

04 - NAP - 29 – 0.69/2.05  
EA 04-4Q010K – 0419000297  
Program Code – Program Name  
September 2021

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

To

Request Programming for Capital Support  
(Project Approval and Environmental Document Phase) in the 2021 STIP

On  
Route                    29  
Between                American Canyon Road  
And                        Napa Junction Road

APPROVAL RECOMMENDED:

\_\_\_\_\_  
Sanjay Mishra, Napa Valley Transportation  
Authority, Project Sponsor, Accepts risks identified  
in this PSR-PDS and attached risk register

APPROVAL RECOMMENDED:

\_\_\_\_\_  
Celia McCuaig, District Division Chief, Planning

APPROVAL RECOMMENDED:

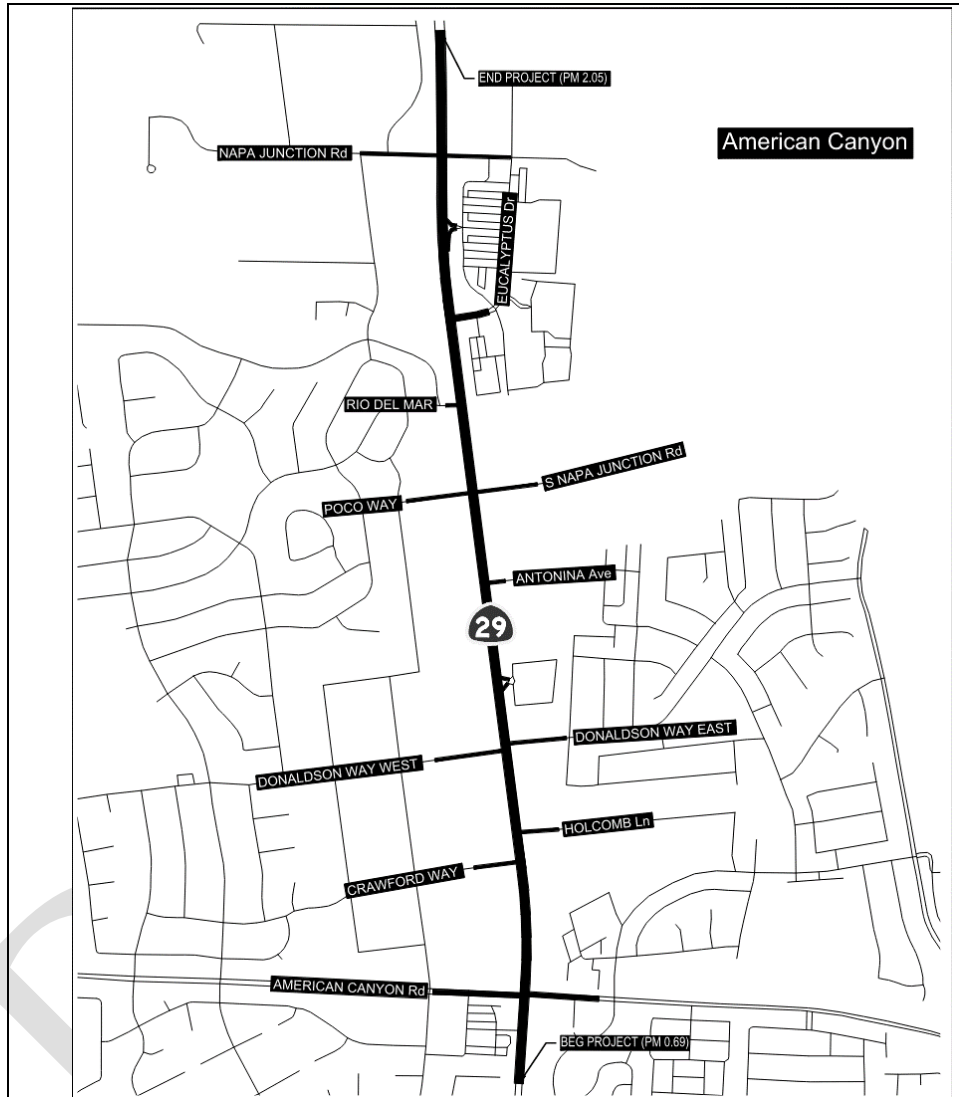
\_\_\_\_\_  
Geshe Melaku, Caltrans Project Manager

APPROVED:

\_\_\_\_\_  
Tony Tavares, District Director  
(or delegated authority)

\_\_\_\_\_  
Date

## Vicinity Map



This 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.

**DRAFT**

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*REGISTERED CIVIL ENGINEER*

*DATE*



DRAFT

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## 1. INTRODUCTION

The Napa Valley Transportation Authority (NVTA), in cooperation with the California Department of Transportation (Caltrans) and the City of American Canyon (City), proposes roadway improvements along State Route 29 (SR 29) within much of the City limits to address various operational and safety needs along the SR 29 corridor. These improvements are needed to improve and increase multimodal transportation opportunities within the city. Collectively these improvements are referred to herein as the American Canyon SR 29 Corridor Improvement Project (Project). The Project is located along SR 29 in Napa County, California between Post Miles (PM) 0.69 and 2.05. See **Attachment A** for the Project Location Map.

NVTA has begun evaluating various alternatives that: 1) maximize efficiency and safety; 2) achieve acceptable operating conditions relative to projected future demand; 3) improve air quality, economic development, and social equity; 4) are context sensitive in accord with SR 29's rural and scenic character; and 5) minimize potential impacts to the natural environment. These alternatives are:

- Alternative 1: Multimodal improvements along the SR 29 corridor from American Canyon Road to Napa Junction Road. Improvements include Class I shared use paths on both sides of SR 29, reconstruction of the roadway to provide consistent median width, 11-foot lanes, 10-foot shoulders on SR 29 allowing for part time bus on shoulder, pedestrian refuge islands at intersections, and landscaped planting areas to separate the Class I paths from the roadway. The project will also include signal upgrades. The existing 4-lane roadway configuration would be maintained.
- Alternative 2: Roundabouts along SR 29 at all major intersections except American Canyon Road. Due to high turning and side street volumes, American Canyon Road will remain a traffic signal. Alternative 2 proposes to maintain the 4-lane corridor with the same multimodal improvements as Alternative 1. At the roundabout intersections, the corridor will be widened to 6 lanes approaching the intersections, allowing necessary circulation. Locations with close intersection spacing will maintain 6 lanes along the corridor. Roundabouts are proposed to increase overall circulation whilst providing traffic calming and enhanced intersection safety for all users.
- Alternative 3: Expand SR 29 to 6 lanes and construct bicycle and pedestrian facilities similar to those in Alternative 1. A paved median island will be constructed along SR 29 to better separate traffic and provide pedestrian refuges for staged crossings. Due to overall roadway widths, certain transit improvements may not be feasible with this alternative, as six lanes already exceed the available right of way and further widening will encroach on existing private infrastructure, including buildings.
- All three alternatives will construct a pedestrian undercrossing, enhanced transit stops where feasible, and include undergrounding of the overhead utility lines.

All Alternatives will include bus-on-shoulder facilities to the maximum extent practicable. Inclusion of these facilities will be studied further in the Project Approval & Environmental Document (PA&ED) phase.

Project Limits	04-NAP-29, 0.69/2.05
Number of Alternatives	3
Current Capital Outlay Support Estimate for PA&ED	\$3,377,000-\$5,030,000
Current Capital Outlay Construction Cost Range	\$41,711,000-\$78,100,000
Current Capital Outlay Right-of-Way Cost Range	####,###,###-\$####,###,### <i>Note to reviewer the request form is being submitted</i>
Funding Source	TBD
Type of Facility	Multi-lane Conventional Highway
Number of Structures	1-2
Anticipated Environmental Determination or Document	CEQA – Initial Study/Mitigated Negative Declaration NEPA – Categorical Exclusion
Legal Description	In Napa County in American Canyon, From 0.1 mile south of American Canyon Rd to 0.1 mile north of Napa Valley Corporate Drive.
Project Development Category	Category 4A

This Project is sponsored by NVT A. The remaining capital outlay support, right-of-way, and construction components of the project are preliminary estimates and are not suitable for programming purposes. A project report will serve as approval of the “selected” alternative.

Other approvals required during the PA&ED phase are:

- Detailed Project Alternative (Geometric Approval Drawings)
- Design Decision Document
- Right of Way Data Sheet
- Storm Water Data Report
- Traffic Management Plan
- Draft and Final Environmental Document
- Cooperative Agreement (for the PS&E and Construction Phases) between all parties

## 2. BACKGROUND

In 2019, NVT A undertook the development and delivery of the SR 29 Comprehensive Multimodal Corridor Plan (SR 29 CMCP). The SR 29 CMCP

evaluated the most constrained portion of SR 29, which is the 11.5-mile portion that stretches from Imola Avenue (designated SR 121 east of SR 29) in the City of Napa to SR 37 in the City of Vallejo. The limits of this project are included within the SR 29 CMPC study limits.

The objective of the SR 29 CMCP was to develop a comprehensive multimodal package of prioritized improvements that address the corridor's preeminent issues, including:

- Traffic congestion and delay
- Increased crash risks for all users
- Lack of low-stress multimodal connectivity
- Increased travel time and Reduced transit reliability

The goal of the SR 29 CMCP was to identify a package of multimodal improvements that are feasible, equitable, cost-effective, have community support, and guide future SR 29 corridor programming decisions over a 20-year timeframe based on available funding. Enhancements for multimodal travel, parallel capacity, operational, and telecommunication strategies were a key focus of the SR 29 CMCP.

The SR 29 CMCP examined the existing and future operational and safety performance of SR 29 using the Caltrans Smart Mobility Framework approach. The results of the performance analysis were combined with substantial input from the public to inform the ultimate selection of the SR 29 preferred corridor concept recommendation.

The SR 29 CMCP built on a solid foundation of plans, policy documents, and community outreach efforts already completed along the SR 29 corridor. In particular, the SR 29 CMCP is a continuation of the outreach, analysis, and findings from NVTA's 2014 SR 29 Gateway Corridor Improvement Plan (SR 29 Gateway Plan).

Upon review of past planning and other corridor-related documents and establishment of evaluation performance metrics, the public was engaged for their input, and a thorough assessment of existing conditions was conducted. These combined efforts led to the identification and evaluation of a focused group of Corridor Solutions. These corridor solutions were identified based on prior efforts from the SR 29 Gateway Plan and from the needs analysis prepared as part of the study.

The performance metrics selected for the SR 29 CMCP were informed by the six Smart Mobility Framework objectives to ensure that the resulting improvement recommendations provide a balanced, sustainable, and multimodal assessment of current and forecasted corridor conditions. Requisite rubrics include:

- Planning level cost opinions
- Mode shift and vehicle miles travelled (VMT)
- Level of traffic stress scores
- Vehicular delay and buffer time reductions



- Collision reduction benefit
- Health and air quality benefit
- Societal cost and benefit monetization factors (per Caltrans 2018 Economic Parameters)
- Return on investment

Equal attention was given to document the beneficial outcomes of measures not directly reflected in the benefit-cost assessment. These include: Plan Consistency (with existing plans); Policy Consistency (NVTA, the City and County of Napa, City of American Canyon and Caltrans); Environmental/Institutional Sensitivity; Adaptation; Economic Development and, Community Acceptance.

The SR 29 CMCP resulted in a Preferred Corridor Plan, which represents implementation of the prioritized multimodal improvement package. The Preferred Corridor Plan considered public input and the application of the Smart Mobility Framework to assess holistic performance measures that align with State and Federal grant application requirements, yielding a competitive result.

The CMCP was completed in early 2020 and this Project will be the second portion of the overall corridor plan to move forward and build upon the work done in the CMCP. Given the extent of the work done to date, this Project will continue to build upon these previous studies to deliver a context sensitive solution for SR 29 within American Canyon.

This Project will incorporate elements of complete streets, accommodating all modes of transportation including bicycling, walking, and transit in addition to driving. Multiple considered alternatives incorporate Class I bike facilities along SR 29. This project also includes select pedestrian improvements as identified by the Broadway District Specific Plan.

### **3. PURPOSE AND NEED**

#### **Purpose**

Provide a multimodal and complete streets corridor that:

- Improves mobility for all users
- Improves safety for all users by incorporating Vision Zero concepts
- Eliminates overhead utility poles
- Improves corridor aesthetics
- Reduces Vehicle Miles Traveled (VMT) by encouraging transportation mode shift, which will help to reduce regional traffic on residential streets
- Improves customer access to businesses adjacent to SR 29
- Provides improved accessibility for all modes of transportation along SR 29 between American Canyon Road and Napa Junction Road

## Need

Regionally, State Route (SR) 29 provides a direct connection between counties along Interstate 80 (I-80) and I-580 and counties along US 101 in the North Bay. Locally, SR 29 is also the lifeblood of access into and out of Napa County.

Notwithstanding their disparate local context, vehicular volumes on SR 29 are comparable to other nearby state highways (SR 12 and SR 37). However, because the SR 29 Corridor functions as American Canyon's "Main Street", it experiences significant safety, aesthetic, and operational issues between American Canyon Road and Napa Junction during weekday and weekend peak hour conditions. The most pronounced issues in the corridor include:

- Lack of multimodal connectivity - particularly for bicycle and pedestrian access - along and across SR 29;
- Lack of low-stress routing options for bicyclists and pedestrians along SR 29;
- Lack of public transit lanes, facilities and pull outs for stops
- Lack of aesthetic benefits of landscaping along the corridor to help define American Canyon's "Main Street";
- Unprotected overhead utility poles with the State Right-of-Way are within the clear recovery zone
- Regional traffic congestion hinders customer access to American Canyon's "Main Street" Commercial businesses;
- Constraints at intersections cause extensive queuing and delays, and bottlenecks resulting in unreliable travel times for both motorists and public transit and traffic diverting to residential streets;
- Compromised feasibility to provide enhanced transit service due to travel time unreliability;
- Increased safety risk and conflicts between motorists and active transportation users due to unseparated facilities and high speed differentials; and
- Increased response times for public safety vehicles.

## 4. TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT

A Traffic Engineering Performance Assessment (TEPA) was prepared for this project. It analyzed four conditions: No Build, and the 3 build alternatives described earlier in this report. The TEPA was submitted to Caltrans for review on March 8, 2021. The TEPA is included as Attachment C. A summary of the findings in the TEPA is provided below:

### Traffic Volumes

Traffic Volumes were derived from traffic counts used in the Watson Ranch Environmental Impact Report (EIR) These counts were used to form a basis for existing traffic conditions. The Napa-Solano Regional Traffic Demand Model (TDM) was used to develop future year forecasts. The TDM projects a growth rate of approximately 40% in the AM peak hour and 20% in the PM Peak.

A summary of traffic volumes can be found in Table 4.1.

**Table 4.1 Average Mainline Volumes**

SR 29 Mainline (PM 0.7 to 2.1)	Existing Year Volume	Design Year Volume			
		No Build	Alt 1	Alt 2	Alt 3
Average Daily Traffic (ADT)	TBD	TBD	TBD	TBD	TBD
Average AM Peak Hour Throughput	3484	3643	3567	3756	3908
Average PM Peak Hour Throughput	4039	4204	4385	4537	4340

### Collision Data

Collision data was provided through Caltrans Traffic Accident Surveillance and Analysis System (TASAS) - Traffic Systems Network (TSN) Reports. Data was provided from October 1, 2016 and September 30, 2019 for postmiles 0.0 to 2.5. Data showed a total of 198 collisions during this period, with 92 injury collisions and no fatalities. The Fatal and injury accident rate was 0.81, over double the statewide average of 0.40. The total accident rate was 1.66, well over the statewide average of 0.90. Most collisions were classified as rear end (64.1%), and most collisions were attributed to speeding.

### Intersection Operations

Within the study area, SR 29 is a multilane conventional highway, with two lanes in either direction. Numerous turn pockets are placed along the corridor, accommodating turning storage and movements. The TEPA analyzed the proposed alternatives using microsimulation software throughout the project area. Table 4.2, Table 4.3, and Table 4.4 present a summary of the design year (2045) Level of Service (LOS) and delay (seconds per vehicle) at each study intersection analyzed.

**Table 4.2 Intersection Operations Summary Alternative 1 Multimodal Improvements**

Intersection	No Build LOS	No Build Delay	Alternative 1 LOS	Alternative 1 Delay
American Canyon Rd	F (F)	277.9 (120.1)	F (F)	189.0 (107.4)
Crawford Way	E (A)	36.1(8.7)	A (A)	6.3 (7.5)
Donaldson Way	F (D)	81.4 (53.9)	D (D)	52.7 (45.7)
Poco Way	A (A)	6.1 (3.8)	F (A)	58.6 (5.5)
Rio Del Mar	D (D)	49.0 (38.4)	E (C)	66.8 (30.8)
Eucalyptus Dr.	D (E)	35.1 (63.4)	C (D)	25.5 (50.3)
Napa Junction Rd	F (F)	104.3 (109.9)	F (C)	91.7 (28.4)

- 1) Delay is measured in seconds
- 2) Values in parentheses are PM Peak hour values.

**Table 4.3 Intersection Operations Summary Alternative 2 - Roundabouts**

Intersection	No Build LOS	No Build Delay	Alternative 2 LOS	Alternative 2 Delay
American Canyon Rd	F (F)	277.9 (120.1)	No Change	No Change
Crawford Way	E (A)	36.1(8.7)	A (B)	6.4 (11.7)
Donaldson Way	F (D)	81.4 (53.9)	B (B)	14.1 (19.8)
Poco Way	A (A)	6.1 (3.8)	A (A)	6.1 (7.3)
Rio Del Mar	D (D)	49.0 (38.4)	B (B)	13.1 (10.1)
Eucalyptus Dr.	D (E)	35.1 (63.4)	B (C)	11.1 (27.8)
Napa Junction Rd	F (F)	104.3 (109.9)	B (B)	10.9 (11.6)

- 1) Delay is measured in seconds
- 2) Values in parentheses are PM Peak hour values.

**Table 4.4 Intersection Operations Summary Alternative 3 -6-Lanes**

Intersection	No Build LOS	No Build Delay	Alternative 3 LOS	Alternative 3 Delay
American Canyon Rd	F (F)	277.9 (120.1)	F (E)	182.6 (69.6)
Crawford Way	E (A)	36.1(8.7)	A (A)	3.3 (3.3)
Donaldson Way	F (D)	81.4 (53.9)	C (C)	31.5 (21.4)
Poco Way	A (A)	6.1 (3.8)	A (A)	4.2 (2.2)
Rio Del Mar	D (D)	49.0 (38.4)	D (C)	46.9 (30.6)
Eucalyptus Dr.	D (E)	35.1 (63.4)	C (D)	22.9 (52.2)
Napa Junction Rd	F (F)	104.3 (109.9)	E (C)	78.2 (20.4)

- 1) Delay is measured in seconds
- 2) Values in parentheses are PM Peak hour values.

### TEPA Findings

The TEPA analyzed the project study location with VISSIM, a microsimulation software. It found that the alternative which performed the best at intersections was Alternative 2. The efficiency of roundabouts along the corridor provided significant delay improvements with the worst-case intersection performing at an LOS C in the PM peak hour.

The alternative which provided the lowest overall travel time, however, was Alternative 3. Alternative 3 reduced travel times by up to 8 minutes in the project area. While Alternative 1 did not reduce the travel time as much as Alternative 3, it did experience some reduction, reducing travel times by as much as 3 minutes 15 seconds, while marginally decreasing intersection delay, and increasing LOS.

### TRANSPORTATION PLANNING SCOPING INFORMATION SHEET (TPSIS)

In discussions with the Office of Advance Planning (OAP), it has been determined that TPSIS will not be required for this project since this project is a multi-model

focused project. Many of the issues typically covered by the TPSIS will be addressed by the project itself.

## **5. DEFICIENCIES**

### **Traffic**

Existing traffic conditions along SR 29 are already congested, with more growth planned in the coming years. Many intersections already operate at substandard levels of service, with more intersections declining as traffic demand rises. Throughout the project limits, SR 29 shows signs of moderately congested and congested travel. Speed studies show that during the AM peak hour, northbound speeds average less than 60% of the free-flow speeds. The southbound averaged between 60% and 80% of free-flow speeds. During the PM peak hour, all of SR 29 in the southbound direction from American Canyon Road extending past the project limits to Soscol Junction, experiences heavy congestion, resulting in speeds below 60% of the free-flow speed. Northbound experiences slightly better conditions with much of the roadway being moderately congested or uncongested.

Weekly Travel Time Reliability is also of concern. Both AM and PM peak hours experience some form of Travel Time Reliability issues, with the Buffer Travel Indices averaging between 0.25 and 0.50.

### **Multimodal**

There are numerous multimodal deficiencies within the project corridor. There is a notable lack of pedestrian facilities and while there is a usable shoulder, there is a lack of dedicated bicycle facilities with separation from vehicle traffic appropriate for the speeds and volumes on SR 29. Due to these conditions, bicyclists experience a significant level of traffic stress (LTS). The entire corridor from the county line to the City of Napa is rated an LTS 4, indicating the highest level of stress on bicyclists.

### **Collisions**

Caltrans TASAS Collision data indicates a significant number of collisions within the project area. Between October 2016 and September 2019, 198 collisions were reported on SR 29 in the project area, with 92 resulting in injury. While the fatal collision rate falls slightly below the statewide average, Fatal + Injury collisions exceed two times the statewide average rate (0.81 vs 0.40). Total collision rate exceeds the statewide average by 84%, indicating improvements may be necessary. Primary Collision factors indicate that speeding is a major cause of collisions, making up 57.6% of all collisions. Over this period, there was one bicycle collision and three pedestrian collisions.

## **6. CORRIDOR AND SYSTEM COORDINATION**

SR 29 is a north-south running multilane conventional highway, spanning approximately 107 miles, from Interstate 80 in Vallejo, California to its northern terminus at the intersection of SR 20 in Upper Lake. Throughout the project limits, SR 29 is classified as an “Other Principal Arterial”, within the State Highway System. SR 29 is currently a Surface Transportation Assistance Act (STAA) Terminal Access Route from its beginning through postmile 36.893, allowing STAA trucks to navigate the roadway through this Project, but limiting the maximum semitrailer length to 48 feet.

This project proposes numerous multimodal improvements including transit operational enhancements, bicycle lanes and shared use paths. This project is consistent with Deputy Directive DD-64-R2 which established a policy of considering context specific improvements that would improve all modes of transportation along the state system.

This project is consistent with the SR29 CMCP, which proposed various improvements along SR 29 throughout Napa County. The basis of this project was the CMCP Segment 1.

While this project is not directly consistent with the Napa County Countywide Plan Vision 2040 which outlined various improvements and considerations that should be made during planning, it expands upon it, providing other alternatives of relieving traffic congestion, while achieving the overall goal of better circulation and safer roadways for all users.

Caltrans Office of Advanced Planning has determined that, due to the multimodal scope of this project, a Transportation Planning Scoping Information Sheet (TPSIS) is not necessary.

## **7. ASSET MANAGEMENT**

This project currently does not have any funding from the State Highway Operation and Protection Program (SHOPP). Currently, there is no requirement to track the assets in this project since there is no SHOPP funding. In the future, if this project receives SHOPP funding, it will be subject to the Asset Management requirements for the SHOPP.

## **8. ALTERNATIVES**

Three build alternatives and one no build alternative were identified and evaluated during development of this report.

## **No Build**

This alternative assumes existing lane geometrics and traffic control will remain and no project or new infrastructure, trail or roadway, will be constructed.

## **Alternative 1**

This alternative is largely consistent with the SR 29 CMCP and includes the construction of multimodal improvements adjacent to the shoulders of SR 29. Overall improvements are as follows:

- Maintain SR 29 at 4 lanes, reducing lane widths to 11 feet
- Construct island separated Class 1 facilities adjacent to SR 29 in both directions. Island width is 5 feet for both directions. A separation width of 3' (not including 2' Class I shoulder) could be utilized in right of way restrictive situations, still providing a HDM standard design
- Construct 18' paved median (14' island and two 2-foot shoulders)
- Widen shoulders to 12' (including 2' gutter pan) to allow for part time bus on shoulder
- Reconfigure and improve intersections along the corridor, as shown in Table 8.1 on the following page.
- Construct pedestrian undercrossing

This alternative incorporates a combination of widening, rehabilitation, and reconstruction of the existing SR 29, limiting right of way impacts where possible.

The preliminary design accounted for design standards in the Highway Design Manual (HDM) such that minimal design exceptions are required for the proposed improvements in Alternative 1.

Proposed intersections were designed considering the recommendations of the TEPA, previous studies, and local/regional plans. Special considerations were made to meet standard intersection design standards, where possible, and improve overall safety for all users of the roadway. Intersections were designed to accommodate the swept path of STAA vehicles and 45' buses for applicable turning and thru movements.

**Table 8.1 Alternative 1 Intersection Improvements**

Postmile	Minor Street	Existing Intersection Controls	Proposed Intersection Controls	Multimodal Improvement
0.69	American Canyon Rd	Signal	Displaced Left-turn Intersection	Queue Jump Enhanced Crosswalk Markings
0.93	Crawford Way	Side Street Stop	Side Street Stop	Enhanced Crosswalk Markings
0.97	Holcomb Ln	Side Street Stop	Side Street Stop	Enhanced Crosswalk Marking
1.11	Donaldson Way	Signal	Signal	Queue Jump Enhanced Crosswalk Marking
1.52	Poco Way / S Napa Junction Rd	Side Street Stop	Side Street Stop	Enhanced Crosswalk Marking
1.66	Rio Del Mar	Signal	Signal	Queue Jump Enhanced Crosswalk Markings
1.79	Eucalyptus Dr	Signal	Signal	Queue Jump Enhanced Crosswalk Markings
2.05	Napa Junction Rd	Signal	Signal	Queue Jump Enhanced Crosswalk Markings Grade Separated Ped Crossing

**Alternative 2**

Alternative 2 was developed as an expansion on the SR 29 CMCP. This alternative focuses on improving both multimodal capabilities and vehicular circulation throughout the corridor. Alternative 2 maintains many of the key design features in Alternative 1, along with intersection control improvements. Table 8.2 outlines the intersection improvements proposed under Alternative 2.

**Table 8.2 Alternative 2 Intersection Improvements**

Postmile	Minor Street	Existing Intersection Controls	Proposed Intersection Controls
0.69	American Canyon Rd	Signal	Signal
0.93	Crawford Way	Side Street Stop	Multilane Hybrid Roundabout <sup>1</sup> (Potential to close to Right in Right out)
0.97	Holcomb Ln	Side Street Stop	Multilane Hybrid Roundabout <sup>2</sup>
1.11	Donaldson Way	Signal	Multilane Hybrid Roundabout <sup>2</sup>
1.52	Poco Way / S Napa Junction Rd	Side Street Stop	Multilane Hybrid Roundabout <sup>2</sup>
1.66	Rio Del Mar	Signal	Multilane Hybrid Roundabout <sup>2</sup>
1.79	Eucalyptus Dr	Signal	Multilane Hybrid Roundabout <sup>2</sup>
2.05	Napa Junction Rd	Signal	Multilane Hybrid Roundabout <sup>2</sup>
<b>Notes:</b>			
1. Roundabout lane configuration is 2 x 1.			
2. Roundabout lane configuration is 3 x 1.			



Proposed intersections were designed considering the recommendations of the TEPA, previous studies, and local/regional plans. Widening of the roadway to three approach lanes at all roundabout intersections, except Crawford Way, will be necessary to provide adequate roundabout throughput volumes and prevent excessive congestion during peak hours. Special considerations were made to meet intersection design standards, where possible, and improve overall safety for all users of the roadway. Intersections were designed to accommodate the swept path of STAA vehicles and 45' city buses for applicable turning and thru movements.

Because of the large Inscribed Circle Diameter (ICD) necessary to accommodate three lanes while maintaining crucial performance metrics, queue jumps are not practical for this alternative. Shoulders have been designed to accommodate part time use of the shoulder, allowing buses to bypass excessive queues. These shoulders are terminated approximately 150' prior to the intersection yield line.

Three lane roundabouts also may be difficult for pedestrians to navigate. In order to avoid crossings at large, higher speed exits, mid-block crossings, pedestrian hybrid beacons, or grade separation may be required to ensure pedestrian and bicyclist safety. Signalizing the entries and exits could also reduce operating speeds in the presence of pedestrians.

### **Alternative 3**

Alternative 3 incorporates the widening of SR 29 to 6 general-purpose lanes (3 lanes in either direction), throughout the project limits. Each direction would contain 3 thru lanes and would replace the left and right turn pockets with the existing lengths to the maximum extent possible. The addition of a general-purpose traffic lane in each direction is based on the Broadway Specific Plan, which was adopted prior to the adoption of Senate Bill (SB) 743. The significance of this distinction is discussed further in this report.

Multimodal improvements for bicycle and pedestrian circulation and safety would include Class I shared use paths on both sides of SR 29. This would create an enhanced and more complete bicycle network along the corridor and reduce overall multimodal stresses that were identified in the CMCP. Additionally, the construction of a Class I facility would be consistent with previous studies and the bicycle master plan. However the widening of SR 29 will increase crossing distances and may increase traffic stress for people walking and bicycling as a result.

Right-of-way constraints may preclude queue jumps and other transit related improvements due to the proximity of buildings to the proposed roadway edge.

**Table 8.3 Alternative 3 Intersection Improvements**

Postmile	Minor Street	Existing Intersection Controls	Proposed Intersection Controls	Multimodal Improvement
0.69	American Canyon Rd	Signal	Displaced Left-turn Intersection	Queue Jump Enhanced Crosswalk Markings
0.93	Crawford Way	Side Street Stop	Side Street Stop	Enhanced Crosswalk Markings
0.97	Holcomb Ln	Side Street Stop	Side Street Stop	Enhanced Crosswalk Marking
1.11	Donaldson Way	Signal	Signal	Queue Jump Enhanced Crosswalk Marking
1.52	Poco Way / S Napa Junction Rd	Side Street Stop	Side Street Stop	Enhanced Crosswalk Marking
1.66	Rio Del Mar	Signal	Signal	Queue Jump Enhanced Crosswalk Markings
1.79	Eucalyptus Dr	Signal	Signal	Queue Jump Enhanced Crosswalk Markings
2.05	Napa Junction Rd	Signal	Signal	Queue Jump Enhanced Crosswalk Markings Grade Separated Ped Crossing

The project may also restrict full access to Crawford Way and provide a right in/right out only. This will be analyzed in the next phase of the project.

### **Boldface and Underline Nonstandard Features**

The following nonstandard design decisions have been identified for the proposed alternatives. The nonstandard features were determined to be acceptable to avoid unnecessary design, right of way and environmental impacts, all of which contribute to the constructability and affordability of the project.

**Table 8.4 Design Standard Risk Assessment**

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
All	202.2 Standards for Superelevation	TBD	Normal Crown provides a maximum comfortable speed of 72 mph, exceeding the design speed.
All	202.5(1) Superelevation Transition	TBD	In order to not transition through and intersection the restrictive situation standard of 6% over 100 ft must be used.
All	203.2 Standards for Curvature – Minimum Radius	TBD	Radii and Superelevation provided do not achieve the design speed of the corridor. Maximum Comfortable speed exceeds design speed.
All	301.1 Lane width	Medium	Dimensions may be altered to provide standard pavement dimensions
All	302.1 Shoulder Width	Medium	The Nonstandard Shoulder width is standard for posted speeds 45 mph and below. Due to the desire of traffic calming measures, it may be desired to lower the posted speed along the roadway.
All	309.1 Horizontal Clearances	TBD	Landscape, trees, etc are not placed outside the CRZ, but are set back no less than 1.5' from the face of curb.
All	405.2 Left Turn Channelization – Lane Width	TBD	The Left Turn Pocket width provided is 11' short, consistent with the thru lanes. the 2' shoulder is maintained.
All	405.3 Right Turn Channelization – Lane and Shoulder Width	TBD	The Right Turn Pocket width provided is 11' short, consistent with the thru lanes. the 10' shoulder is maintained.
All	206.3 Pavement Reductions-Through Lane Drops	High	Lane drop lengths are being maintained and improved where possible.
All	303.1 use of Curb with Posted Speeds of 40 mph and Greater	High	Vertical Curb (and Gutter) are being provided along the right and left shoulders on the roadway to manage drainage and create a boulevard style roadway.

A Design Standards Decisions Document (DSDD) will be required for future phases of the project so adequate documentation of the above nonstandard features may be performed. Because most non-standard features are being maintained or improved by this project, it is reasonable to assume that this project will not increase collisions. Collisions in the future may increase due to overall increases to volumes and overall traffic.

## **9. RIGHT-OF-WAY**

### **Alternative 1**

The narrower cross section limits the necessary right of way takes needed for Alternative 1. Minor right of way acquisitions are anticipated for properties adjacent to southbound Route 29, with widths varying between 0 and 30' between American Canyon Rd and Donaldson way. Widths generally are limited to under 10' with the larger amounts needed at the intersections. Past the Donaldson Way intersection, right of way along SB is anticipated to be sufficient. However, the NB direction possesses numerous driveways with acceleration and deceleration lanes, requiring the acquisition of right of way. This acquisition along northbound route 29 is anticipated from Donaldson way to Eucalyptus Dr, where the Class I trail conforms to existing infrastructure.

Current Layouts for this alternative are designed at worst case for right of way. Cross sectional optimization may be considered in future stages to reduce right of way impacts

### **Alternative 2**

Alternative 2 will require similar right of way needs along the corridor as Alternative 1 but will require more acquisitions at the intersections. due to the larger size of roundabout intersections, an increased amount of right of way is retired. Additionally, this will require the complete acquisition of various properties along the corridor.

### **Alternative 3**

Due to overall roadway widths of Alternative 3, extensive right of way will be necessary to include the median separated Class 1 facilities. Average roadway width will be 140 feet. Current right of way widths vary throughout the project. However, widths are approximately 136 feet through a majority of the project. This would require an average of 4 feet for right of way take along the corridor. This would be split between both sides of the roadway to avoid impacts to building or other structures. The proposed layout of Alternative 3 does have the potential to eliminate or significantly reduce parking capacity of some parcels. If deemed appropriate, purchase of the entire property may be required.

## Utilities

Utility impacts are likely with each of the alternatives. Known utilities within the project location include:

- Water: City of American Canyon
- Reclaimed Water: City of American Canyon
- Sewer: City of American Canyon
- Electric (Transmission and Distribution): PG&E
- Gas (High Pressure Distribution): PG&E
- Telephone: AT&T
- Cable: Comcast Communications

Utility easements will be required for relocation of above ground facilities. The right of way needs for utility relocations will be determined in future phases of the project.

## Railroad

Immediately east of SR 29 there is an active rail line owned by California Northern Railroad, a subsidiary of Genesee and Wyoming Inc. Some of the improvements cross the railroad right of way, therefore, coordination with the rail company and the California Public Utilities Commission (CPUC) for any pedestrian crossings will be required.

## 10. STAKEHOLDER INVOLVEMENT

The alternatives for this Project were developed in conjunction with NVRTA, Napa County, City of Napa, City of American Canyon, and Caltrans District 4, during the development of this project, the CMCP and the SR 29 Gateway Plan.

The SR 29 CMCP outreach effort, which included the limits of this Project, was robust in its focus on reaching the diverse communities. This outreach effort included two community workshops, a Staff Working Group comprising of all the partner agencies, and a robust online public engagement campaign including an interactive mapping tool. The mapping tool was made available on the project website beginning in early November 2019 and remained “live” through March 2020. A summary of the outreach is presented below.

Napa County residents have long expressed concerns about congestion and safety on SR 29. Most respondents reported that driving was their most frequent mode traveled on the SR 29 corridor. Few people said they walk or bicycle on the corridor currently, citing concerns about safety and a lack of dedicated paths. Transit on the corridor is not commonly used by attendees, due to concerns about travel time.

Workshop attendees rated improving safety for people walking and driving as their highest priority for the corridor, followed by improving safety for transit and then people bicycling. Most that choose not to walk cited safety concerns or lack of

designated paths. Similarly, the reason most often cited for not biking was fear for safety at 52.38%, followed by lack of paths/connections at 28.57%.

Reducing vehicle congestion and improving signal timing were also identified as top priorities, in addition to improved connectivity for bicyclists.

This project has also been presented in various American Canyon City Council meetings. Additionally, a project public workshop is scheduled for October 4, 2021.

## **11. ENVIRONMENTAL COMPLIANCE**

To identify environmental issues, constraints, costs, and resource needs, a Mini-PEAR was prepared for the project. Potential staging areas have been included in the study area, as shown on Figure 2 and will occur within Caltrans right-of-way, a Caltrans-owned parcel, and a City of American Canyon-owned parcel. Field studies were not conducted, and technical studies have been deferred to the Project Approval and Environmental Document (PA&ED) phase.

An Initial Study/Mitigated Negative Declaration (IS/MND) is the anticipated document to be prepared under the California Environmental Quality Act (CEQA). As federal funding is expected for the project, National Environmental Policy Act (NEPA) documentation will also be required and is anticipated to be a Categorical Exclusion with supporting technical studies. Approximately 12 months is likely needed to complete the CEQA/NEPA environmental process.

Refer to Attachment A of the Mini-PEAR for a complete list of technical studies anticipated to be required. The following provides a summary of each key environmental topic anticipated to be further investigated as a technical study during PA&ED.

### **Land Use/Planning**

The proposed project site is located within an urbanized area of the City of American Canyon. The project site is located within Caltrans right-of-way and generally bordered by land uses designated and zoned as community commercial (20 parcels total) and commercial neighborhood. Two parcels zoned commercial neighborhood have a residential overlay. Existing land uses in the immediate vicinity of the project site include commercial uses such as car washes, gas stations, grocery stores, churches, nursery, a few open lots, and several single-family residences.

Temporary construction easements (TCE) and acquisition of right of way would be required from the adjacent parcels along the length of the project footprint under all three alternatives. Alternatives 2 and 3 would likely require additional acquisition of right of way compared to Alternative 1 to accommodate the roundabouts and additional lanes proposed. The greatest amount of TCE and right of way acquisition would occur under Alternative 3 due to the expansion to six lanes along the entire

project length. Therefore, it is assumed that a land use memo would be prepared during PA&ED.

The project site is not located within any publicly owned parks or recreational areas, however there are several public parks within a quarter mile of the project site. No right-of-way acquisition or temporary construction easements would be required within these recreational facilities. Therefore, it is not expected that the project would affect any Section 4(f) resources. It is anticipated that a no use memo would be prepared during PA&ED.

## **Visual**

The Alternative 1 improvements would likely result in minor changes to the built environment, including new / improved shared use paths, potential widening of roadway surfaces at limited and specified locations, and a new grade-separated bike/pedestrian crossing. These improvements would likely result in minor impacts to a variety of existing paved and vegetated surface conditions. Project impacts to permanent irrigated landscapes will require retrofit or replacement of existing landscaping and/or irrigation systems. Any impacts to vegetation currently acting as a visual screen will also require replacement. Aesthetic materials choices and/or surface treatments will be considered during the design phase to mitigate negative visual impacts associated with the grade separated bike/pedestrian crossing.

Alternative 2 and Alternative 3 would result in a greater change to the existing built environment than Alternative 1, as it would include the construction and operation of two additional travel lanes and either new roundabouts or signalized intersections. Additional undeveloped areas would be converted to paved roadway when compared to Alternative 1. The intersection improvements under all three alternatives would largely be consistent with the current visual character of the project site given it is generally characterized as a major throughway through American Canyon.

A Visual Impact Assessment (VIA) Questionnaire to identify potential visual impacts associated with the proposed project improvements was prepared by Lucas Piper, LLA., No. 5873. The Questionnaire resulted in a score of 14 points for Alternative 1, 16 points for Alternative 2, and 18 points for Alternative 3. The visual character of the site under each alternative would remain a heavily trafficked highway. Therefore, it is anticipated that the proposed improvements are expected be largely consistent with the existing visual environment, however either a brief memorandum or a minor VIA addressing visual issues should be prepared. The VIA Questionnaire is included as Attachment C to the Mini-PEAR.

## **Air Quality**

The project area is designated as nonattainment of the federal ozone and fine particulate matter (PM<sub>2.5</sub>) standard, and nonattainment for the state ozone, and suspended particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) standards. The project area is designated as either attainment or unclassified for all other federal and state ambient

air quality standards. Ozone is not emitted directly into the air, but is a regional pollutant formed by a photochemical reaction in the atmosphere. Ozone precursors, reactive organic gases (ROG), and nitrogen oxides (NO<sub>x</sub>) react in the atmosphere in the presence of sunlight to form ozone.

Project construction would result in regional air pollutant and precursor emissions from equipment exhaust and worker trips to the project site. The types of air pollutants generated by construction activities are typically NO<sub>x</sub> and particulate matter, such as dust and exhaust. Construction activities could temporarily increase levels of PM<sub>2.5</sub> and PM<sub>10</sub> downwind of construction activity. These are temporary emissions that vary considerably from day-to-day and by the type of equipment and weather. In addition, carbon monoxide (CO) and reactive organic gases (ROG) are emitted during use of gas and diesel-powered construction-equipment. Construction is anticipated to occur over approximately 7 months. The construction footprint, the area of earth disturbance or paving/coatings activities, is assumed to be 6 acres or less.

As provided by the Bay Area Air Quality Management District's (BAAQMD's) 2017 CEQA Air Quality Guidelines (Guidelines), if the project meets the screening criteria for an impact category, and is consistent with the methodology used to develop the screening criteria, then its air quality impact for that category may be considered less than significant. The BAAQMD's Guidelines provide screening criteria for determining if a project could potentially result in significant construction-phase impacts from criteria pollutants and precursors. Construction of the Project would result in a less than significant impact to air quality if the following screening criteria are met:

1. The Project is below the applicable screening level size shown in Table 1 [of the BAAQMD 2017 CEQA Air Quality Guidelines].
2. All Basic Construction Mitigation Measures are included in the Project design and implemented during construction.
3. Construction-related activities would not include any of the following:
  - a. Demolition activities inconsistent with District Regulation 11, Rule 2: Asbestos Demolition, Renovation and Manufacturing;
  - b. Simultaneous occurrence of more than two construction phases;
  - c. Simultaneous construction of more than one land use type;
  - d. Extensive site preparation; or
  - e. Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity

The BAAQMD does not have a screening level specific for transportation infrastructure construction. For reference, the applicable construction criteria pollutant and precursor screening level for a city park is 600 acres of construction. The applicable construction screening level for general heavy industry land use or an industrial park is 11 acres. At an estimated construction footprint of 6 acres or less,



the Project would be less than the BAAQMD's construction criteria pollutant and precursor screening level.

Demolition activities would not require the removal of asbestos. The project would not involve the simultaneous occurrence of more than two construction phases and would not impact more than one land-use type (commercial). The project would not involve extensive site preparation or material transport. The project incorporates the basic construction measures recommended through design specifications. However, the volume of material import and export is currently unknown. If the Project's import/export volume remains under 10,000 cubic yards total, then the project's construction activity would not exceed the BAAQMD's screening guidance and would not generate a significant air quality impact. However, if the project's import/export volume meets or exceeds 10,000 cubic yards total, additional analysis would be required to substantiate a significance determination.

The operational phase of the project is anticipated to improve traffic operations, reduce delay, and reduce existing and projected long-term traffic congestion. The project would not increase the operational emissions above existing operations, and would not result in a significant air quality impact if the following criteria are met:

- The project is not capacity-enhancing, and
- The project would not improve, or reduce, operational emissions as a result of increased efficiency and decreased delay.

This project could include the use of federal funds; as such, it is assumed that the Federal Transportation Conformity Rule applies. However, the project may be exempt from Transportation Conformity analysis requirements as per 40 CFR §93.126 (Exempt Projects). The project may qualify as exempt as it consists of:

1. Safety
  - a. Pavement resurfacing and/or rehabilitation
  - b. Pavement marking
  - c. Safer non-Federal-aid system roads
  - d. Traffic control devices and operating assistance other than signalization projects
  - e. Widening narrow pavements or reconstructing bridges (no additional travel lanes)
2. Mass Transit
  - a. Construction or renovation of power, signal, and communications systems
  - b. Construction of small passenger shelters and information kiosks
3. Air Quality
  - a. Bicycle and pedestrian facilities
4. Other
  - a. Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities)

The project should go through the Interagency Consultation (IAC) process to determine if the project meets the exemption categories or otherwise is considered not a Project of Air Quality Concern (POAC).

In comparison to Alternative 1, Alternative 2 and Alternative 3 would most likely result in greater construction air quality impacts as the new roundabout improvements and inclusion of two new travel lanes would extend the duration of construction. In terms of operational air quality impacts, Alternatives 2 and 3 would most likely reduce travel time and therefore, the associated idling with the removal of signals (Alternative 2) and inclusion of two new travel lanes (Alternative 3). Alternative 2 would widen approaches to roundabouts to three lanes where needed to improve congestion and traffic flow. The additional lane would not be constructed along the entirety of the alignment and therefore would not be considered capacity enhancing. However, Alternative 3 would be considered capacity enhancing and, as such, would not be exempt from Transportation Conformity analysis.

For operational air quality impacts, the intersection signalization included in Alternative 3 may result in greater air emissions than the roundabouts included in Alternative 2; however, the removal of signalized intersections and additional travel lanes proposed under Alternative 2 and 3 respectively would likely reduce travel times and the associated idling of vehicles. Impacts would be substantially similar in magnitude as compared to Alternative 1. However, Alternative 3 would be considered capacity enhancing and, as such, would not be exempt from Transportation Conformity Analysis. Roundabout design and performance would need to be evaluated, and Interagency Consultation (IAC) may need to be conducted to determine if the project is not a POAC.

## **Noise**

Sensitive noise receptors near the project site primarily consist of nearby single-family homes. These homes are located in the High Residential (HR) zone, Suburban Residential (RS-6500), and Medium Residential (RM) zone. Per American Canyon City Code §8.12.070, residential single and double development may not experience sound levels of 60 dBA or greater between 7:00 a.m. and 10:00 p.m., or 50 dBA between 10:00 p.m. and 7:00 a.m. Additionally, multiple residential uses may not experience sound levels of 60 dBA or greater between 7:00 a.m. and 10:00 p.m., or 55 dBA between 10:00 p.m. and 7:00 a.m. Section 8.12.080 of the American Canyon Municipal Code restricts construction noise levels at residential uses to 75 dBA from 7:00 a.m. to 7:00 p.m. and 60 dBA from 7:00 p.m. to 7:00 a.m.

All three alternatives would use similar construction equipment. Alternatives 2 and 3 may result in a longer construction phase due to the addition of roundabouts and two travel lanes. This longer construction phase could exacerbate noise impacts at adjacent residences and sensitive receptors.

A noise analysis may be needed to evaluate noise levels during construction at residences in the immediate vicinity of the project site or if there would be proposed

travel lanes closer to noise sensitive land uses (homes) than under existing conditions. The other surrounding land uses are commercial or industrial in nature and are not considered sensitive noise receptors.

### **Cultural Resources**

A review of the Northwestern Information Center (NWIC) was requested on June 29, 2020. The NWIC reviewed base maps that reference cultural resource records and reports, historic-period maps, and literature for Napa County. Through this review, it was determined that there have been 68 cultural resource studies that cover a portion of the proposed project area. Within the project area or immediately adjacent to it there are seven recorded archaeological resources, included two recorded Native American archaeological resources and five historic period archaeological resources. The State Office of Historic Preservation Built Environment Resources Directory (OHP BERD), which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places, lists four recorded buildings or structures within or adjacent to the proposed project area. Therefore, there is potential for the project to encounter cultural resources during construction of the project.

Alternatives 2 and 3 would result in a greater area of disturbance in comparison to Alternative 1. This would increase the possibility of encountering unknown cultural or historical resources present within the construction footprint, and would result in potential increased impacts to cultural resources. Alternative 1 would reduce potential impacts to cultural resources to the extent feasible.

It is anticipated that an Archaeological Survey Report (ASR) and an Historic Property Survey Report (HPSR) would be prepared during the PA& ED phase, as well as Section 106 Consultation. AB 52 Tribal consultation will also be required per state law. This additional research and consultation will be provided during the PA&ED phase.

### **Biological Resources**

A public records request was submitted to Caltrans for any recent biological reports prepared for projects within the vicinity of the proposed project site. Two biological reports, prepared in December 2018 and January 2019 respectively, were provided that partially overlap with the project area. The project area is generally developed; however, a previously identified drainage ditch is located within the proposed project footprint. Several special-status species with potential to occur were also identified, including the California red-legged frog and western pond turtle. Alternative 1 may impact a drainage channel or other sensitive resources as some portions of the roadway would need to be widened. Alternative 2 and Alternative 3 would most likely have the greatest impact to habitat and wildlife in the area as the road would need to be widened significantly more in comparison to Alternative 1 and may also

encroach into a drainage channel and adjacent riparian habitat. A wetland delineation and Natural Environment Study would have to be prepared during PA&ED.

### **Greenhouse Gas Emissions and Climate Change**

Construction activities for Alternative 1 would be limited in scope and duration, consisting of improvements to approximately 1.7 miles of roadway and lasting less than a year. In addition, the project does not include construction activities associated with higher greenhouse gas (GHG) emissions such as the use of significant amount of heavy construction equipment, substantial earth-moving activities, or import/export of a significant amount of material. Alternatives 2 and 3 would likely result in a much longer construction phase and use of heavy equipment. However, quantification of construction emissions is required and should be prepared for the project file. The same emissions analysis can be used for both GHG and Air Quality.

The project is anticipated to improve traffic operations and safety, as well as provide some reduction in traffic delay and existing and projected long-term traffic congestion. Alternative 1 would not increase the operational GHG emissions above existing operations, and would not result in a significant GHG impact if the following criteria are met:

- The project is not capacity-enhancing, and
- The project would improve, or reduce, operational emissions as a result of increased efficiency and decreased delay.

However, as a congestion relieving project, a quantitative analysis for operational and construction GHG emissions will be required. Quantification of operational GHG emissions was included as part of the ICE report prepared for the project and should be identified in a Climate Change Memorandum. Measures to reduce GHG emissions will be necessary and should be accounted for in the cost estimate for all project alternatives.

The proposed project site is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected. The project location is just outside of the area identified as 'moderate' level of concern for wildfire exposure in the 2025, 2055, and 2085 RCP 8.5 climate change scenario. Therefore, potential impacts to the project facilities from wildfire is low.

Construction of all three alternatives would generate GHG emissions; however, Alternative 2 and Alternative 3 would most likely result in greater construction GHG impacts from inclusion of roundabouts and two new travel lanes, respectively. Alternative 3 would be considered capacity enhancing. Operational GHG impacts may be reduced under both Alternative 2 and 3 compared to Alternative 1, as the addition of roundabouts or travel lanes would reduce the travel time of vehicles. Specifically, under Alternative 3, the additional travel lanes would significantly reduce vehicle travel and idling times in comparison to Alternative 1 and Alternative 2.

Half of California's GHG emissions are generated by the transportation sector. Therefore, reducing vehicle miles traveled (VMT) (a new analysis tool established by Senate Bill 743) is considered an effective strategy in pursuing California's long-term climate goals.

### **Vehicle Miles Traveled (VMT)**

Projects that are capacity enhancing, such as the addition of through lanes on existing or new highways, would likely lead to a measurable and substantial increase in vehicle travel (OPR 2018). Operational impacts associated with generating a significant amount of VMT would be greatest under Alternative 3, with the addition of two through lanes on the highway system. While Alternative 2 improve corridor and intersection operations it is not anticipated to significantly enhance capacity as the additional lanes would not be implemented along the entirety of the project, only at the approaches to roundabouts. Alternative 1 would not provide any additional capacity and therefore is unlikely to result in an impact related to VMT.

The State of California has made it a priority of the state through various requirements and policies to reduce or mitigate the increase of VMT within state infrastructure.

Since Alternative 3 adds approximately 2.6 lane miles of roadway to the corridor, the alternative has the potential to significantly increase VMT.

Due to the high commuter population, Travel Demand Modeling and VMT Estimation tools should be used in conjunction during the environmental (PA/ED) phase to calculate approximate VMT impacts to the corridor. Advanced modeling will be more accurate in assessing the true impacts of VMT due to context specific issues along this corridor, including trip destination and available alternative routes. The results of this analysis should be included in the CEQA document and used to assist in the selection of the preferred alternative in the project report.

Direct impacts from the environmental effects of climate change (i.e. sea level rise, wildfire) would be the same for all three alternatives.

### **Hazards and Hazardous Materials**

The project area is located within a fairly urban environment. According to the State Water Resources Control Board GeoTracker database, there are eight recorded hazardous material sites along and within the immediate vicinity of Alternative 1 (See Attachment C of the Mini-PEAR). All eight of these sites are designated "case closed" and no additional remedial action needs to be taken (GeoTracker 2020). Therefore, it is unlikely that hazardous material would be encountered during construction phase of the Alternative 1. Alternative 2 and Alternative 3 would disturb a slightly greater area than Alternative 1, but no additional closed or open cases would overlap with the footprint of either of these alternatives beyond what was

assessed for Alternative 1. Therefore, impacts resulting from potential exposure to hazardous material sites would be similar under all three alternatives.

Additionally, the project site, inclusive of the extent of the larger footprints of Alternatives 2 and 3, is not located within a Federal Emergency Management 100-year flood zone (FEMA 2020), nor is it located within a high hazard fire zone (Napa County). Therefore, it is not anticipated that any of the alternatives would be affected by floods or fire hazards.

### **Water Quality**

The project site is not located within or immediately adjacent to a body of water such as a river or creek. However, there are several riverine drainages located adjacent to SR 29 (see attached figures, national Wetlands Inventory, USFWS 2020). Since the Alternative 1 may require the roadway be widened marginally to allow for the additional bus ques, lanes and multi-use paths, the project has the potential to impact these drainages. Alternative 2 and Alternative 3 would widen the roadway significantly more than under Alternative 1, which may result in increased impacts to adjacent drainages. Alternative 3 would require the greatest expansion beyond the existing limits of development to allow for construction of the two additional travel lanes along the entire length of the project site, which would potentially result in the greatest impacts to drainages along the proposed alignment.

An aquatic resource delineation will need to be conducted to determine if these drainages are jurisdictional and their extent. If they are determined to be jurisdictional, regulatory agency permits may be required to ensure potential impacts to these jurisdictional features are minimized to the extent feasible and adequately mitigated for. An evaluation of potential water quality impacts would be prepared during PA&ED.

### **Special Considerations**

Several environmental topics have been identified as being a key environmental issue and may impact the project area during construction or operation. These include, but are not limited to, Biological Resources, Cultural Resources, and Water Quality. These topics will be evaluated in the CEQA document and the technical studies. As the CEQA document has not been completed, finalized mitigation is not included herein. See Attachment A of the Mini-PEAR for a list of anticipated environmental technical studies.

The Project seeks to begin construction in the spring of 2024, therefore completion of the environmental reports and technical studies will be completed in advance.

The project may require a Section 404 NWP Authorization, 401 Water Quality Certification, and Section 1602 Permit.

## 12. FUNDING

It has been determined that this project would be eligible for Federal-aid funding if funding became available. No federal funding source has been identified at this time.

### Capital Outlay Project Estimate

	Range of Estimate		STIP Funds		Other Funds	
	Construction	Right-of-Way	Construction	Right-of-Way	Construction	Right-of-Way
Alternative 1	\$41,710,700-\$54,410,421	TBD	TBD	TBD	TBD	TBD
Alternative 2	\$61,138,000-\$78,100,000	TBD	TBD	TBD	TBD	TBD
Alternative 3	\$46,760,000-\$61,110,000	TBD	TBD	TBD	TBD	TBD

The level of detail available to develop these capital outlay project estimates is only accurate to within the above ranges and is useful for long-range planning purposes only. The capital outlay project estimates should not be used to program or commit State-programmed capital outlay funds.

### Capital Outlay Support Estimate

Capital outlay support estimate for programming PA&ED in the 2022 STIP for this project: \$5,030,000

## 13. DELIVERY SCHEDULE

Project Milestones		Scheduled Delivery Date (Month/Day/Year)
PROGRAM PROJECT	M015	01/30/2022
BEGIN ENVIRONMENTAL	M020	03/01/2022
CIRCULATE DPR & DED EXTERNALLY	M120	11/15/2022
PA & ED	M200	02/01/2023

The anticipated funding fiscal year for construction is 2025/26.

## 14. RISKS

There are 18 risks identified in the risk register, which is included as an attachment. The majority of the risks are associated with environmental, project management, right of way, utilities, design and construction.

## 15. EXTERNAL AGENCY COORDINATION

Currently, this project has not been determined to be a “Project of Division Interest” since this project solely resides on a state route and not on a federally designated highway, no FHWA coordination or approval requirements are anticipated.

The project requires the following coordination:

### US Army Corps of Engineers

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

### General Permits

Standard Permits (Individual Permit or Letter of Permission)  
Section 9 Permit

### Regional Water Quality Control Board

Clean Water Act Section 401  
Water Quality Certification

### Local Agency

Cooperative Agreements with City of American Canyon and Napa Valley  
Transportation Authority

### Railroads

Railroad Agreement for at-grade or separated-grade crossings with California  
Northern Railroad, a subsidiary of Genesee and Wyoming Inc

## 16. PROJECT REVIEWS

Field Review	_____	Date	_____
District Maintenance	_____	<i>Enter Name</i>	Date _____
District Traffic Safety Engineer	_____	<i>Enter Name</i>	Date _____
Headquarters Project Delivery Coordinator	<i>Enter Name</i>	Date	_____
Project Manager	_____	<i>Enter Name</i>	Date _____
FHWA	_____	<i>Enter Name</i>	Date _____
District Safety Review	_____	Date	_____
Constructability Review	_____	Date	_____
Other	_____	Date	_____



## 17. PROJECT PERSONNEL

Name	Title/Division	Representing	Phone
Sanjay Mishra	Project Manager	NVTA	
Mimy Hew	Project Manager	Caltrans	
	Project Manager Assistant	Caltrans	
Evelyn Gustavo	Freeway & Highway Operations	Caltrans	
	Oversight	Caltrans	
	Hydraulics	Caltrans	
	Planning	Caltrans	
	Right-of-Way	Caltrans	
	Environmental	Caltrans	
Lindsey Van Parys	Project Manager	GHD	916-245-5220

## 18. ATTACHMENTS (NUMBER OF PAGES)

- A. Location Map (1)
- B. Traffic Engineering Performance Assessment (14)
- C. Intersection Control Evaluation (Step I) Title Sheet (1)
- D. Design Alternatives Exhibits (20)
- E. Preliminary Cost Estimates (30)
- F. K Phase Right of Way Conceptual Cost Estimate Request (6)
- G. Mini-PEAR (32)
- H. Life-Cycle Cost Analysis Report Outputs (24)
- I. Risk Register (3)