2,948	2,948	2,948	3,180	3,180	3,180	3,835	3,835	3,835
	PM	3,509	3,509	3,509	3,828	3,828	3,828	4,772	4,772	4,772
	FRI	3,978	3,978	3,978	4,354	4,354	4,354	5,425	5,425	5,425
Emissions (grams)	AM	919,592	857,596	882,928	1,100,831	936,690	1,001,455	1,788,943	1,156,199	1,294,196
	PM	1,134,285	1,006,008	1,069,742	1,410,999	1,125,094	1,206,489	2,943,115	1,462,800	2,002,142
	FRI	1,541,332	1,161,531	1,252,834	2,194,532	1,297,502	1,536,268	5,541,096	1,725,855	3,027,386
Fuel Consumption (gallons)	AM	103	97	99	124	105	113	201	130	146
	PM	128	113	120	159	127	136	331	165	225
	FRI	173	131	141	247	146	173	624	194	341
Average Speed (miles per hour)	AM	22	30	26	17	29	23	10	27	18
	PM	19	29	25	13	28	22	8	26	12
	FRI	12	28	22	9	27	15	6	23	10
# of Vehicles Denied Entry	AM	2	0	0	26	0	0	320	0	7
	PM	7	0	0	51	0	0	889	0	200
	FRI	117	0	0	431	0	23	2,734	1	845
# of Vehicles that Reached Destination	AM	2,552	2,521	2,521	2,770	2,750	2,749	3,345	3,311	3,298
	PM	2,907	3,149	2,897	3,217	3,512	3,244	4,227	4,239	4,224
	FRI	3,260	3,579	3,289	3,746	4,003	3,701	4,846	4,814	4,896

The following table shows the network performance percent difference from No-Build conditions:

MOE	Peak Hour	Existing (2019)			Opening Year (2027)			Design Year (2047)		
		Scenario			Scenario			Scenario		
		1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B
Total Stops	AM	0%	-26%	-10%	0%	-38%	-20%	0%	-49%	-20%
	PM	0%	-29%	-5%	0%	-49%	-29%	0%	-43%	20%
	FRI	0%	-53%	-29%	0%	-47%	0%	0%	-42%	26%
Total Vehicle Hours of Delay	AM	0%	-55%	-27%	0%	-73%	-52%	0%	-85%	-60%
	PM	0%	-66%	-48%	0%	-81%	-62%	0%	-88%	-43%
	FRI	0%	-81%	-64%	0%	-88%	-56%	0%	-89%	-49%
Vehicle Hours of Travel	AM	0%	-27%	-17%	0%	-46%	-32%	0%	-71%	-55%
	PM	0%	-36%	-25%	0%	-55%	-41%	0%	-81%	-51%
	FRI	0%	-59%	-47%	0%	-75%	-55%	0%	-89%	-59%
Vehicle Miles Traveled	AM	0%	0%	0%	0%	0%	0%	0%	0%	0%
	PM	0%	0%	0%	0%	0%	0%	0%	0%	0%
	FRI	0%	0%	0%	0%	0%	0%	0%	0%	0%
Emissions (g CO ₂)	AM	0%	-7%	-4%	0%	-15%	-9%	0%	-35%	-28%
	PM	0%	-11%	-6%	0%	-20%	-14%	0%	-50%	-32%
	FRI	0%	-25%	-19%	0%	-41%	-30%	0%	-69%	-45%
Fuel Consumption (gallons)	AM	0%	-7%	-4%	0%	-15%	-9%	0%	-35%	-28%
	PM	0%	-11%	-6%	0%	-20%	-14%	0%	-50%	-32%
	FRI	0%	-25%	-19%	0%	-41%	-30%	0%	-69%	-45%
Average Speed (miles per hour)	AM	0%	36%	18%	0%	71%	35%	0%	170%	80%
	PM	0%	53%	32%	0%	115%	69%	0%	225%	50%
	FRI	0%	133%	83%	0%	200%	67%	0%	283%	67%
# of Vehicles Denied Entry	AM	0%	-100%	-100%	0%	-100%	-100%	0%	-100%	-98%
	PM	0%	-100%	-100%	0%	-100%	-100%	0%	-100%	-78%
	FRI	0%	-100%	-100%	0%	-100%	-95%	0%	-100%	-69%
# of Vehicles that Reached Destination	AM	0%	-1%	-1%	0%	-1%	-1%	0%	-1%	-1%
	PM	0%	8%	0%	0%	9%	1%	0%	0%	0%
	FRI	0%	10%	1%	0%	7%	-1%	0%	-1%	1%

Daily emissions for the network:

MOE	Period	Existing (2019)			Opening Year (2027)			Design Year (2047)		
		Scenario			Scenario			Scenario		
		1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B
Emissions (g CO ₂)	Day	4,621,223	4,193,109	4,393,508	5,651,617	4,639,014	4,967,875	10,647,130	5,892,748	7,416,760

Daily emissions – difference from No-Build conditions:

MOE	Period	Existing (2019)			Opening Year (2027)			Design Year (2047)		
		Scenario			Scenario			Scenario		
		1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B
Emissions (g CO ₂)	Day	0	-428,114	-227,714	0	-1,012,603	-683,742	0	-4,754,382	-3,230,370

Yearly emissions – difference from No-Build conditions:

MOE	Period	Existing (2019)			Opening Year (2027)			Design Year (2047)		
		Scenario			Scenario			Scenario		
		1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B	1, No Build	2, Project Alt A	3, Project Alt B
Emissions (metric tons CO ₂)	Year	0	-156	-83	0	-370	-250	0	-1,735	-1,179

These emissions tables only show differences due to reduced congestion and fuel consumption and do not take into account reductions in VMT due to the multimodal improvements.

VMT analysis:

This section summarizes the effects of the three study scenarios on Tuolumne County VMT under all study years. County VMT under No-Build conditions is estimated using the Tuolumne County Regional Travel Demand Model and methodologies outlined in the California Air Pollution Control Officers Association “Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity” December 2021.

Alternative A VMT analysis:

Value	Year		
	2019	2027	2047
Tuolumne County VMT under No Build	1,838,052	1,942,310	2,166,395
Change in VMT due to the SR 49 Multimodal Improvements (Sidewalks, Bike Lanes, Bus Stops)	-795	-934	-1,237
Change in VMT due to the Park-and-Ride Lot	-1,419	-1,419	-1,419
Change in VMT due to the SR 49 Widening	+1,324	+3,127	+3,563
Change in VMT due to the Rawhide Road Bridge Project	-365	-962	-642
Change in VMT due to the Gold Rush Shared Use Path and E-Bike/Scooter Program	-6,991	-7,243	-8,023
Total Change in Tuolumne County VMT under Project Alternative A	-8,246	-7,431	-7,758
Tuolumne County VMT under Project Alternative A	1,829,806	1,934,879	2,158,637
Percent Change in Tuolumne County VMT under Project Alternative A	-0.45%	-0.38%	-0.36%

Note: Alternative 1 or 2 is Alternative A.

As shown in the table above, a reduction of 0.36% to 0.45%, or approximately 7,431 to 8,246 vehicles miles per day is projected.

Alternative B VMT analysis:

Value	Year		
	2019	2027	2047
Tuolumne County VMT under No Build	1,838,052	1,942,310	2,166,395
Change in VMT due to the SR 49 Multimodal Improvements (Sidewalks, Bike Lanes, Bus Stops)	-795	-934	-1,237
Change in VMT due to the Park-and-Ride Lot	-1,419	-1,419	-1,419
Change in VMT due to the Rawhide Road Bridge Project	-365	-962	-642
Change in VMT due to the Gold Rush Shared Use Path and E-Bike/Scooter Program	-6,991	-7,243	-8,023
Total Change in Tuolumne County VMT under Project Alternative A	-9,570	-10,558	-11,321
Tuolumne County VMT under Project Alternative A	1,828,482	1,931,752	2,155,074
Percent Change in Tuolumne County VMT under Project Alternative A	-0.52%	-0.54%	-0.52%

Note: Alternative B is Alternative 3

As shown in the table above, a reduction of 0.52% to 0.54%, or approximately 9,570 to 11,321 vehicles miles per day is projected.

Emissions Analysis:

Alternative A emissions due to VMT and Congestion Reduction metric tons CO₂E (carbon dioxide equivalents):

Value	Year		
	2019	2027	2047
Tuolumne County Emissions under No Build	267,014	282,159	314,712
Total Change in Tuolumne County Emissions Due to <u>VMT</u> under Project Alternative A	-1,198	-1,080	-1,127
Total Change in Tuolumne County Emissions Due to <u>Congestion</u> under Project Alternative A ¹	-156	-370	-1,735
Tuolumne County Emissions under Project Alternative A	265,660	280,710	311,850
Percent Change in Tuolumne County Emissions under Project Alternative A	-0.51%	-0.51%	-0.91%

Note: Alternative 1 or 2 is Alternative A.

As shown in the table above, Alternative A is projected to reduce Tuolumne County emissions (CO₂E) by approximately 0.51% to 0.91% or approximately 265,660 to 311,850 metric tons CO₂E per year.

Alternative B emissions due to VMT and Congestion Reduction metric tons CO₂E:

Value	Year		
	2019	2027	2047
Tuolumne County Emissions under No Build	267,014	282,159	314,712
Total Change in Tuolumne County Emissions Due to <u>VMT</u> under Project Alternative B	-1,390	-1,534	-1,645
Total Change in Tuolumne County Emissions Due to <u>Congestion</u> under Project Alternative B ¹	-83	-250	-1,179
Tuolumne County Emissions under Project Alternative B	265,540	280,376	311,888
Percent Change in Tuolumne County Emissions under Project Alternative B	-0.55%	-0.63%	-0.90%

Note: Alternative B is Alternative 3

As shown in the table above, Alternative B is projected to reduce Tuolumne County emissions (CO₂E) by approximately 0.55% to 0.90% or approximately 265,540 to 311,888 metric tons CO₂E per year.

6. DEFICIENCIES

Collision Analysis:

The collision history was obtained for the 36-month period from January 1, 2018 to December 31, 2020 from the Traffic Engineering Branch. In table below, the collision data including actual fatal, fatal plus injury and total collision rates compared with the average statewide rates are included:

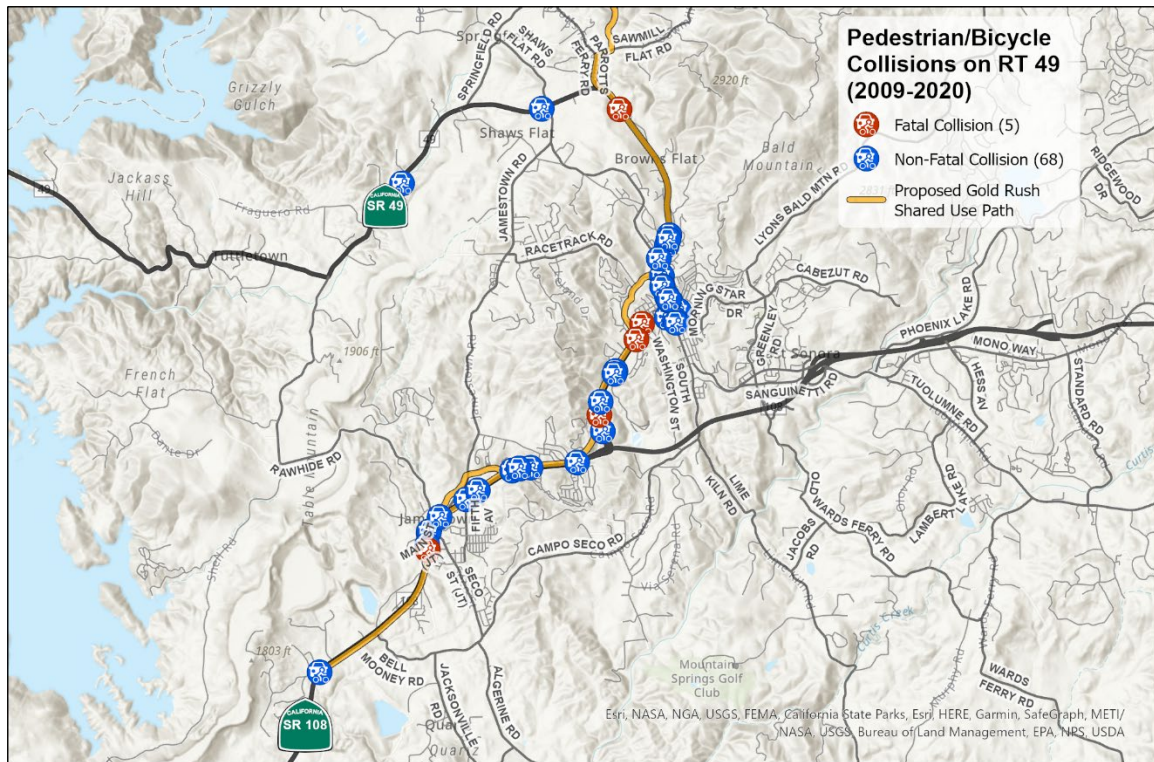
SUMMARY OF TASAS - TABLE B										
Location Description	Number of Collisions				Collisions Rates (Collisions/MVM)					
	Total	Fatal	Injury	F+I	Actual			Statewide Average		
					Fatal	F+I	Total	Fatal	F+I	Total
PM 14.17/15.17	109	1	33	34	0.052	1.76	5.65	0.022	0.61	1.32

Note: 1. F+I = Fatal + Injury

2. MVM = Million Vehicle Miles

As shown in table above, the total collision rates are between two to three times the statewide average rates for similar facilities. Based on an analysis of the collision types, the majority of the collisions were rear-end collisions that are indicative of locations with traffic congestion. A major objective of this project is to address traffic congestion through added capacity or operational improvements.

Pedestrian and bike collision data obtained from TCTC is shown in the mapping below.



Additionally, there have been recent collisions, not reflected in this data, involving pedestrians in the past year discussed in the media. It is anticipated that new multi-modal facilities will reduce the conflict points between pedestrians and bicycles with motor vehicles that should reduce the number and severity of the collisions.

The Traffic Safety Branch is currently working on conceptual reports for the SR 49 intersection at 5th Avenue to add pedestrian signal heads and a raised median at Main Street/Jamestown Road to address broadside collisions. This project may present opportunities to partner with this project to address this issue.

The existing route does not provide a safe-haven for pedestrians, transit riders and Class II facilities for bicycles.

The project is consistent with the policies and programs in the Local Road Safety Plan developed by Tuolumne County including:

- Policy 4.B.1 Implementation Program 4.A.c and 4.A.d
- Policy 4.B.2 Implementation Program 4.B.f
- Policy 4.B.3 Implementation Program 4.B.j.1

Caltrans is aligning departmental activities, as appropriate, with the Safe System approach, which identifies several interconnected elements to achieving a vision of

zero fatalities and serious injuries – safe road users, safe roads, safe speeds, safe vehicles, and post-crash care. As part of this policy, Caltrans commits to:

- Prioritizing “safety first” in highway planning, operation, construction and maintenance.
- Focusing on eliminating the most serious crashes, rather than all crashes.
- Eliminating race-, age-, ability- and transportation mode-based disparities in road safety outcomes by addressing historic and current barriers to transportation access and safety.

This policy takes steps to further institutionalize a shift that began in 2020, as state transportation leaders recognized a bolder and more focused approach was necessary to combat the troubling rise in fatalities and serious injuries on California roads. The [state’s 2020-24 Strategic Highway Safety Plan](#) – managed by Caltrans and involving more than 400 stakeholders – was updated to include the Safe System approach.

7. ASSET MANAGEMENT

This project is a State Transportation Improvement Program (STIP) project and does not use any funding from the State Highway Operation and Protection Program (SHOPP). In the future, if this project obtains SHOPP funding, early coordination with Asset Management will be required as well as meeting SHOPP requirements. The request shall be evaluated based on funding and performance target constraints in the State Highway System Management Plan (SHSMP). The performance measures identified in the programmable project alternative as shown in Attachment F are not counted toward the District 2021 SHSMP performance target.

8. CORRIDOR AND SYSTEM COORDINATION

The Route Adoption map was approved on March 21, 1969.

Tuolumne County Transit Route 3 serves the communities of Jamestown, Sonora and Columbia. The transit needs include additional bus stops, public transit reliability, and out of county trips.

There is currently no parallel or adjacent separated and protected bicycle facility at this location along SR 49. There is no paved sidewalk or designated crosswalk at this location. Paved shoulders vary in widths from over eight feet to less than one foot wide. Currently, there is no ADA compliant infrastructure.

Investments in active transportation (such as buffered bicycle lanes, crosswalks, sidewalks, and a shared use path), as well as investments in transit (R&P, bus stops, resumption of a bus route, Bus Rapid Transit) are ways to reduce per capita dependency on fossil fuels and emissions coming from Single Occupancy Vehicle

(SOV) short distance trips. A study in the next phase of development would be needed to help determine the amount of mode shift possibility and GHG emissions reductions because of expansion of transit from Chicken Ranch Rancheria and Jamestown to Sonora.

This project's active transportation, P&R/carshare, shoulder improvements, and transit investments support the Smart Mobility Framework's (SMF) guidance on accomplishing mode shift away from single occupancy vehicles, VMT reduction, and GHG emissions reduction. The multimodal solutions included in this project are consistent with SMF Implementation Guide strategies for Rural and Rural Main Street Place Types, of which SR 108/49 through Jamestown and Sonora are examples. For more information on the SMF Implementation Guide and its Mapping Application, refer to the following Caltrans website: [Smart Mobility Framework \(SMF\) Implementation Guide and Mapping Application 2022 | Transportation Planning](#)

SR 108/49 Multimodal Congested Corridor Plan found some 2040 VMT reduction in modeling of proposed separated shared use active transportation facility along SR 108/49. The active transportation pathway performed better in modeling than the future 2040 No-Build scenario. There was also less queueing and delay in the active transportation pathway scenario in 2040 conditions.

A February 2022 memorandum addressed to TCTC on VMT travel analysis on the SR 108/49 corridor from Chicken Ranch Road to Columbia College indicated a 4.78% reduction in GHG emissions and VMT over time in the study area after completion of an active transportation shared use pathway. The 2040 modeled conditions in the MCCP using an active transportation pathway also showed a SOV VMT reduction.

The planned connectivity, with the Gold Rush Shared Use Path, has led to the development of a multi-agency Memorandum of Understanding (MOU) between Tuolumne County, the City of Sonora, Tuolumne County Transportation Council, the Chicken Ranch Rancheria of Me-Wuk Indians of California, and the Blue Zones Project – Tuolumne County. When complete, this MOU will solidify the region's dedication to a project that will have far reaching benefits for not only the economics but also for safety and health of the region as well.

TCTC is working on a grant to study evacuation of communities in fire-prone areas issues including studying deficiencies in the road system/network.

9. ALTERNATIVES

In the original PSR-PDS, Alternatives 1 and 2 both proposed to widen SR 49 from the existing three lanes or one travel lane in each direction plus a two-way turn lane to a total of five lanes or two travel lanes in each direction as well as a two-way turn lane. Paved shoulders, sidewalks curb ramps, drainage facilities, two transit stops, and P&R facility were also proposed. Alternative 1 achieves the widening on both sides of the highway, while Alternative 2 proposes to widen on the west side of the highway.

A new alternative namely Alternative 3 proposes to make operational improvements on SR 49 including signal interconnect and other geometric improvements to the 5th Avenue, Rawhide Road, and Main Street intersections with no added travel lanes. The project also proposes additional multi-modal features that are consistent with TCTC's Gold Rush project. It is proposed to add a 12-foot Shared Use Path and 6-foot sidewalk. The existing traffic signal at 5th Avenue will be upgraded as well as replacing impacted streetlights and electrical systems. See Attachment A for a cross-section and Attachment B for geometric layouts and the cost estimate in Attachment G.

The Rawhide project (10-1N680) will make improvements to the Jamestown Road, Main Street and Rawhide Road intersections.

The design standards risk assessment table for the alternatives with proposed nonstandard design features are as follows:

Design Standards Risk Assessment			
Alternative	Design Standard from Highway Design Manual Tables 82.1A & 82.1B	Probability of Nonstandard Design Feature Approval (None, Low, Medium, High,)	Justification for Probability Rating
3	HDM 302.1 Shoulder Width	Medium	Community needs for Jamestown including complete streets.
3	HDM 303.1 Curb Types	Medium	Community needs for Jamestown including complete streets.

3	HDM 1003.1(7) Minimum Separation	Medium	Curb provides a physical separation. Sidewalk is provided on other side of the highway.
1,2, & 3	HDM 305.1(3) Median Width	High	The expressway is functioning as a conventional highway and there are no plans make a conversion. There would be a very high cost and R/W impact to add a divided median.

It is anticipated that the geometric improvements can be constructed with shoulder or temporary short-term travel lane closures that will utilize one-way traffic control during off peak travel periods. There will be night work involved when the closures are more extensive. No full closures or detours are anticipated.

Landscaping:

Currently, there is a hold on new landscaping on state facilities due to the ongoing drought. There is also an issue adding additional landscaping infrastructure due to limited staffing. However, there are significant benefits to adding urban greening to offset carbon emissions, filter pollutants, and reduce the heat island effect. There may be the possibility of the County or TCTC contracting with private landscape companies to maintain the green infrastructure. Reclaimed water would also make the landscaping more acceptable. This component of the project is currently not included in the scope of work but may be added later in the development of the project.

The Rawhide project proposes bioswales that will be used to filter pollutants from storm water before they go into Woods Creek. Other construction and permanent Best Management Practice's will be included in the project upon completion of more detailed studies.

Electric Vehicle Charging:

It is proposed to explore options to add electric vehicle charging stations to the P&R facility that would add to the existing charging stations proposed in the vicinity of Jamestown. A charging station is proposed for the Sonora Maintenance station and there is one existing charging location at the Jamestown Hotel. Adding charging stations is consistent with the Central Sierra Zero Emissions Vehicle Readiness Plan

and supports the state’s efforts to transition to zero emissions via the use of electric vehicles.

10. RIGHT-OF-WAY

Due to time and resource constraints, a data sheet for Alternative 3 has not been requested. It is currently assumed that the cost, schedule, assumptions, and limiting conditions are assumed for Alternative 3 as Alternative 1 and 2. It is expected that Alternative 3 will require less acquisition and have less of an impacts to utilities than Alternatives 1 and 2.

11. STAKEHOLDER INVOLVEMENT

A public scoping meeting is anticipated at the beginning of PA&ED to determine the needs of the community for this project. TCTC and Tuolumne County have been active and key members of the PDT members in developing this Supplemental PSR-PDS including providing details on the Gold Rush Path project, local collision data, Local Road Safety Plan, equity needs (health and income disadvantages) and regional transportation plan consistency.

12. ENVIRONMENTAL COMPLIANCE

There is no change to the Preliminary Environmental Analysis Report (PEAR) that was prepared for the PSR-PDS. The PEAR identifies environmental issues, constraints, costs, and resource needs. An EIR under the CEQA and EA under NEPA are anticipated for this project.

13. COMPLETE STREETS

Complete Streets elements in the proposed project are part of a staged corridor-wide strategy from Chicken Ranch Rancheria to Columbia College to develop connected active transportation facilities in populated areas of Tuolumne County, connecting tourist destinations, learning institutions, local businesses, main streets, cultural assets, cultural institutions, and residential areas in the County’s most populated locations. A week-long camera count data indicated active transportation activity in the Rawhide Road/SR 108/49 intersection area. Page 174 in MCCP indicates active transportation mode choice as part of a commute in corridor census tracts--7% in the corridor area from Chicken Ranch Rancheria to Columbia College and 13% in Census Tract 11, which includes parts of Sonora. There is an existing need for improved active transportation facilities.

Current levels of traffic stress (LTS) for bicyclists and pedestrians on SR 108/49 is 4 outside of downtown Sonora. Level 4 is the most stressful rating. A connected, protected, and separated facility can reduce stress. See Attachment H for examples of the issues that multimodal users currently experience on SR 49.

As discussed in Multimodal Project Traffic Analysis, a connected, protected, and separated active transportation pathway can reduce VMT, leading to fewer SOV short distance trips in the corridor area. This shift can lead to savings on gas combustion engines.

A separated and protected facility has safety benefits. According to research at the University of Colorado Denver and the University of New Mexico, protected and separated facilities reduce the chances of accidents for bicyclists and cars.

The complete street items and other items required to construct the complete street improvements include the following items:

Complete Street Items/Required Items	Unit	Quantity	Current Cost
Transit Stop	Each	2	\$51,000*
Shared Use Path	Linear Feet	3,900	\$561,000
Sidewalk,	Linear Feet	3,460	\$303,000
Curb, and Gutter	Lump Sum	7,400	\$540,000
Retaining Wall	Lump Sum	0	\$0
Drainage System	Lump Sum	1	\$1,841,800
Total			\$3,296,800

Note: The cost estimates are preliminary and not suitable for programming purposes.

The Complete Street Decision Document is included in Attachment I.

14. CAPTI

Health

The Healthy Places Index score at the project location is 32.7 percentile based on various criteria including economic, education, transportation, social, neighborhood, healthcare access and housing. This information was found on the following link: <https://experience.arcgis.com/experience/22c7182a162d45788dd52a2362f8ed65>

To summarize the Healthy Places information in Attachment J, the project is located in an area of:

- High Arthritis
- High Asthma
- High Blood Pressure
- High Cancer rates

- High Cholesterol
- High Kidney Disease
- High COPD
- High Heart Disease
- High Diabetes
- High Depression
- Low Obesity
- High Stroke
- Low All Teeth Lost

This tract has healthier community conditions than only 32.7% of other California census tracts. The project is in need of healthier alternative modes of transportation to improve the health of the region. The proposed multi-modal facilities and the Gold Rush path will link with popular recreation areas such as Dragoon Gulch, Rotary Park, Sonora High School track and aquatics center.

Economic Development:

The median household income in Tuolumne County from 2016-2020 is \$60,509. Jamestown's (06109005100, Census Tract FIPS) median income is only \$48,253 (approximately 64% of median state income of \$75,235). Over 40% of the population of Tuolumne County live on less than \$50,000 a year. Of those living on less than \$50,000 a year, the majority of them live on just \$20-30,000 a year which is significantly below the California median income of \$75,235. Low income and out of work residents have an immediate need for these types of projects to connect them with ladders of success, meaning job training, higher education and access to employment opportunities. SR 49 is the only link disadvantaged residents have to critical, life sustaining services and jobs and so pedestrians and bicycles utilizing the corridor must share the road with automobiles.

The P&R part of the project will provide a previously unavailable safe, accessible way to carpool on longer commutes and can serve double duty as a transit stop. The P&R can also serve as a rideshare location such as UBER or Lyft that provides a safer location adjacent to the highway to use these services. A P&R is also an ideal location to locate an electric charging station. The climate-controlled transit shelter will enable residents to wait for carpooling or public transit to arrive without risking their health in extreme weather events.

The crosswalks, sidewalks, and Gold Rush Shared Use Path will enable locals and visitors alike to safely cross SR 49 or walk along the highway to access education, job training, employment, retail centers, and medical facilities if they so choose. A path connecting locals and visitors to the new Chicken Ranch Casino expansion would also encourage walking or biking, instead of driving, to an employment and recreation hub.

A new transit stop at the planned P&R will connect low-income residents with Mother Lode Job Training, Columbia College, and Unemployment Centers.

Infill Development:

The project is centrally located along the majority of future planned infill in the county, near hundreds of subsidized low-income dwelling units being built in Jamestown and encourages that infill to go forward by providing a walking path they can connect to which means lowering any future planned development's VMT and emissions impact. The path traverses the lowest per capita VMT in all of Tuolumne County. By focusing growth in this low VMT corridor, providing transit connections and an E-bike program along the shared use path, development of vacant infill lots will enable an extremely efficient travel pattern by future residents. With plenty of vacant infill lots zoned for development along the path, existing businesses and residents should not be displaced.

15. FUNDING

There are several potential funding sources to fund the PA&ED phase of the project, including Federal, State, Regional, and Local Funds. STIP (both Interregional Improvement Program and Regional Improvement Program) funding will be sought during the next (2024) STIP cycle. Funding from State Highway Operation and Protection Program will be sought for operational improvement and complete street elements. In addition, Congestion Mitigation and Air Quality Improvement funds may be invested in the project. TCTC and Caltrans will execute a cooperative agreement detailing the funding, and roles and responsibilities of each agency, to complete PA&ED.

It has been determined that this project is eligible for Federal-aid funding.

Capital Outlay Project Estimates:

	Range of Estimates		STIP Funds		Other Funds	
	Construction	Right-of-Way	Construction	Right-of-Way	Construction	Right-of-Way
Alternative 1	19,588	3,378-3,424	19,588	3,378-3,424	TBD	TBD
Alternative 2	18,950	3,378-3,424	18,950	3,378-3,424	TBD	TBD
Alternative 3	16,162	3,378-3,424	16,162	3,378-3,424	TBD	TBD
Notes: 1. All costs are in thousands of dollars \$1000; 2. TBD – To Be Determined						

These capital outlay project estimates are useful for long-range planning purposes only and should not be used to program or commit State-programmed capital outlay funds.

Capital Outlay Support Estimate:

Capital outlay support estimate recommended for programming PA&ED in the 2024 STIP for this project: \$2,730,000

16. DELIVERY SCHEDULE

The proposed schedule, which is subject to revision once a cooperative agreement is executed for the PA&ED project delivery phase, is provided in the following table:

Project Milestones		Scheduled Delivery Date (Month/Day/Year)
PROGRAM PROJECT	M015	11/01/2022
BEGIN ENVIRONMENTAL	M020	01/02/2023
CIRCULATE DPR & DED EXTERNALLY	M120	7/31/2025
PA & ED	M200	7/31/2026

The anticipated funding fiscal year for construction is 2028/29.

17. RISKS

Updated new risks have been added to discuss the impacts of VMT (see Attachment L).

18. EXTERNAL AGENCY COORDINATIONFederal Highway Administration (FHWA)

The project has not been identified as a “Project of Division Interest.”

The project requires the coordination from the following agencies:

TCTC

TCTC is an integral part of the PDT and is funding partner for segments of the project.

Tuolumne County

Tuolumne County is an integral part of the PDT and is funding partner for the Rawhide segment of the project (10-1N680) and potentially other segments of the project.

US Army Corps of Engineers
Department of the Army Permit for:
Clean Water Act Section 404

California Department of Fish and Wildlife
California Fish and Game Code Section 1602
Lake or Streambed Alteration Agreement

Regional Water Quality Control Board
Clean Water Act Section 401
Water Quality Certification

Yosemite Area Regional Transportation System (YARTS)
According to Section 108.2 of Highway Design Manual, a cooperative agreement between Caltrans and YARTS will be required for the proposed transit stops. The agreement will cover items such as funding, ownership, maintenance, and legal responsibility.

Railroads
There are no at-grade or separated-grade rail crossings

19. PROJECT REVIEWS

Field Review	N/A	Date	
District Maintenance	Tanya Sanguinetti	Date	7/13/2022
District Traffic Safety Engineer	Thienan Nguyentan	Date	7/13/2022
Headquarters Project Delivery Coordinator	Paul Gennaro	Date	7/14/2022
Project Manager	Mike Cook	Date	7/14/2022
FHWA	N/A	Date	
District Safety Review	Imran Fazal	Date	N/A
Constructability Review	Sal Alsalam	Date	N/A
Other		Date	

20. PROJECT PERSONNEL

Mike Cook, Project Manager	(209) 470-2909
Morissa Imperial, Project Analyst	(209) 986-3821
Darrin Grossi, Executive Director of TCTC	
Shannon Thaggard, Planner TCTC	
Jes Padda, Design Manager	(209) 401-8644
C. Scott Guidi, Environmental Branch Chief	(209) 990-5719
Jonathan Coley, Environmental Generalist	(209) 990-5716
Charles Carroll, System Planning and Goods Movement	(209) 986-9831

Vu H. Nguyen, Freeway & Highway Operations Chief	(209) 603-5126
Nin Tran, Freeway & Highway Operations	(209) 986-9211
Eric Ladio, Freeway & Highway Operations	(209) 986-9432
Eric Chin, Traffic Forecasting	(209) 948-7071
Thienan Nguyentan, Traffic Safety Chief	(209) 986-9404
Jag Brar, Traffic Safety	(209) 948-3954
Chris Mishra, Right of Way Coordinator	(559) 948-7846
Tanya Sanguinetti, Maintenance Engineering Chief	(209) 986-6837

21. ATTACHMENTS (Number of Pages)

- A. Cross Section – Photo-simulation (1)
- B. Layout Mapping (5)
- C. Rawhide Mapping 1N680 project (7)
- D. Supplemental TEPA (27)
- E. Multimodal Project Traffic Analysis (44)
- F. Asset Management (1)
- G. 11-page Construction Capital Cost estimate for Alternative 3 (10)
- H. Pedestrian and Bicycle Issues (3)
- I. Complete Streets Decision Document (5)
- J. Deficiencies - Healthy Places Index (13)
- K. Fire Scenarios (2)
- L. Updated Risk Register (3)
- M. PSR-PDS (135)
- N. Updated SHOPP Performance Measures (1)