REQUEST FOR ADOPTING A RESOLUTION TO REMOVE ON-STREET PARKING

For the new bikeway implementation in the City of Palo Alto
on State Route 82 (El Camino Real)

Date: 3/19/2024

From: Caltrans District 4- Bay area

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1. REQUEST TO THE CITY

Caltrans has requested the City Council to adopt a resolution to remove on-street parking along State Route (SR) 82 to implement a new bikeway in conjunction with the ongoing Caltrans paving project.

Caltrans bicyclist safety improvement monitoring program has identified the segments of SR 82 within the City of Palo Alto with higher safety risks. As a mitigation measure, the new bikeway on SR 82 was proposed.

The proposed bikeway is a critical step to improve safety for travelers while improving connectivity and mobility in the SR 82 corridor.

SR 82 is considered an important spine of activity and a transportation corridor for residents, workers, and visitors that connects major shopping and employment destinations with freeways, neighborhood streets, and transit services.

The Cities of Mountain View and Los Altos partnered with Caltrans to implement Complete Street improvements under the Caltrans paving project which is in construction currently. These improvements include Class II and IV separated bikeways (with the removal of street parking), bicycle crossings, and improved crosswalk pavement markings.
To enhance bicycle safety and provide bike network connectivity between communities along SR 82, Caltrans proposes a new bikeway implementation in conjunction with the aforementioned Caltrans paving project.

2. SAFETY DISCUSSION

Background

As outlined in the California Strategic Highway Safety Plan, the State is working toward a goal of zero fatalities and zero serious injuries. To help achieve these goals, Caltrans has implemented various safety monitoring programs, which take a data-driven approach to assess the safety performance on our highways.

One of Caltrans' safety monitoring programs is the Bicyclist Safety Improvement Monitoring Program. The purpose of this monitoring program is to identify locations along state highways with high concentration of bicyclist-related crashes. Based on the subsequent safety review of these identified locations, appropriate safety mitigation measures are developed for implementation.

2020 Bicyclist Safety Improvement Monitoring Program

Using collision data from January 1, 2016 to December 31, 2020 (5-year period), the 2020 Bicyclist Safety Improvement Monitoring Program screened out highway segments with high concentration of bicyclist-related crashes. Within the City of Palo Alto and the City of Mountain View, the 2020 Bicyclist Safety Improvement Monitoring Program

identified these five highway segments along El Camino Real (State Route 82) for safety review:

1. Bonita Ave to Mariposa Ave (Mountain View)
2. West Charleston Rd to Maybell Ave (Palo Alto)
3. Wilton Ave to Matadero Ave (Palo Alto)
4. California Ave to Park Blvd (Palo Alto)
5. Entrance to El Camino Park to Quarry Rd (Palo Alto)

Collision Data Review

Table 1 shows the number of bicyclist-related collisions along the four highway segments identified in the monitoring program.

Commented [KP1]: While I understand that all of these collisions occurred on ECR, can you please include when the bicyclist was in a collision while crossing ECR? The map and summary appear to suggest that all bicyclists were riding on ECR.

Table 1 – Highway Segments Identified in the 2020 Bicyclist Safety Improvement Monitoring Program

Highway Segments Along El Camino Real	Number of Bicyclist-related Crashes (1/1/2016 – 12/31/2020)	
	Fatality	Injury
1. Bonita Ave to Mariposa Ave (MV)	0	12
2. West Charleston Rd to Maybell Ave	0	4
3. Wilton Ave to Matadero Ave	0	4
4. California Ave to Park Blvd	1	8
5. Entrance to El Camino Park to Quarry Rd	0	4
Total	1	32
	33	

Table 2 and Table 3 below show the breakdown of the 33 collisions by type and by primary collision factors:

Table 2: Collision Type

Collision Type	Number of Crashes
Broadside	26 (78.8%)
Other	4 (12.1%)
Sideswipe	2 (6.1%)
Head on	1 (3%)

Table 3: Primary Collision Factor

Primary Collision Factor	Number of Crashes
Other violations	17 (51.5%)
Failure to yield	10 (30.3%)
Improper turn	3 (9.1%)
Not stated	2 (6.1%)
Speeding	1 (3%)

Table 4 below provides a breakdown of the collisions based on location:

Table 4: Location of Collisions

Location	Number of Crashes
Mid-block on El Camino Real	7 (21%)
At intersection with bicyclists entering from El Camino Real	10 (30%)
At intersection with bicyclists entering from side streets	12 (37%)
On local side streets near the vicinity of El Camino Real	4 (12%)

Based on our review of collision history, a few crash patterns have been identified. These patterns, underlying issues associated with the identified patterns, and potential mitigation measures are shown in Table 5 below:

Table 5: Crash Pattern / Potential Underlying Issues / Potential Mitigations

Crash Pattern	Potential Underlying Issues	Potential Mitigations
Drivers Failure to Yield 10 out of 33 crashes	• Distraction • Visibility issue • Unclear right-of-way assignment	• Upgrade / improve signs, markings • Ensure clear line of sight • Driver education

		• Provide bike boxes at select intersections
Bicyclists Riding Against Traffic 13 out of 33 crashes	• Lack of designated area for bicycling • High-stress bike riding environment	• Provide standard bike facility designating portion of roadway for bikes • Installing appropriate signs and markings to indicate direction of bike travel
Red Light Violation 4 out of 33 crashes	• Speeding • Not able to see signal equipment • Signal timing	• Traffic enforcement • Education • Ensure signal visibility • Verify appropriate signal timing

Safety Enhancement Recommendation

Based on our review of the collisions identified in the 2020 Bicyclist Safety Improvement Monitoring Program, it is recommended that a bike lane be implemented along El Camino Real within the City of Mountain View and the City of Palo Alto as part of the current pavement rehabilitation project. The recommended bike lane provides these enhancements to road users:

- Provides bike network connectivity between various communities along El Camino Real
- Reduces the incidence of bicyclist riding against the flow of traffic or on sidewalk
- Lessens potential for conflict between bikes and vehicles
- Improves traffic safety on El Camino Real

3. CONNECTIVITY

Caltrans Bikeway Policy

The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. Director's Policies (DP) 36 and 37 provide additional detail on how construction of a separated Class IV bikeway along State Route (SR) 82 aligns with this mission. Additionally, Design Information Bulletin (DIB) 89-02 establishes design guidance for Class IV separated bikeways as a specific type of infrastructure to help meet this mission. Caltrans recently adopted Design Information Bulletin (DIB) 94, which provides contextual guidance for walking, biking, and transit facilities. This guidance can provide greater flexibility in designing complete streets. The project team continues evaluating DIB 94 to determine whether or not the project meets the criteria to utilize these standards and what potential benefits, or drawbacks might be.

Commented [SS2]: Please state whether DIB-94 is applicable to this bike lane proposal. If it is not applicable, please provide the reasons why this is so. If it is applicable, please explain how and when this bike lane proposal can be made consistent with DIB-94. Please note areas that are not consistent with DIB-94.

Toward an Active California

Toward an Active California, the State Bicycle and Pedestrian Plan (2017) is considered the policy document governing Caltrans Active Transportation Plans, including the Caltrans District 4 Bike Plan, mentioned below. This Plan established active transportation objectives for Caltrans, including *Safety: reduce the number, rate, and severity of bicycle and pedestrian involved collisions*, and *Mobility: increase walking and bicycling in California*. The proposal to provide Class IV bikeways along segments of SR 82 is designed to advance both of these goals.

Director's Policy 36

DP-36, Road Safety, was signed by then-Director Toks Omishakin on February 15, 2022, and established a Department-wide vision to eliminate fatalities and serious injuries on California's roadways by 2050. This project aligns with that vision, by providing Class IV separated bikeways along SR 82 in Palo Alto, which serves as a major arterial and important access route for adjacent communities, while it is also the site of many local and regional destinations.

As described in DIB 89-02, "Class IV bikeways, also referred to as separated bikeways, protected bike lanes, or cycle tracks…may minimize interactions with other modes of travel by introducing a vertical element separation. The objective [of separated bikeways] is to foster bicycling as a means of transportation, in a manner that improves safety for all users, including motorists, transit users, and pedestrians, including persons with disabilities."

The Federal Highway Administration's (FHWA) *Separated Bike Lane Planning and Design Guide* reports that, due to the physical separation from motor vehicle traffic, 96 percent of users feel safer as a result of the separation. The preparation of that Guide included a study of 17 separated bikeway corridors across the United States and found that the increase in bicycle users on these corridors outpaced the increase in bicycle crashes, thus they were associated with a decrease in the per capita crash rate.

The FHWA's 2019 Bikeway Selection Guide also generally recommended the use of separated bikeways or shared-use paths as the preferred bikeways on roadways where the vehicles per day exceeds 6,000, and where operating speeds are at or above 35 miles per hour (mph). The Caltrans 2020 Bikeway Facility Selection Guidance Memo, supplement the FHWA Guide, also lists Class IV separated bikeways as an appropriate facility where posted speeds are 30mph or higher, and particularly where there is an average daily traffic of 6,000 vehicles or greater.

Director's Policy 37

DP-37, Complete Streets, establishes an "organizational priority to encourage and maximize walking, biking, transit, and passenger rail." Providing low-stress, dedicated bicycle facilities on urban and suburban conventional routes like SR 82 is in line with that organizational priority, as lower-stress facilities with connections to community destinations are vital in attracting new bicycle riders.

Bikeway Planning

The need for bikeway improvements on El Camino Real has been documented in numerous county, regional and city planning efforts. The project to install Class IV bikeways would align with the goals and policies of prior planning documents. A summary of these planning studies is documented below.

Caltrans District 4 Bike Plan (2018)

The Caltrans District 4 Bike Plan identified the need for Class IV separated bikeways on El Camino Real in Palo Alto and prioritized it as a top tier project. The update of this plan is expected to be released in 2024, which is expected to make the same recommendation.

VTA's Bicycle Superhighway Implementation Plan (2021)

This study proposes specific alignments for a countywide network of 17 bicycle superhighways for Santa Clara County, intended to be high quality, uninterrupted, long-distance bikeways separated from motor vehicles that traverse across the county. All of El Camino Real in Santa Clara County is identified as part of the County's planned bicycle superhighway network.

Santa Clara Valley Transportation Authority Countywide Bicycle Plan (2018)

The Countywide Bicycle Plan establishes a vision for Santa Clara County to be served by a bicycle network that enables people of all ages to utilize as a typical and accepted way to travel. The plan categorizes El Camino Real as a route with the highest Level of Traffic Stress (LTS), due to the high-speed limits, limited or non-existent bicycle lanes, and large distances to cross at intersections. It also includes El Camino Real on its list of unconstructed Cross County Bike Corridors (CCBCs), and recommends such facilities be designed as Class IV protected bikeways (or cycle tracks) on roadways with a posted speed limit of more than 35 mph.

Santa Clara Valley Transportation Central Bikeway Study (2022)

This study builds off the vision established in VTA's Countywide Bicycle Superhighway Implementation Plan and identifies corridor-specific improvements. The study recommends sidewalk-level Class IV bikeways on El Camino in the City of Santa Clara as well as through local streets in San Jose as part of the Central Bikeway network.

Peninsula Bikeway Feasibility Study (2021)

This study was developed in cooperation between four cities (Palo Alto, Mountain View, Redwood City and Menlo Park) and Stanford University. The Study finds implementation of a separated bicycle facility on El Camino as the preferred alignment out of the three studied since it provides the most workable, cohesive, and least circuitous connection to jobs and activity centers for people biking.

City of Sunnyvale El Camino Real Specific Plan (2022)

This plan establishes a framework for future development in the area, and emphasizes multimodal streets and mixed-use development, to create an economically and socially vibrant environment for all users. The general recommendation for proposed improvements along El Camino Real includes replacing on-street parking with Class IV bicycle facilities, which is consistent with the City of Sunnyvale's Active Transportation Plan.

City of Mountain View El Camino Real Streetscape Plan (2019)

This study establishes design guidelines for multimodal transportation and streetscape improvements throughout the El Camino Real Corridor within the City of Mountain View. The study recommends bicycle improvements along El Camino to include replacing the existing on-street parking with a Class IV protected bikeway to physically separate bicyclists from vehicular traffic, incorporating protected intersections at key locations, provision of bike detection, and increased visibility at intersections using green-colored pavement markings.

City of Palo Alto Bicycle and Pedestrian Transportation Plan (2012)

Recommends Class II on El Camino Real between Maybell Avenue and Page Mill Road in Palo Alto. This plan preceded State guidance on Class IV separated bikeways.

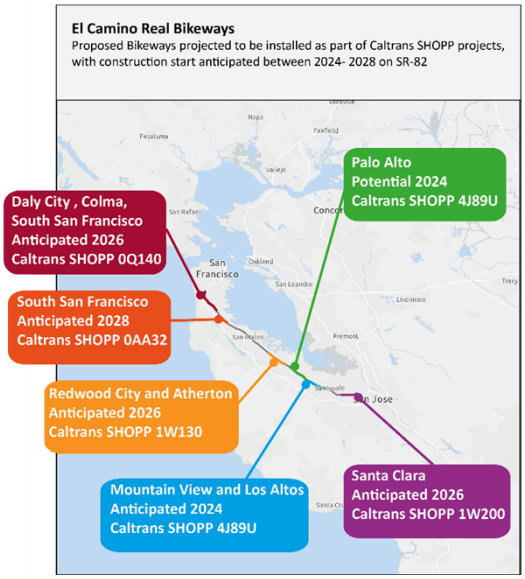
Grand Boulevard Palo Alto Safety Study (2019)

Developed in partnership with the Grand Boulevard Initiative and the City of Palo Alto, the Grand Boulevard Palo Alto Safety Study looked at streetscape improvements with Class IV bikeways on El Camino Real from Stanford Avenue to Lambert Avenue. This segment was selected based on bicycle and pedestrian collision rates along the corridor. This study was presented to the City of Palo Alto Planning & Transportation Commission in 2018 and has not been adopted by the City.

Bikeways In Development

In addition to the planning efforts underway, multiple bikeways are anticipated to be installed on El Camino as part of Caltrans SHOPP projects throughout the counties of San Mateo and Santa Clara with anticipated construction start years between 2024 and 2028. Figure 1 details the proposed bikeways as well as their anticipated construction start dates. These projects are a critical step to creating a regional bikeway that will connect key destinations, with the ultimate goal of creating comfortable, convenient and connected bike facilities throughout the Peninsula.

Figure 1: Caltrans SHOPP project on SR-82 to include bikeways



Improved Mobility for Bicyclists

A goal of both the Toward an Active California and the Caltrans District 4 Bike Plan (2018) is to increase the number of bicycle trips. Research has demonstrated that for a bicycling network to attract the widest possible segment of the population, its most fundamental attribute should be low stress connectivity, that is, providing routes between people's origins and destinations with low stress facilities, and that do not involve an undue level of detour[1]. El Camino Real provides the most direct connection from San Jose to San Francisco. Implementation of a separated bicycle facility would provide the best and least circuitous connection to jobs and activity centers for people biking to provide regional connectivity. Providing comfortable bikeways on El Camino Real would enable people biking to make easy connections to destinations and activity areas, improve links to the existing bikeway network, and improve safety including for those who already bike on El Camino Real.

As detailed in multiple regional planning studies, including VTA's Bicycle Superhighway Implementation Plan (2021), the ultimate vision for El Camino Real is a high-quality, low-stress bikeway that includes dedicated bicycle infrastructure at the intersection. While Caltrans recognizes the proposed project does not fully meet this ultimate vision, it is a

Commented [SS3]: It would be good to include this statement somewhere near the beginning of the report as it frames the discussion.

[1] Mekuria M.C., Furth P.G., Nixon H. Low-stress bicycling and network connectivity. *Mineta Transportation Institute Report.* 2012:11–19.Retrieved from 1005-low-stress-bicycling-network-connectivity.pdf (sjsu.edu)

critical interim step to implementing the vision for the corridor while improving safety for current travelers. Bikeway promotes orderly traffic movement and enhances drivers' awareness of the presence of bicyclists. As a result, potential conflict between bikes and vehicles are expected to decrease leading to improvement in traffic safety along El Camino Real.

Commented [SS4]: Say more here about how Caltrans believes safety will be improved with this proposal. Can you describe which kinds of collisions you expect to see reduced with this plan? Heavy vehicle and high-speed conflicts will be introduced for current sidewalk cyclists who will shift to the proposed facility. Is this proposal better for those sidewalk cyclists from a Safe System Approach/kinetic energy perspective? Also, state clearly which kinds of risk are NOT addressed by the proposal.

4. DESIGN CONSIDERATIONS

During the bikeway design, the following existing elements were considered.

- Right of Way limitation - width of the roadbed
- Street parking removal along El Camino Real
- Intersections and driveways as conflict zones
- Transit Stops (VTA)

The existing Caltrans Right of Way width varies with 3 lanes in each direction on SR 82, and the bikeway was designed with a minimum of 5 feet width.

Approximately 603 available street parking spaces were estimated along SR 82 within the City limit, and these need to be removed to have space for the new bikeway. In addition, removal of parking will improve sight distance at driveways and the new green paint will inform drivers of the bikeways.

Commented [SS5]: Include discussion of parking impacts. When can Caltrans can do a parking study to determine if enough supply of off-street parking spaces and on-street parking on side streets exists to meet the current parking demand?

At intersections and driveways, green skip lines are used for the vehicles to make turns. Vertical separation is dropped at the bus stops to permit buses to enter and exit the stop between the vertical separation at a shallow angle.

The following alternative Design options were considered but not selected

A. Maintaining on-street parking: given the existing roadbed width, it is not feasible.
B. Lane width reduction: the lane width is reduced to 11 feet wide under Design guidelines. Further reduction in lane width per DIB 94 needs evaluation.
C. Roadway diet: It is beyond this project's scope and is a possible future project that would require Caltrans review and approval as well as identification of funding. This option requires long-term planning and collaboration with adjacent cities, other transportation agencies, and stakeholders to study the impact on the corridor.

Commented [SS6]: Include a discussion here about the cost and time to develop roadway diet proposal if Council does not approve the parking removal for the current proposal. Indicate when a proposal consistent with DIB-94 could be put forward by Caltrans. Council will need this information in order to make a decision about the current proposal.

5. PUBLIC NOTIFICATION, OUTREACH & COMMENTS

On February 29, 2024, at 6 pm, Caltrans hosted an in-person Public Meeting at Palo Alto High School. Caltrans proposed to implement a new bikeway within the City of Palo Alto under EA 04-4J89U which is an ongoing pavement rehabilitation and ADA upgrade construction project encompassing the City of Palo Alto limits. The proposed bikeway is to improve bike safety and connectivity in the corridor. The purpose of the meeting was to provide an overview and answer any questions about the proposal. The public had

Commented [MM7]: Caltrans has given some indication that this option may not be feasible given how ECR is used and the needs of non-Palo Alto stakeholders. Please reword to make this more obvious.

Commented [MM8]: The way this is written it sounds like we could go do a road diet on our own. Since it's a Caltrans facility, it would require Caltrans approval/cooperation.

Commented [SS9]: Include measures taken to notify and accommodate RV dwellers.

Commented [MM10R10]: And businesses.

an opportunity to submit comments and questions at the end of the meeting and the responses were forwarded to the City.

On March 7, 6:30 pm, Caltrans participated in a hybrid public meeting at Mitchell Park Community Center in Palo Alto. The City of Palo Alto hosted a Joint Pedestrian and Bicycle Advisory Committee (PABAC)/City/School Transportation Safety Committee (CSTSC) Special Meeting. The purpose of the meeting is to provide an overview and answer any questions about the Caltrans bikeway proposal.

On March 13, 6 pm, Caltrans participated in a hybrid public meeting at the Palo Alto City Hall. The City of Palo Alto hosted a Joint Planning and Transportation Commission/Human Relations Commission Meeting. The purpose of the meeting is to provide an overview and answer any questions about the Caltrans bikeway proposal.

On April 1, 6 pm (*Tentative),* Caltrans will participate in a hybrid public meeting at the Palo Alto City Hall. It is a City Council Meeting to hear/review the Caltrans bikeway proposal.

Throughout the public outreach process, Caltrans has received numerous comments and feedback regarding the proposed bikeway. Caltrans is in the process of refining its design to incorporate community feedback.

For business outreach, the Caltrans construction team visited the businesses along SR 82 to inform the current construction activities.

For the RV dwellers along SR 82, the Caltrans encampment liaison team is working with the City and County for compassionate solutions. The team will reach out to the County Continuum of Care to ask for outreach to the location to offer services and any available housing options after the encampment removal request is received. Two (2) weeks or more will be provided for outreach.

6. PROJECT SCHEDULE

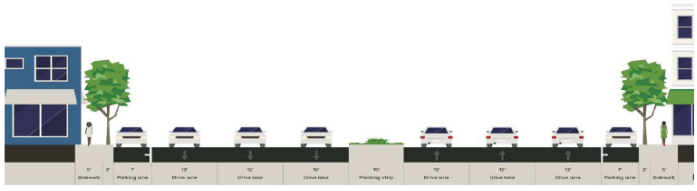
In April 2023, Caltrans started a conversation with the City of Palo Alto for partnership and collaboration to add a new bikeway on SR 82.

The new bikeway implementation will be funded and constructed in conjunction with the Caltrans SR 82 paving project which is currently in construction. The paving is tentatively scheduled earliest in late summer/fall of this year, 2024 after the City of Palo Alto's sewer rehabilitation project is completed. This is an opportunity to add the bikeway facility pavement markings on new pavement.

Attachment A

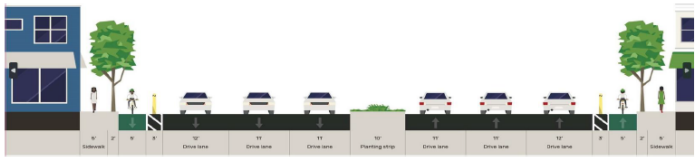
Typical Plan View

Typical X-sections



Before

SR 82 / California Ave



After

Class IV
(shown)

Attachment B

Typical Bikeway Rendering

Before

Northbound Southbound

After

Northbound Southbound