February 18, 2026
NVTA Agenda Item 12.2
Continued From: New
Action Requested: APPROVE

NAPA VALLEY TRANSPORTATION AUTHORITY

Board Agenda Memo

TO: NVTA Board of Directors

FROM: Danielle Schmitz, Executive Director

REPORT BY: Grant Bailey, Program Manager - Engineer
(707) 259-5951 / Email: gbailey@nvta.ca.gov

SUBJECT: State Route 29 (SR29) American Canyon Alternative Analysis

---

RECOMMENDATION

That the Napa Valley Transportation Authority Board authorize staff to advance Build Alternative 1 (Signalized Intersections) as the preferred alternative for continued environmental review and engineering in the PA&ED phase of the American Canyon SR29 Corridor Improvements Project and discontinue further environmental analysis of Build Alternative 2 (Roundabouts).

COMMITTEE RECOMMENDATION

None

EXECUTIVE SUMMARY

NVTA is advancing the Project Approval and Environmental Document (PA&ED) phase for the American Canyon SR 29 Corridor Improvements Project in coordination with the City of American Canyon and the California Department of Transportation (Caltrans). As part of the environmental work, staff completed an intersection operations analysis, which evaluated traffic performance at key corridor intersections under the two build alternatives identified in the Project Study Report. The analysis showed that Build Alternative 1 (Signalized Intersections) significantly outperformed Build Alternative 2 (Roundabouts) from a traffic operations and level-of-service standpoint, particularly under future peak-hour conditions.

Based on the results of the intersection operations analysis, staff initiated a broader alternatives evaluation to determine whether advancing both build alternatives through environmental review was warranted. That evaluation considered traffic operations, transit performance, safety, cost, right-of-way impacts, delivery risk, and consistency with the project's purpose and need. Based on this analysis, staff recommends advancing Build Alternative 1 as the preferred alternative and screening out Build Alternative 2. NVTA provided an overview to the City of American Canyon at their February 3, 2026, meeting, and comments were generally in favor of moving forward with Alternative 1 as the preferred alternative.

FISCAL IMPACT

Is there a fiscal impact? None for this action.

CEQA REQUIREMENTS

ENVIRONMENTAL DETERMINATION*:* The proposed action is not a project as defined by 14 California Code of Regulations 15378 (California Environmental Quality Act (CEQA) Guidelines) and therefore CEQA is not applicable.

BACKGROUND

SR 29 functions as both a regional connector and American Canyon's primary "Main Street," serving residents, businesses, transit, and freight while also experiencing recurring congestion, safety concerns, and limited multimodal connectivity during peak periods. These conditions have been documented through prior corridor planning efforts and the Project Study Report – Project Development Support (PSR-PDS), which identified a "No Build Alternative" and two build alternatives for further evaluation during the Project Approval and Environmental Document (PA&ED) phase.

Both build alternatives include the same corridor-wide improvements, such as a physically separated Class I shared-use path, enhanced transit stops, speed reduction, utility undergrounding, and improved pedestrian crossings, with the primary distinction being the form of intersection control – signalized intersections under Build Alternative 1 and roundabouts under Build Alternative 2.

As part of PA&ED, NVTA completed an intersection operations analysis to evaluate traffic performance at corridor intersections under opening-year and design-year conditions. The analysis demonstrated that Build Alternative 1 significantly outperformed Build Alternative 2 from a traffic operations and level-of-service standpoint, particularly during peak periods. Given the magnitude of these operational differences, staff initiated a broader alternatives evaluation to determine whether advancing both build alternatives through environmental review was warranted. This evaluation applied both qualitative and quantitative criteria and considered traffic operations, transit performance, safety, vehicle miles traveled (VMT), cost, right-of-way requirements, environmental considerations, delivery risk, and consistency with the project purpose and need.

The broader evaluation identified several substantial differences between the two build alternatives. Build Alternative 2 would require significantly greater right-of-way acquisition, including major property takes at multiple intersections, and is estimated to be approximately $20 million more expensive than Build Alternative 1. In addition, Build Alternative 2 presents delivery concerns at the State level, as there are no examples in California of three-lane roundabouts operating consecutively along a surface street in the configuration contemplated for this corridor.

These design characteristics raise concerns regarding feasibility, approval risk, and constructability within Caltrans right of way. Finally, due to the presence of continuous through lanes exceeding one mile in length, Build Alternative 2 also carries a higher potential to induce vehicle miles traveled, which is inconsistent with the project's multimodal and congestion management objectives and if implemented, could increase overall project costs and delivery complexity.

A memorandum detailing the full alternative analysis criteria, methodology, and results is available as Attachment 1 to this Board Memo. Ultimately, the alternative analysis demonstrates that Build Alternative 1 (Signalized Intersections) performs more favorably than Build Alternative 2 (Roundabouts) across multiple evaluation criteria which has led to the recommendation before you.

ALTERNATIVES

Without an approval, staff would continue with full environmental review and engineering studies for both build alternatives. Proceeding in this manner would extend the PA&ED schedule beyond the end of 2026. The delay could limit the project's competitiveness and

jeopardize future state and federal grant funding opportunities which would limit NVTA's ability to advance the project within anticipated funding cycles.

COUNTYWIDE PLAN GOALS MET BY THIS PROPOSAL

Goal 2 – Improve system safety in order to support all modes and serve all users
Advancing a single preferred alternative allows staff to focus environmental review and engineering on a corridor design that demonstrated superior traffic operations performance and supports reduced operating speeds, improved intersection control, and safer pedestrian, bicycle, and transit facilities.

Goal 3 – Use taxpayer dollars efficiently
Screening out the higher-cost alternative enables NVTA to focus limited PA&ED resources on a more cost-effective and implementable alternative, reduces right-of-way acquisition risk, and supports timely project advancement to remain competitive for future state and federal funding opportunities.

Goal 4 – Support Napa County's economic vitality
Advancing a deliverable and operationally effective alternative improves access to American Canyon's commercial areas, reduces congestion-related delay along SR 29, and supports reliable movement of people and goods through a key regional corridor.

Goal 5 – Minimize the energy and other resources required to move people and goods
Proceeding with the recommended alternative supports improved traffic flow, reliable transit operations, and enhanced multimodal facilities, which collectively reduce delay, idling, and inefficient travel patterns along the corridor.

ATTACHMENT(S)

(1) Draft Alternatives Analysis Memorandum

American Canyon SR29 Corridor Improvement Project

American Canyon State Route 29 Corridor Improvement Project
(EA 04-0Q290)

Project Alternatives Evaluation to select the Preferred Alternative: February 9, 2026

Background:
The Napa Valley Transportation Authority (NVTA), in cooperation with the California Department of Transportation (Caltrans) and the City of American Canyon (City), proposes to provide an improved facility along State Route 29 between American Canyon Road and Napa Junction Road.
The local road improvements would include local roadway narrowing, construction of a shared-use path on both sides of SR 29, roadway lane narrowing, median construction, bus on shoulder/bus lanes, bus signal priority, utility undergrounding, and aesthetic treatments in the City of American Canyon. Caltrans, as assigned by the FHWA, is the lead agency under the National Environmental Policy Act (NEPA). NVTA is the lead agency under California Environmental Quality Act (CEQA).

Purpose and Need:

Purpose
The purpose of the project is to provide a multimodal and complete streets corridor that:

- Improves mobility for all modes of transportation along and across SR 29 between American Canyon Road and Napa Junction Road
- Improve safety for all users by incorporating Vision Zero Safe System Approach concepts
- Improve public transit bus travel time, reliability, and public safety vehicle response times
- Supports residential and commercial development in the City of American Canyon by improving access for all modes of transportation along and across the corridor

Need
The need for the project is:

- Lack of multimodal connectivity – particularly for bicycle and pedestrian access – along and across SR 29
- Lack of public transit facilities, including priority at traffic signals, and pullouts for stops
- Lack of low level-of-traffic stress[1] routing options for bicyclist/pedestrians along and across SR 29 and conflicts between motorists and active transportation users due to unseparated facilities and high-speed differentials
- Constraints at intersections cause extensive queuing, delays, and bottlenecks resulting in unreliable travel times for motorists, public transit, and negatively impacting emergency vehicle response times, as well as traffic diverting to residential streets
- Recurring traffic congestion and lack of multimodal access hinders customer access to American Canyon's "Main Street" commercial businesses
- Number of collisions along the project segment of SR 29 (1.20 collisions per million vehicle

[1] Level of Traffic Stress (LTS) evaluates the quality of the transportation network from the perspective of different types of bicyclist, which is categorized into four levels. LTS 1 has the lowest level of stress and LTS 4 has the highest level of stress. Source: California Department of Transportation, District 4. Caltrans District 4 Bike Plan.2018. Page 16.

miles) is higher than the average rates for similar facilities throughout the State (0.93 collisions per million vehicle miles).

Regionally, SR 29 provides a direct connection between Sonoma, Napa, and Solano counties along Interstate 80 (I-80) and Sonoma, Napa, and Solano counties along US 101 in the North Bay, via SR 37. Locally, SR 29 corridor functions as American Canyon's "Main Street", it experiences significant safety and operational deficiencies between American Canyon Road and Napa Junction Road during weekday AM and PM peak hour conditions. These deficiencies have been documented in the NVTA 2014 SR 29 Gateway Corridor Implementation Plan, the NVTA 2020 SR 29 Comprehensive Multimodal Corridor Plan, and project 2023 Project Study Report-Project Development Support (PSR-PDS) document. According to Caltrans' Traffic Accident Surveillance and Analysis System, the project corridor experiences a collision rate of 1.20 collisions per million vehicle miles, while the State average for similar facilities is 0.93 collisions per million vehicle miles. NVTA has established five elements for road safety in their Vision Zero Plan: safe vehicles, safe speeds, safe roads, post-crash care, and safe road users.

The alternatives being evaluated are the "No-Build Alternative", "Build Alternative 1", and "Build Alternative 2". Both Build Alternatives propose the same corridor improvements roadway lane narrowing, median construction, bus on shoulder/bus lanes, bus signal priority, utility undergrounding, and aesthetic treatments. The differences between the Build Alternatives are related to the intersection control type at the intersections along SR 29. The summary of the intersection control modifications are summarized in the **Table 1**, below.

Table 1: Existing and Proposed Intersection Control

Cross Street	*No-Build Alternative (Existing)*	*Build Alternative 1 (Signals)*	*Build Alternative 2 (Roundabouts)*
American Canyon Road	Signal	Signal	Signal
Crawford Way	Side Street Stop Controlled	Signal	Roundabout
Donaldson Way	Signal	Signal	Roundabout
Poco Way/ S Napa Junction Road	Side Street Stop Controlled	Signal	Roundabout
Rio Del Mar	Signal	Signal	Roundabout
Eucalyptus Drive	Signal	Signal	Roundabout
Napa Junction Road	Signal	Signal	Roundabout

Below is a list of evaluation criteria and contributing factors that were developed to compare the two project build alternatives to select the preferred alternative for this project. The evaluation of both alternatives using these criteria is summarized in **Table 2**. These criteria and contributing factors encompass the overall project goal and are intended to help the Project Development Team in selecting the preferred alternative.

Evaluation Methodology:

An evaluation of both the alternatives for each of the nine different qualitative/quantitative criteria is outlined in Table 1. Subsequently, each of the alternatives is scored against these criteria.

Table 2: Measure of Contributing Factors for Each Alternative

Evaluation Criteria		**Contributing Factors**	**Alternative 1 (Signals)**		**Alternative 2 (Roundabouts)**	
Purpose and Need	**Does the Alternative satisfy the Purpose and Need for the project?**	Alternative accomplishes points outlined in the purpose and need of the project.	Yes		Yes	
Traffic	**Does the Alternative improve traffic operations and regional and local traffic mobility?**	Level of Service During Peak Period	*Opening Year 2030 AM (PM)*	*Design Year 2050 AM (PM)*	*Opening Year 2030 AM (PM)*	*Design Year 2050 AM (PM)*
		Crawford Way	C (B)	B (B)	B (C)	C (E)
		Donaldson Way	C (C)	C (D)	F (E)	F (F)
		Poco Way/S Napa Junction Rd	A (D)	A (F)	F (C)	F (E)
		Rio Del Mar	C (D)	E (D)	F (D)	F (F)
		Eucalyptus Dr	A (C)	E (E)	F (E)	F (F)
		Napa Junction Rd	D (C)	D (D)	F (E)	F (F)
Transit	**Does the Alternative improve transit operations?**	Alternative improves transit operations.	Moves transit stops to the SR 29 corridor, from the Post Office. Alternative 1 provides a transit lane and/or Business Access Transit (BAT) lane through the entire corridor.		Moves transit stops to the SR 29 corridor, from the Post Office. Alternative 2's transit lane or BAT lane will be interrupted by the roundabouts, requiring buses to merge back in with general purpose traffic at each intersection.	

Evaluation Criteria		Contributing Factors	Alternative 1 (Signals)	Alternative 2 (Roundabouts)
Bike and Ped	**Does this Alternative improve multimodal access, safety and mobility?**	Improvements to bicycle and pedestrian network, gap closure and adherence to City's future plans.	Provides Class 1 Shared-use path on both-sides of SR 29. Crossing improvements provided via median refuges, signal timing improvements, narrowed lanes, and bulbouts. Curb return radii are minimized to slow vehicle turning speed.	Provides Class 1 Shared-use path on both-sides of SR 29. Crossing improvements provided via median refuges, RRFBs/PHBs, narrowed lanes, and bulbouts. Pedestrian and bicycle path of travel may be slightly longer as crosswalks are further set back from the intersection.
Vehicle Miles Traveled (VMT)	**Does the alternative potentially induce VMT?**	Through lanes longer than 1 mile.	No additional through lanes.	Due to the closely spaced three lane roundabout facilities, the continuous through lanes may qualify as VMT inducing.
Safety	**Does the Alternative improve Safety on the corridor all other elements being the same?**	On both alternatives, The project is proposing to use Caltrans Design Information Bulletin 94 (DIB 94), which will permit the reduction of operating speed from 50 mph to 35 mph, with reinforcing traffic calming features that encourage this operating speed. For both alternatives, this will reduce collision severity. A detailed HSM Safety Analysis was not completed at this stage. Instead, a high-level analysis of Collision Modification Factors (CMF) from CMFClearinghouse was undertaken. On average, total collision increase with the conversion from a signalized intersection to a multi-lane roundabout (CMF=1.5). However, on average, collisions involving an injury (Fatal, Severe Injury, Other Injury) decreased with a conversion from a signal to a multi-lane roundabout (CMF=0.6) Safety analysis is not a one-size fit all solution, but due to the significant reduction in injury related collisions, Alternative 2 may improve safety further than Alternative 1.		
Cost	**Is the Alternative cost efficient?**	Project Construction and ROW Costs	Construction Cost: $53.1M (2025 $) ROW Cost: $2.8M (2025 $) Total Cost: $55.9M (2025 $)	Construction Cost: $63.9M (2025 $) ROW Cost: $10.7M (2025 $) Total Cost: $74.6M (2025 $)

Evaluation Criteria		Contributing Factors	Alternative 1 (Signals)	Alternative 2 (Roundabouts)
Environmental	**Does this alternative have environmental impacts?**	Environmental impacts	Similar environmental impacts.	Similar environmental impacts.
Department of Transportation Concerns	**Are there any concerns from Department of Transportation regarding the design?**	Design Exceptions	This alternative has design exceptions related to STAA truck turns and bus on shoulder.	This alternative has design exceptions related to STAA truck turns and bus on shoulder. 3 lane roundabouts have not been used in the state of California. Caltrans has expressed concerns over their size.
Local Preference	**What are the local users and resident's preference?**	Users and local residents's preference	Improves concerns about crossing SR 29 by providing median refuges, narrowing lanes, and building Bulbouts.	Similar to Alternative 1, except that pedestrians may have difficulty crossing the RABs if drivers do not adhere to the RRFBs/PHBs. The public involved in the public workshop event showed a clear preference for roundabouts over signals, provided that pedestrian safety and access concerns are addressed. The majority of comments favored roundabouts for their traffic flow and efficiency benefits, while concerns were constructive and focused on implementation details rather than opposition to the concept itself.

Evaluation Criteria		Contributing Factors	Alternative 1 (Signals)	Alternative 2 (Roundabouts)
Local Agency Preference	**What is NVTA's and the City of American Canyon's Preference?**	NVTA/City Staff, NVTA Board, & City Council Preference	TBD	TBD
Local Impacts	**What are the local impacts by the construction of the alternative?**	Construction Impacts, Staging, and TCEs	Significant impact to business and private property access during construction. Construction staging areas are proposed on empty privately owned parcels.	Similar to Build Alternative 1.
		Right of Way Impacts	Some ROW impacts at intersection corners.	Significant ROW impacts at every intersection, including either gas station demolition or building demolition at Donaldson Way.
		Driveway Impacts	Approximately 58 driveways will be constructed, reconstructed, relocated or consolidated.	Of the 58 driveways, 23 of them will be significantly affected by Build Alternative 2, and will require considerable driveway modifications, including drive aisle realignment and/or complete closure of a driveway within the roundabout influence area.

Scoring Methodology

Each evaluation criterion is assigned a value of 1 point for an evaluation result of 'yes' or zero points for an evaluation result of 'no', based on considerations of various contributing factors listed in **Table 1**. If both alternatives receive an equal or near equal evaluation result, they are both assigned a value of zero points. **Table 2** summarizes the alternatives and their scoring against each criterion.

Table 2: Scoring of Contributing Factors for Each Alternative

Evaluation Criteria	Contributing Factors	Alternative 1	Alternative 2
Purpose and Need	Alternative accomplishes points outlined in the purpose and need of the project.	1	1
Traffic	Better Intersection Level of Service During Peak Period	1	0
Transit	Better improves transit operations	1	0
Bike and Ped	Better improves Pedestrian and Bike Connectivity	0	0
VMT	No VMT Increase	1	0
Safety	CMF Qualitative Analysis	0	1
Cost	Lower Total Project Cost	1	0
Environmental	Less environmental impacts	0	0
Department of Transportation Concerns	Caltrans has less concerns related to nonstandard design	1	0
Local Preference	Alternative preferred by users and local residents	0	1
City Preference	Alternative preferred by City Council & Staff	TBD	TBD
Local Impacts	Less Temporary construction impacts	0	0
	Less Right of Way impacts	1	0
	Less Significant Driveway Impacts	1	0
	TOTAL	**8**	**3**