



**PUBLIC WORKS DEPARTMENT**

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**CITY COUNCIL STAFF REPORT**

Meeting: February 5, 2019

Subject

Adopt a resolution to approve the Junipero Serra Trail Feasibility Study

Recommended Actions

Adopt Resolution No. 19-XXX to approve the Junipero Serra Trail Feasibility Study

Background

The Cupertino Bicycle Transportation Plan (Bike Plan), adopted by City Council in 2016, is a long-range planning document designed to encourage bicycling as a safe, practical and healthy alternative to the motor vehicle. Similarly, the Cupertino Pedestrian Transportation Plan (Ped Plan), adopted by City Council in 2018, provides the blueprint for Cupertino to achieve its vision of an inviting, safe and connected pedestrian network that enhances the quality of life for all community members and visitors. Within both of these Plans, the need for a shared bicycle-pedestrian path or trail along the Junipero Serra Channel, parallel to and immediately south of Interstate 280, is highlighted. Within the Bike Plan and the Ped Plan, the Junipero Serra Trail is identified as a Tier 1 (high priority) project. It is also one leg of the larger The Loop Cupertino Trail, which would provide a mostly off-street network of bike paths circumnavigating the city. The Junipero Serra Trail is anticipated to provide a vital off-street east-west connection across Cupertino for bicyclists and pedestrians, a facility which currently does not exist and for which demand has been demonstrated by a broad spectrum of the community, including school-aged children, parents, commuters/local workers, and Walk Bike Cupertino, a local advocacy organization. Persons potentially not supporting the project include residents who live in close proximity to the trail, citing concerns primarily related to privacy and security.

FY17/18 capital budget authorized the funding of the Junipero Serra Trail feasibility study, which was funded by a \$250,000 contribution from Apple as a condition of their Development Agreement with the City for the Apple Park development. In August 2017, city staff hired Callander Associates to complete this work. The study includes a review of existing conditions along the trail alignment, research and documentation of trail design criteria, the development and evaluation of various trail alternatives, the development of cost estimates, and a rigorous public outreach process.

## Discussion

The Junipero Serra Trail would extend along a Santa Clara Valley Water District (SCVWD) maintenance road that runs adjacent to the Junipero Serra Channel, an existing drainage ditch parallel to and immediately south of Interstate 280 that runs between the Don Burnett Bicycle-Pedestrian Bridge and Calabazas Creek. At Calabazas Creek, the trail will turn south and follow the SCVWD maintenance road on west side of Calabazas Creek to Vallco Parkway. The Project would include three roadway crossings, at Stelling Road, De Anza Boulevard, and Wolfe Road. The alignment is primarily within the SCVWD right-of-way and would use the existing SCVWD maintenance/access road along most of its length.

The channel was originally designed and constructed by Caltrans to intercept drainage on the south side of Interstate 280 when the freeway was built. The channel generally has a trapezoidal section and is concrete-lined west of Wolfe Road. East of Wolfe Road, the channel is unlined until the confluence with Calabazas Creek. The trail would utilize the existing SCVWD maintenance road which varies in width from approximately 7'-6" to more than 15'-0", with the narrowest sections being along the westernmost extent of the channel in the vicinity of the Don Burnett Bridge.

For the purposes of studying feasibility, the trail was divided into three segments. Segment 1 is defined as the segment between the Don Burnett Bridge and De Anza Boulevard; segment 2 is the segment between De Anza Boulevard (including the intersection) and Wolfe Road; and segment 3 is the segment between Wolfe Road and Vallco Parkway. See attachment A, Figure 3-4 and Figures 3-12 thru 3-14, for an aerial depiction of the proposed trail.

There are several challenging conditions and locations along the creek. The first is the constrained width of the existing maintenance road, especially towards the west end where the 7'-6" width is insufficient to accommodate a Class I multi-use trail, which is specified by Caltrans as a 10-foot-wide two-way bicycle facility with two-foot shoulders on each side. The second is the Stelling Road street crossing, where the maintenance road currently intersects Stelling Road at roadway grade, the channel converts to a box culvert under the roadway and there is no existing controlled intersection that would allow for a user-friendly trail crossing. The third is the De Anza Boulevard crossing, where the combination of a busy freeway interchange, major arterial roadway and utility constraints make constructing a safe, convenient and cost-effective trail crossing problematic. Finally, due to being constrained by Interstate 280 on the north, private property on the south and infrequent roadway crossings, much of the trail would not be proximate to trailhead access, resulting in special consideration being necessary to ensure adequate safety and security for trail users.

Several alternatives were considered in the study to address these, and several lesser, challenges. These, as well as a general description of the trail alignment, are described below by segment.

### *Segment 1*

Segment 1 runs between the Don Burnett Bridge (Mary Avenue) and the west side of De Anza Boulevard. Starting at the western-most trail extent, segment 1 begins at the Don Burnett Bridge plaza. The bridge approach plaza presents a choice for how to access the trail within the SCVWD corridor at this location. The existing bridge approach slopes up from the Mary Avenue/Meteor Drive intersection to meet the bridge deck elevation over Interstate 280, while access to the Junipero Serra Trail requires an access path, on either the east or west side of the bridge approach, to slope down from the Mary Avenue/Meteor Drive intersection in order to conform with grades at the SCVWD maintenance road. Both access path options are feasible.

The east option runs along the east side of the bridge approach, directly behind residential properties along Nathanson Avenue. Due to considerable cross-slopes and limited space, the trail would need to be narrower than a standard Class I facility. In addition, a retaining wall would be required, and several mature trees would need to be removed. The west option runs along the west side of the bridge approach, adjacent to the Loc-N-Stor facility. There is more space on this side of the bridge approach, fewer impacted trees, and a full Class I facility could be provided. The community at large, local residents, and staff recommend considering only the west side option moving forward due to its lower cost, higher feasibility, and lower impact.

Continuing eastward from the bridge, the trail would follow the channel alignment behind single family residences and PG&E towers for about half mile to Stelling Road. As noted previously, the maintenance road, which is immediately adjacent to the concrete channel, is as narrow as 7'-6" along this section. This would not allow a trail to be built to full Class I standards; additionally, the SCVWD would not allow a railing to be constructed separating the trail from the channel in this case. In order to address this challenge, the open channel could be converted into a box culvert, which would essentially fully enclose the channel and which would allow the trail, at full Class I standards and including considerable trail amenities, to be placed directly over the culvert. This box culvert alternative, however, has considerable cost implications and would likely require that ownership and maintenance responsibility for the culvert be transferred from the SCVWD to the City. In the absence of a concrete box culvert, a trail which is narrower than Class I standard could be constructed. While constructing a trail to Class I standards is ideal, there are no demonstrated safety issues with constructing a narrower trail and trails as narrow as eight feet wide are commonly constructed throughout the region.

Stelling Road presents a street crossing challenge within this segment. The SCVWD maintenance road intersects Stelling Road; however, there is no controlled intersection at this location, the channel flows into a box culvert underneath Stelling Road, and traffic volumes along Stelling Road are substantial. At the community meetings, a desire for a grade-separated crossing for trail user convenience and safety was heard, so several options were evaluated. These included a bike-pedestrian bridge over Stelling Road, a tunnel underneath the road, and an undercrossing that would ramp down underneath the road onto Caltrans right-of-way. Of these options, the undercrossing minimizes utility conflicts and eliminates space constraint concerns that exist with both the bridge and tunnel options, and so was the preferred option moving forward. At-grade connections to Stelling Road would still be provided for trail access with this option.

The trail continues east from Stelling Road towards De Anza Boulevard. This section of segment 1 is located behind the Villages at Cupertino residential community, Public Storage, and the multi-family residential development at 10745 De Anza Boulevard.

### *Segment 2*

Segment 2 extends from De Anza Boulevard, inclusive of the intersection, to Wolfe Road. Maintenance road widths along this segment are generally less than the ideal minimum 14'-0", but wider than those within Segment 1. The significant challenge within this segment is the crossing of De Anza Boulevard. Three options were evaluated: constructing a tunnel underneath De Anza Boulevard, constructing a bridge over De Anza Boulevard, and using the existing at-grade crossing at the De Anza Boulevard/Interstate 280 southbound ramp.

There are a number of obstacles and constraints to building a tunnel. Property acquisition would be required on both sides of De Anza Boulevard to accommodate stairs, the tunnel will directly conflict with underground utilities, and there is a conflict with a large steel PG&E pole, which would need to be relocated. The bridge option presents fewer obstacles, though engineering challenges with respect to avoiding high-voltage overhead electrical wires still exist. Use of the existing at-grade crossing, instead of constructing a grade-separated structure, is the least expensive alternative and poses the fewest engineering challenges; however, this introduces potential pedestrian-vehicle conflicts that would need to be managed. This could be mitigated by providing a separate pedestrian-crossing-only phase at the intersection, however, a preliminary discussion with Caltrans indicates that an additional lane on the southbound off-ramp would be required in this case in order to keep an acceptable level of service at the intersection. This would necessarily increase costs considerably.

Continuing eastward, the trail alignment approaches Lucille Avenue, where the creek parallels the street for ¼ mile before entering a short culvert under Blaney Ave, which is

elevated at this location to pass over Interstate 280. The Lucille Avenue segment presents an opportunity for either continuous or discrete trail access, as well as landscaping. Continuing east from Blaney Ave, the trail would continue behind Lock It Up Storage and residential neighborhoods, to Wolfe Road. There is a CalWater facility at the north end of Portal Avenue that could potentially be used as a trail access point, subject to further discussions with CalWater and the neighboring residents.

### *Segment 3*

Segment 3 of the trail extends from the west side of Wolfe Road, continuing east along the Junipero Serra Channel to Calabazas Creek, where it turns south and follows the west side of the creek to Vallco Parkway. The channel is unlined along this entire segment.

It is anticipated that the trail would utilize the Perimeter Road undercrossing of Wolfe Road, which would likely be improved as a condition of the Vallco site development. The trail would connect to the Hyatt House project on the east side of Wolfe Road, which is constructing a 10'-wide trail as part of their project. A full Class I trail would then continue eastward along the SCVWD maintenance road alignment as described above to Vallco Parkway. At Vallco Parkway, trailhead access would be provided adjacent to Calabazas Creek on the north side of Vallco Parkway.

### Outreach and Public Hearings

Staff committed to providing a robust community outreach process as part of this feasibility study and developed multiple formats for community dialogue and interaction. Following is a list of methods used to notify and inform the community:

- City website
- City Channel
- Social Media – Next Door, Facebook, Twitter
- Flyer Postings at Library and City Hall
- Door hangars and flyers to residents and businesses directly adjacent to the proposed trail
- Safe Routes to School monthly newsletters
- Postcard mailings to residents and businesses within 300 feet of the proposed trail
- Email notification to subscribers of the “Bicycle Transportation Plan” email list
- Email notification to the Cupertino block leaders in the nearby surrounding neighborhoods

Community meetings and events were the primary means of obtaining input from the public. The public outreach plan included hosting four community meetings, held December 6, 2017, February 20, 2018, February 26, 2018, and June 6, 2018, and attending

two community events, between September 2017 and June 2018. Additionally, the trail was discussed at Bicycle Pedestrian Commission meetings held on March 21, October 17, and December 19, 2018.

The community meetings were designed as “open house” style events within a two-hour time window on weekday evenings. The rooms were set up with stations which participants could navigate while reviewing project background information and segment-specific details. Participants were invited to provide feedback directly to staff, as well as submit written surveys and comment cards. In addition to the community meetings, staff hosted an information table at the Diwali Festival at Memorial Park on September 30, 2017 and at the Earth Day Festival at the Cupertino Civic Center on April 21, 2018. The tables were utilized to disseminate project information and meeting dates as well as to allow the community to review and comment on the project concepts.

Community response to the project was mixed, although generally positive. Approximately half of the attendees at the community meetings indicated that they lived in close proximity to the trail, and roughly two-thirds of those responding to the written surveys were in favor of the trail.

General concerns raised by attendees pertained to the safety and security of trail users with respect to the relatively long distances between trail access points, trail crossings of major streets, and the constrained width of the trail, especially towards the western end. Location-specific concerns were raised mainly with respect to the neighborhoods in the vicinity of the Don Burnett Bridge and Lucille Avenue/Blaney Ave, where the potential for increased parking and traffic impacts, and noise/security concerns resulting from trail users, were raised. Details of the public outreach feedback can be found within Chapter 3, as well as the Appendix, of the Study.

The Feasibility Study has considered and researched these concerns, and offers a toolbox of potential mitigation measures, including:

- Installation of lighting, security cameras and/or emergency call boxes along the extent of the trail, where feasible.
- Sheriff will regularly patrol the trail, including bicycle patrols. Patrols will likely be conducted daily and more often as necessary.
- Coordinate with adjacent property owners to construct new seven-foot-high wooden fencing as part of the City’s project cost, with some possible reimbursement of a portion of the cost from SCVWD if the fence is in disrepair.
- Provide grade-separated crossings and/or enhanced at-grade pedestrian crossing treatments at the major street crossings.
- Construct trail on west side of Don Burnett Bridge to remain clear of residential properties

- Consider limited trail access and/or providing permit parking in the Lucille Avenue neighborhood

In addition to community outreach and engagement, a Technical Advisory Committee (TAC) consisting of representatives of Cal Water, Caltrans, the City of Sunnyvale, PG&E, the Santa Clara Valley Water District, and the Santa Clara County Valley Transit Authority (VTA) was created in order to give these utility companies and public agencies an opportunity to identify impacts and concerns related to their specific property interest in the trail alignment and to assist in the decision making. During the feasibility study process, staff and the consultant team held two meetings with all TAC members, and supplemental individual meetings with some TAC members were held to gather more specific information where appropriate.

When the project moves forward in the design phase, staff will work closely with all affected residents, utility companies, public agencies, and other affected stakeholders, to ensure that all stakeholder concerns are addressed to the extent possible.

#### Sustainability Impact

Construction of the Junipero Serra Trail will encourage bicycling, reduce reliance on the single-occupancy vehicle, and will therefore have a positive impact on sustainability. The trail is consistent with *General Plan: Community Vision 2015-2040* Policy M-1.3: Regional Trail Development, Policy M-2.3: Connectivity, and Policy M-5.3: Connections to Trails.

With the inclusion of mitigation measures, to be determined during future environmental review, impacts of the proposed trail are likely not to be significant. A full environmental assessment will be performed during the design phase of the project.

#### Fiscal Impact

This feasibility study was completed with a contribution from Apple, Inc. in the amount of \$250,000. There is no immediate fiscal impact resulting from the approval and adoption of the Junipero Serra Trail Feasibility Study.

Costs to design, perform environmental analysis, and construct the trail depend heavily upon which of several alternatives are chosen within each of the trail segments. The most significant of these choices are (1) whether to enclose the channel within a new concrete box culvert between the Don Burnett Bridge and Wolfe Road in order to accommodate a wider trail; and (2) whether to pursue an enhanced at-grade crossing, a grade-separated bridge, or a grade-separated tunnel at the De Anza Boulevard crossing.

Cost estimates for these alternatives are presented in the Tables below. For the option that does not construct a concrete box culvert, but leaves the existing concrete channel

in place (note that within Segment 2, only one of the De Anza Boulevard crossing alternatives would be selected):

Costs, \$M				
		Engineering	Construction	Total
Segment 1		0.5	3.0	3.5
Segment 2	De Anza At-grade	0.5	3.5	4.0
	De Anza Bridge	1.9	15.7	17.6
	De Anza Tunnel	2.6	22.2	24.8
Segment 3		0.3	1.5	1.8

For the alternative that constructs a concrete box culvert between the Don Burnett Bridge and Wolfe Road:

Costs, \$M				
		Engineering	Construction	Total
Segment 1		1.5	9.6	11.1
Segment 2	De Anza At-grade	2.5	16.3	18.5
	De Anza Bridge	3.8	28.6	32.4
	De Anza Tunnel	4.6	35.1	39.5
Segment 3		0.3	1.5	1.8

Staff is not requesting a budget appropriation at this time to proceed with the project. Staff anticipates including the engineering design and environmental clearance of one or more segments of the Junipero Serra Trail within the 2019/20 Capital Improvement Program budget request, to be presented to Council later this year. At that time, the project will be included within the context of other prioritized capital projects for discussion and potential funding. As this project would provide connectivity between several Apple campuses, staff will share details of the various segments with Apple to determine not only their preferences but also what funding they can contribute to the project.

#### Bicycle Pedestrian Commission

The Draft Junipero Serra Feasibility Study was presented to the Bicycle Pedestrian Commission at their regularly scheduled meeting of December 19, 2018. At the meeting the Commission, with Lyn dissenting, voted 4-1 to endorse the trail alternative that



does not construct a concrete box culvert in place of the existing drainage channel and which enhances the existing at-grade crossing at De Anza Boulevard rather than construct a grade-separated crossing.

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Reviewed by: Roger Lee, Acting Director of Public Works

Approved for Submission by: Timm Borden, Acting City Manager

Attachments:

A – Junipero Serra Trail Feasibility Study

B – Draft Resolution