

Community Meeting #1



THE LOOP
Cupertino

Junipero Serra Trail

December 6, 2017

Welcome!

How to get started

- Travel to each of the stations and provide your input
- Enjoy the refreshments
- Ask us lots of questions

Tell us what you think

How would you use this trail?

Circle all that apply.

1. Walking/Jogging/Biking
2. Commuting to Work
3. Taking children to school
4. None of the above

How often do you currently use a trail system elsewhere?

Circle one.

1. Never
2. Once a year
3. Once a month
4. Once a week
5. More than once a week

Regarding trail development, what's most important to you?

Circle all that apply.

1. Safety and security
2. Trail access
3. Trail amenities
4. Connections to other bike and pedestrian facilities
5. Other:

STATION #4 - De Anza Blvd to Vallco Center



What do you like about this segment of the trail?

What can be improved in this segment of the trail?

Please rate this segment's overall desirability:

Low	←—————→					High
0	1	2	3	4	5	

Please rate this segment's suitability for the following activities:

	Low	←—————→				High
	0	1	2	3	4	5
Commuting to work						
Walking/Jogging/Biking						
Going to school						

Community Meeting #2



THE LOOP
Cupertino

Junipero Serra Trail

February 20 and 26, 2018

Welcome!

How to get started

- Travel to each of the stations and provide your input
- Enjoy the refreshments
- Ask us lots of questions

I. General Background

1. Did you attend Community Meeting #1?

Circle one.

- A.** Yes
- B.** No

2. Do you support a trail at this location?

Circle one.

- A.** Yes
- B.** No

3. How would you use the trail?

Circle all that apply.

- A.** Biking
- B.** Jogging
- C.** Walking
- D.** Commuting
- E.** Other:

4. Do you live or work in Cupertino?

Circle one.

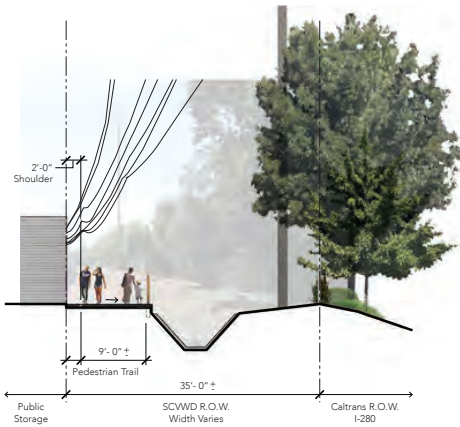
- A.** I live in Cupertino
- B.** I work in Cupertino
- C.** I live and work in Cupertino
- D.** I do not live or work in Cupertino



February 20 and 26, 2018

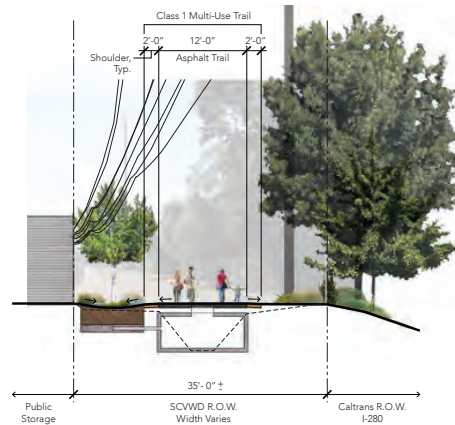
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II. Trail Design



Alternative #1

Open Drainage Ditch, Pedestrian Trail



Alternative #2

Covered Drainage Ditch, Class 1 Multi-Use Trail

1. Which alternative do you prefer?
Circle one.

- A. Alternative #1
- B. Alternative #2
- C. Neither

3. Do you live next to the trail?
Circle one.

- A. Yes
- B. No

2. What factors impact your decision in selecting a trail alternative?
Please provide your response below.

4. Do you have children that would use this trail?
Circle one.

- A. Yes
- B. No
- C. Possibly in the future

STATION #3 - Mary Avenue Trail Access



Alternative #2
Class 1 Multi-Use Trail

Alternative #1
Pedestrian Trail

III. Mary Avenue

1. Which alternative do you prefer?

Circle one.

- A. Alternative #1
- B. Alternative #2
- C. Neither

3. Would you use Mary Avenue Bridge to connect to this trail system?

Circle one.

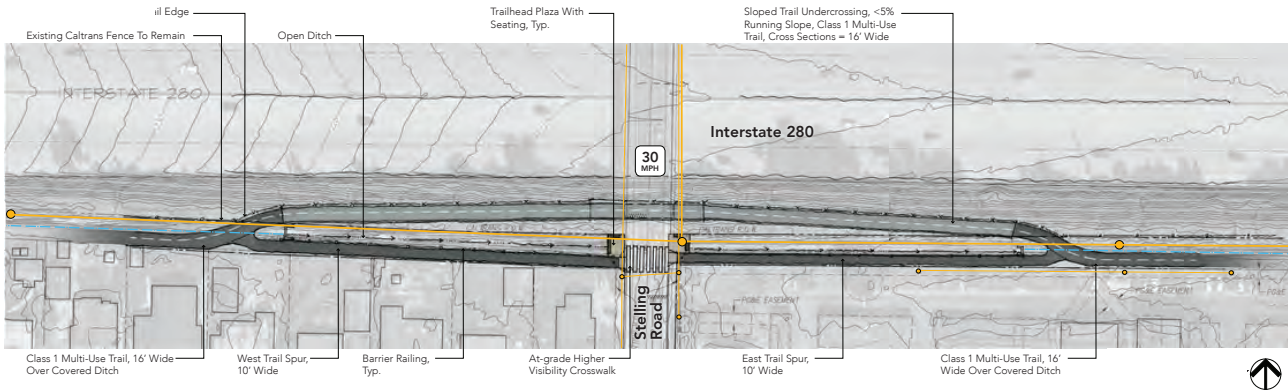
- A. Yes
- B. No
- C. Maybe

2. What factors impact your decision in selecting a trail alternative?

Please provide your response below

4. Do you have any additional comments about the Mary Avenue Trail access point?

STATION #3 - Stelling Road



Stelling Road Crossing Options

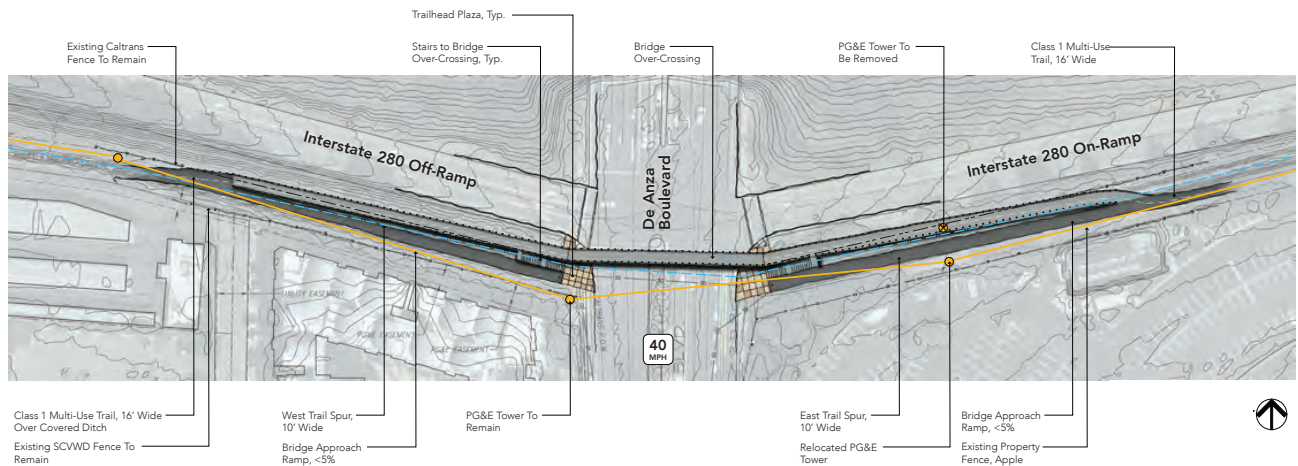
IV. Stelling Road Crossing

1. What crossing type do you prefer? Circle one.

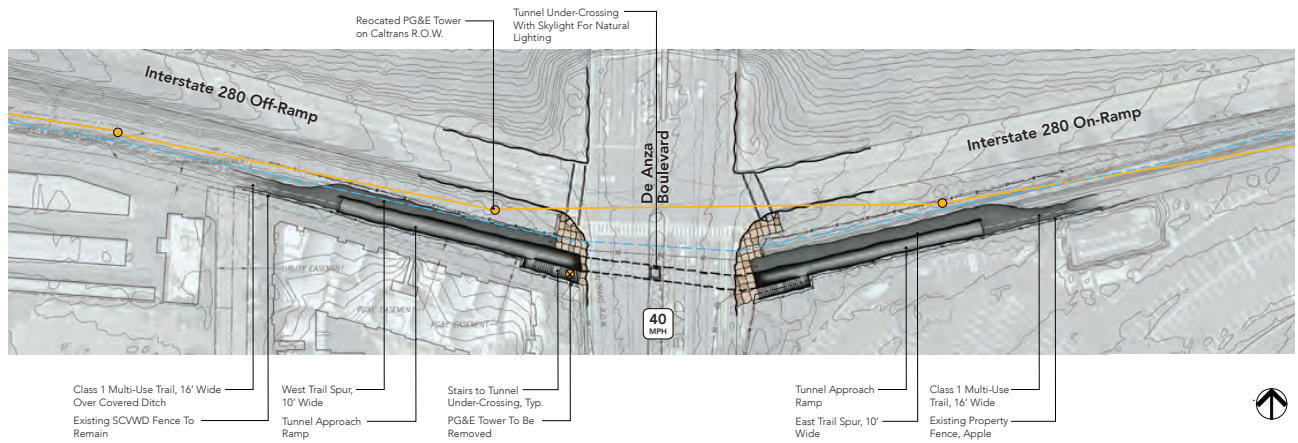
- A. A grade-separated crossing under Stelling Road with spur trail access and no crosswalk across Stelling Road
- B. A crosswalk across Stelling Road with no grade-separated crossing under Stelling Road or spur trail access
- C. Both a grade-separated crossing and crosswalk across Stelling Road with spur trail access

Do you have any additional comments about the Station #3 trail segment?

STATION #4 - De Anza Boulevard



De Anza Boulevard Bridge Over-Crossing



De Anza Boulevard Tunnel Under-Crossing

V. De Anza Boulevard Crossing

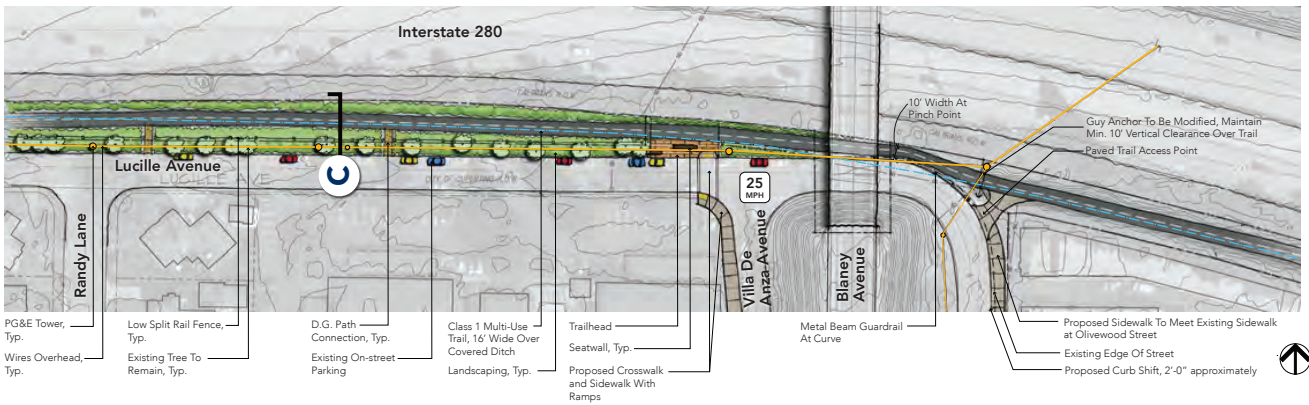
1. What crossing type do you prefer?
Circle one.

- A.** Bridge over-crossing with crosswalk across De Anza Boulevard
- B.** Tunnel under-crossing with crosswalk across De Anza Boulevard
- C.** No grade-separated crossing and maintain existing crosswalk across De Anza Boulevard

2. Would you support removal of the existing crosswalk across De Anza Boulevard if the bridge or tunnel grade-separated crossing was provided?
Circle one.

- A.** Yes
- B.** No
- C.** Maybe

STATION #4 - Blaney Road



Blaney Avenue with Trail Access on Lucille Avenue

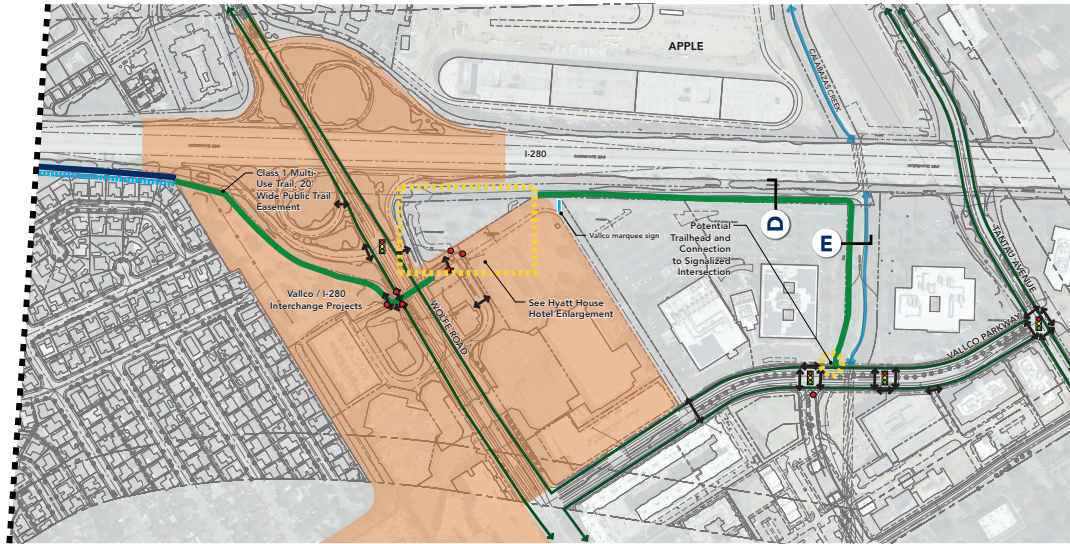
VI. Blaney Avenue / Lucille Avenue

1. Regarding trail access and amenities, which of the following do you support? Circle one.

- A. Informal trail access and no trailhead or trail amenities at this location
- B. Single trail access point and trailhead with limited trail amenities at this location
- C. Multiple trail access points and a trailhead with greater level of amenities at this location

Do you have any comments about the Station #4 trail segment?

STATION #5 - Vallco Center to Vallco Parkway



VII. Vallco Center to Vallco Parkway

Do you have any comments about the Station #5 trail segment?

Please return your packet to the sign-in table

Do you have any other comments about the project?

Thank you for your participation! Please join us again for:

Community Meeting #3

Wednesday, June 6, 2018

6:00pm – 8:00pm

Cupertino Community Hall

10350 Torre Ave, Cupertino, CA 95014

Community Meeting #3 - Questionnaire



Junipero Serra Trail
June 6, 2018

How to get started

- Travel to each of the stations
- Provide Input
- Enjoy the refreshments
- Ask us lots of questions

I. General Background

1. Did you attend Community Meeting #1 or Community Meeting #2? Circle one.

- A. Only, Community Meeting #1
- B. Only, Community Meeting #2
- C. Both, Community Meeting #1 and #2
- D. Neither

2. Do you support a trail at this location? Circle one.

- A. Yes
- B. No

3. How would you use the trail? Circle all that apply.

- A. Biking
- B. Jogging
- C. Walking
- D. Commuting
- E. Other:

4. Do you live or work in Cupertino? Circle one.

- A. I live in Cupertino
- B. I work in Cupertino
- C. I live and work in Cupertino
- D. I do not live or work in Cupertino

II. Input

1. What aspects of the trail design do you like? What do you like about the proposed trail?

2. How can the proposed trail be improved?

3. Do you have any other comments about the project?

Please return this questionnaire to the sign-in station.
Thank you for your participation!



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Share Your Thoughts!

1 Do you support a trail at this location?

Yes

No

2 Do you live next to the trail?

Yes

No

3 How would you use the trail?

Biking

Jogging

Walking

Commuting

Other

4 Which trail alternative do you prefer?



Alternative #1



Alternative #2

5 At Stelling Road, what type of crossing do you prefer?

Crosswalk On Stelling Rd.



Grade-Separated Crossing Under Stelling Rd.



Both Crossing Options

6 At De Anza Boulevard, what type of crossing do you prefer?

Bridge Crossing Over De Anza Blvd.



Tunnel Crossing Under De Anza Blvd.



Existing Crosswalk Across De Anza Blvd.



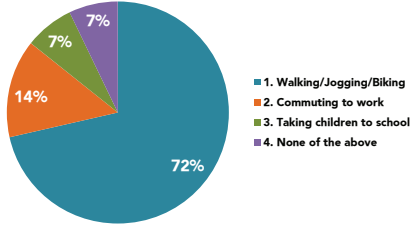
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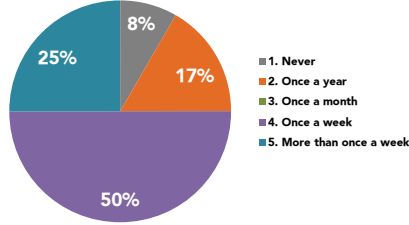
What We Heard

Community Meeting #1 Overall Input

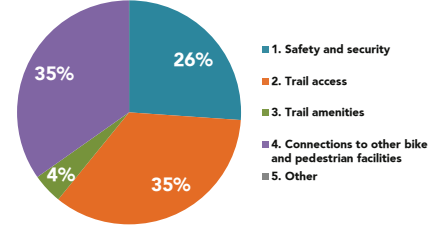
How would you use this trail?



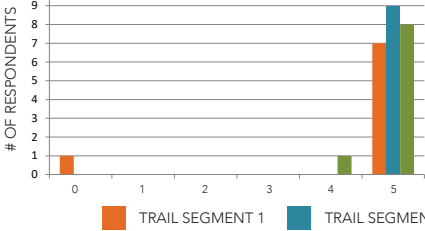
How often do you currently use a trail system elsewhere?



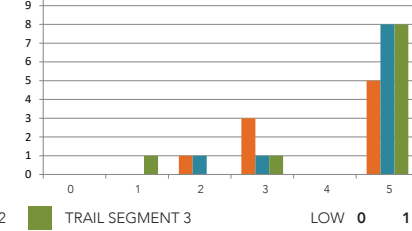
Regarding trail development, what's most important to you? Circle all that apply.



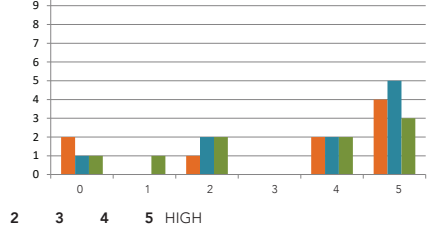
Overall Desirability



Suitability For Commuting To Work



Suitability Going To School



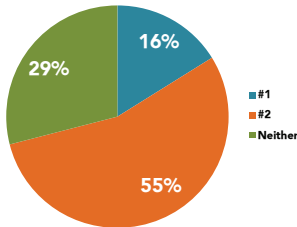
Community Meeting #2 Overall Input

Input Packet

Input Gathered From Community Meeting #2

Input was gathered through the input packet, comments written directly onto the plans, and comments written on large flip charts

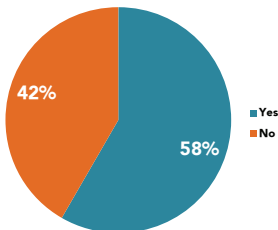
Which alternative do you prefer?



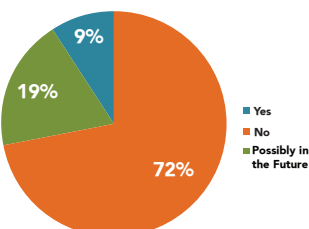
What factors impact your decision selecting a trail alternative?

- Cost: significantly more for alternative #2. Use: Alternative #1 will be used multi-use anyway.
- Wider, multi-purpose, dream big - one time cost
- Wider trail, safety that someone not going to fall in ditch.
- Safety
- Multi Use - Bike and Pedestrian
- Safety, traffic, parking, noise, lack of privacy, Increase of strangers in the area
- No bikes, lighting, noise, less privacy, security
- Open Space. It would provide a better experience.
- Impact of people and traffic
- Aesthetics, Width-allows easier bike + pedestrian traffic
- Separation from traffic
- Allowing bicycles on the trail is vital in order for the trail to provide a good commuting alternative
- Potential users; impact on privacy, security of residents along trail; reversibility; potential impact to water authority activities
- More room for ped and bike
- Trail width
- I like the extra width provided by Alt #2, but I think Alt #1 would be much simpler and less expensive which will help it happen!
- Would particularly be concerned about limiting water flow or complicating maintenance when covering the ditch. Alt#2 also adds some additional green buffer to neighbors, but I don't think this will be a problem after it is constructed
- Safety, security, noise impact, privacy for those houses impacted
- This is the "aging of America" (I don't think this is being considered). The aged are not going to be riding bicycles (nor walking over bridges/trails) to get to their medical appointments or bring home groceries, etc. We have enough bicycle/access infiltrating our area, bringing in outsiders. These "designs" will impact the quiet enjoyment of our homes even more!!
- Walking along a trail built right next to a major highway is not something of great appeal; physical and environmental safety concerns (i.e. fumes from many motor vehicles, noise) will not be great appeal; Building and maintaining such a trail, built next to a major highway will be much more expensive? What is the projected cost?
- The proposed trail would run directly behind my house, it would impact my privacy as well as increase the noise level
- Safety of existing redwood trees along 280; presence of bikes and pedestrians on same trail - how safe?
- For the second alternative, there is more space for people to commute to work, or go on a family walk. For people going to work, it is a longer commute by bike without the trail
- It would be cosmetically nicer and it might keep out any random undesirable smells
- I am concerned about security for property owners next to the trail. As is, there is graffiti on I-280 sound wall
- Multi-use trail more useful than narrow pedestrian only trail
- It is wider, it looks nicer, there is more greenery
- This is for Apple-only and don't care about us who live next to the trail
- Consistent width, avoids falling in ditches, more visually appealing, avoids conflict with location on PG&E poles, especially in Station #4 area
- Width! The wider trail is safer to allow pedestrians, bikes, skateboards, etc.

Do you live next to the trail?



Do you have children that would use the trail?





Project Background, Goals and Objectives

Input Gathered From Community Meeting #2

Input was gathered through the input packet, comments written directly onto the plans, and comments written on large flip charts
Flip Chart

- Goal 4 - Have the trail access along I-280 be strictly for bike traffic. That way bike riders can travel at a faster speed. This would be good for people commuting on bikes between Apple Campus (Sunnyvale) and Apple Campus 2 (Tantau).
- If pedestrian and bikes are on the same trail, the bikes need to go slower and pedestrians need to understand how to go on a trail with bikes

General Project Comments

Input Gathered From Community Meeting #2

Input was gathered through the input packet, comments written directly onto the plans, and comments written on large flip charts

Input Packet

- Great handout! Do this again.
- Make it a world class trail. Heart of Silicon Valley must look good. Plant new trees.
- Should be trail that represents Cupertino. Home of Apple. Best of best shall be created.
- My property backs up to the trail between Mary and Stelling. I currently see the trail used by PG&E. My concerns are: 1. liability - I have tall trees that have dropped branches on the trail. 2. Safety - giving easier access to my back yard. 3. Privacy - I have no fence (just chain link). I am not against the bike/ped path, just want my concerns addressed.
- This part of Cupertino has been impacted enough by the freeway, the schools, Apple and it's employees.
- We are very worried about safety, security, privacy. Homestead high school kids jumping the fence (which they do), homeless, smokers, drugs and nuisance.
- It's a shame that Apple can cause such a project to be contemplated that would impact the residents of this area.
- I support alternate #2 for Mary to De Anza Blvd.
- Very supportive. Good luck!
- Please, please build it! This trail would remove a lot of local commuting traffic off the roads (Apple employees between campuses, students to De Anza college...) and provide a great off-street recreational alternative within the city (jogger, dog walkers...). Provide trash cans along trail : dog walkers; drinking fountains at trail ends would be great bonus
- Consider if paving is necessary. No lights - encourage dawn to dusk use; Consider Alternative #1 as a pilot which could be expanded if use of trail becomes high.
- Seems like there needs to be more thought about intermediate access points. The major points are too far apart. While I favor choices that reduce cost and complexity, I would encourage setting standards for trail width - there are too many narrow pinch points identified already. Please spend the money to widen where needed.
- I am extremely concerned about safety, privacy, and noise issues. Currently, we have a lot of people hanging out at 2am during summer nights at the Mary Avenue Bridge trail head, located directly behind my house. 1) I am extremely concerned this trail will add to the noise we experience. 2) Make sure security is enforced after dusk (when officers are not busy with school patrolling). We already clean up broken glass bottles in our yards. 3) We are concerned about any trash, debris items that can be thrown over the fence into our backyards. 4) Can existing bike bridge be used to access 280 per alternative #2 near Mary Avenue? This would perhaps reduce capital costs.
- All-in-all, do not think this to be a very worthwhile project. Probably very expensive and lacking in widespread appeal. Walkers, joggers, or cycling along trail next to major highway not very appealing, especially at times of rush-hour traffic.
- I am totally opposed to the construction of the trail
- Super
- Very good graphics and presentation of trail options. Please keep the redwood trees along 280
- Really make sure Apple campus 1 and 2 have good connection to path
- Please think about possibly separating bikers and pedestrians if the trail becomes crowded, in the future
- Why do I and my neighbors have to suffer because the city can't say no to Apple
- Mile Markers (1/4 mile markers), security cameras in key areas and convex mirrors for blind corners, all for safety. Please make an effort to tie into the new signage style proposed for the City's Bike Boulevards, including "destination" signs indicating what is near the access points. Post a 25 mph speed limit (or less). Allow E-bikes with 25 mph max speed. Prohibit other motorized vehicles (gas, diesel, etc.). I LIKE HAVING A CROSS-TOWN CONNECTION OFF OF THE BUSY STREET LIKE STEVENS CREEK
- When it opens, safety & security has to be very good to "set the tone" of the project. If people think it is not safe they won't use it or let their kids use it. Prevent Apple bikes from riding 2-3-4 across & taking over the path like we currently see them, do on our neighborhood streets like Vista Drive.

(Comments provided via email after both community meetings)

- After briefly reviewing the online story boards, I believe that accompanying trail construction, permit parking must be extended to the entirety of Lucille between Blaney and Apple. Lucille already has the occasional Apple employee parking and is used daily for Employees to smoke at the cul de sac at Apple. The neighborhood is permit parking because of the Apple overflow, and active vehicle commuters on Lucille is inconsistent with the trail's use for the three schools nearby. Also, if smoking is not allowed on the trail, then it somehow should be restricted in the neighborhood. Apple doesn't allow smoking on their campus, and if they think the trail bordering their property is also non-smoking, they will be driving smokers into the neighborhood which is unacceptable. We already have employees parking on Lucille then coming back to the area to smoke during breaks.
- I just learned about a potential bike path along the Junipero Serra Channel. This is exciting, as it would give bicycles a protected way to get from Mary to Tantau. Currently, if you're near 280, you need to go to Homestead or Stevens Creek to go between Blaney and Wolfe. This change would encourage more bicycling, getting even more cars off the roadways. Hope you find some common ground with the water district and Caltrans to get this done. Of course, it would be great if the road crossings weren't at grade, but I'll leave that to the experts.



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What We Heard

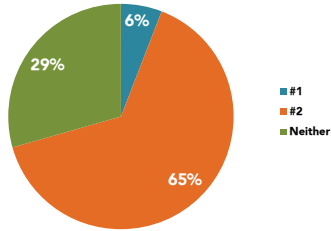
Trail Segment #1 (Mary Avenue to De Anza Boulevard)

Input Gathered From Community Meeting #2

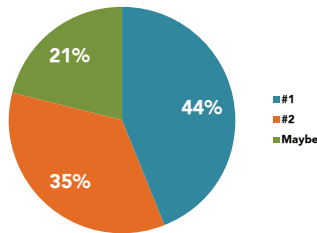
Input was gathered through the input packet, comments written directly onto the plans, and comments written on large flip charts

Input Packet

At Mary Ave., which alternative do you prefer?



Would you use Mary Avenue Bridge to connect to his trail system?



What factors impact your decision in selecting a trail alternative (Mary Ave Alternative)?

- Wider, bike friendly
- Do the right thing. If trail is not proper and wide it won't be usable and people won't use it. Having wider trail is right idea.
- Safety
- Multi Use, wider trail
- Security, noise, lighting, privacy
- Terrible proposal
- Width of the trail being better for multiple uses - pedestrian and bicycles; plant a new tree or bush to replace tree removed.
- Maintain trees along residences
- Slope is more natural and pleasing. In an emergency, trail users can leave the trail by climbing the slope; sharp easement feels walled in.
- Security underpass area
- Pleasant landscaping
- Easier, cheaper, better
- Again, making a choice for a simpler solution has a better chance of getting approved and built; I would encourage you to maintain as much natural screening as possible and NOT excavate more to create neighbor isolation; the perception of the negative is greater than the reality
- Why can't the existing Mary Ave. bridge on-ramp be used to access trail? That will reduce the project costs. Alternative 2 is my second choice, do not support Alternative 1
- See former page [Trail Design]
- Concerns over expense of such a project versus the benefit to public. Do not believe this project will have a great deal of appeal to most people
- I am not in favor of either alternative especially because it will be right behind our house/property. This trail would be an invasion of my privacy. The foot and bike traffic would result in noise and debris left on the trail
- Amount of water flowing in ditch
- Alternative #2 is safer in certain situations since you can escape up the hillside (unless you have parkour skills, which most people don't). Also, if you are walking along the trail, if it is wider and next to a hillside, it would be nicer
- It would be better for any animals living there, would look nicer and possibly cost less :)
- Multi-use of bicycles
- Wider, I ride my bike long distance, bike riders need a wider trail
- Alleviates concerns with adjacent homes seems more scenic
- Width to allow safer multi-use and to get it away from the residential area.

Do you have any additional comments about the Mary Ave Trail access point?

- Restroom, Water station, bench, camera, lighting, mile marker, safety patrol, website to promote
- Putting water, parking spaces, lighting, maybe restrooms near parks is a good idea.
- You should plan trail on 'storage' side at pedestrian bridge
- Consider collaborating with residences to improve robustness of fences along trail
- Amenities for bikers and walkers here please! Benches and congregating spaces here would be great (mini-park). Keep those away from the neighbors though
- Concerns over effects and disruption to the local residents, especially over Alternative #1
- Have police on bike patrol at the Stelling undercrossing to deter loitering and theft and graffiti
- Concerned w/ safety for trail users, particularly with potentially being in a secluded area out of plain sight, by the Loc-N-Stor
- Safety - it seems secluded. Add mirrors for blind spots.
- Amount of water flowing in ditch
- Alternative #2 is safer in certain situations since you can escape up the hillside (unless you have parkour skills, which most people don't). Also, if you are walking along the trail, if it is wider and next to a hillside, it would be nicer
- It would be better for any animals living there, would look nicer and possibly cost less :)
- Multi-use of bicycles
- Wider, I ride my bike long distance, bike riders need a wider trail
- Alleviates concerns with adjacent homes seems more scenic
- Width to allow safer multi-use and to get it away from the residential area.

Comments on Mary Avenue Bridge Enlargement

- Pedestrian Trail: concern about buffering





What We Heard

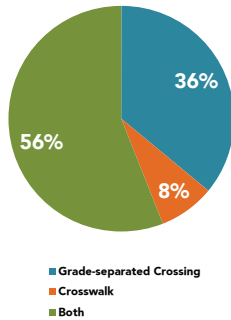
Trail Segment #1 (Mary Avenue to De Anza Boulevard)

Input Gathered From Community Meeting #2

Input was gathered through the input packet, comments written directly onto the plans, and comments written on large flip charts

Input Packet (cont.)

At Stelling Rd., what crossing type do you prefer?



Do you have any additional comments about the Station #3 trail segment (Stelling Road Crossing)?

- This is heavy traffic area, option C is better. Least preferred choice is A.
- Stelling is extremely busy at rush hour in morning and evening. A surface crosswalk would be a disaster
- Not option B: will cause traffic backups on Stelling. Will cause safety issues. Also the bridge railing when traveling south on Stelling blocks sight line to the trail toward the west making it much less safe.
- For biking on busy streets, like Stelling, separation is very important to induce casual/weekend bicyclists
- Crosswalk good for pedestrian access and in case of flooding (?)
- Traffic on Stelling is heavy and depends on events at De Anza College. A crosswalk is likely to be overlooked (note crosswalk near Quinlan); A Stelling Road entrance to the bike path is likely to influence and impact traffic on Stelling
- Very noisy
- Very clever solution, if possible and affordable
- Both please! Don't know if Stelling will be a big turning point, the underpass path would obstruct people wanting to get on Stelling. The crosswalk support will be nominal in cost for the benefit
- Apple employees have access to trail from campus and not on streets!!!
- Security of undercrossing
- A crosswalk across Stelling Road will make traffic on Stelling much worse than now. The traffic is bad enough now with traffic from Gardena Dr., Greenleaf, and the apartment complex feeding into Stelling. During peak hours, traffic can back into Hollenbeck in the north and all the way to Stevens Creek Blvd to the south
- Both would be great, but any of the options seems workable
- For long distance bike riders, it is much faster to have a grade-separated crossing, it is also safer
- Very concerned about a crosswalk and the interaction with traffic - especially during school drop-off/pick-up and during rush hour
- If you can't do #1C then do #1A. Do not do just 1B! Add mirrors for blind spots.

Comments on Stelling Road Crossing Enlargement

- Concerns at Lucille Trailhead:
- Safety
- Parking (unwanted!)
- Traffic
- Increase of activity (peds/bikes/crime)
- Apple employees (this project is for Apple only)

Comments on Trail Segment 1 Plan

- Concern over liability of trees dropping branches
- Graffiti
- Privacy & security
- Stats on crime - how will police monitor
- Parking will be issue
- Leave redwoods
- Why paved? Leave gravel
- No lights
- Homeless, privacy, security
- Alt 2 viable?
- Do we need a trail? Is demand there? For Apple employees?

Flip Chart

- Safety, security #1 issue. Graffiti already there. Had a burglary.
- Connect to Stevens Creek Trail to the west?
- Trail on north side of 280
- No monitoring of ex. Plaza. Needs monitoring. Use cameras.
- Concern about beacon crossing stopping traffic on Stelling. Concern about safety. Low visibility southbound.
- Do a soundwall for safety and privacy.
- Light for night use.
- Amenities, drinking fountains, seating, "dream big"
- Security cameras at problem/key areas.
- Traffic stacks at Stelling.





What We Heard

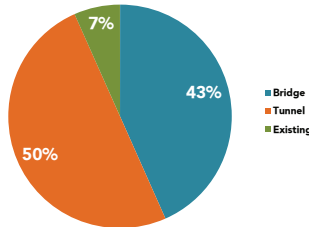
Trail Segment #2 (De Anza Boulevard to Vallco Center)

Input Gathered From Community Meeting #2

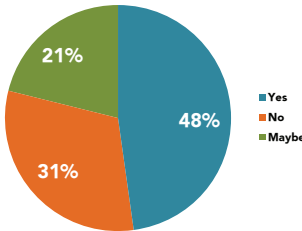
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Input Packet

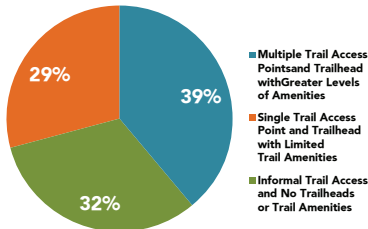
At De Anza Blvd., what crossing type do you prefer?



Would you support removal of the existing crosswalk across De Anza Blvd, if a bridge or tunnel grade-separated crossing was provided?



Regarding trail access and amenities, which of the following do you support?



Do you have any additional comments about the Station #4 trail segment?

- Must have direct Apple access (infinite loop) to trail, to reduce bikes on Randy Ln/Larry Way. Limit access points to two: One east of Randy, (just far enough away from Apple to discourage parking) and one at Blaney. This grade-level proposal for crossing at Blaney is great.
- Right next to my house. Privacy concerns. Live on Larry/Lucille.
- Privacy, parking, traffic are concerns for residents of Lucille, Larry and Randy. 1: Consider wall to help with privacy. 2: Big no to any access points on Lucille Ave.
- Not familiar with this section so no comment.
- No trail access on Blaney/Lucille
- Maintain fence - ideally make opaque for privacy. Make Lucille permitted parking M-F like Randy and Larry. Need frequent garbage clean up. Limited access - far from apple side to prevent parking problems. Maintain access under bridge for car traffic. Need police patrol for safety.
- I support none of these. I live here and would be impacted.
- Maintenance of trash can emptying would be very important
- Multiple access points make the trail more usable for people living in the neighborhood, and would provide trail users route options
- Informal trail access could serve as a pilot and could be upgraded if the trail use supports expansion
- Some convenience but less cost
- I prefer tunnel over bridge at De Anza mainly because of reduced elevation gain/loss; Use box culvert only when needed for trail width
- Mostly just need trailhead here; benches would be the only amenities needed
- How is security mentioned? Security patrol? How about people using trail for "hanging out"?
- Don't care...
- As shown
- Get Apple off the streets; safer alternatives for walkers/bikers; be mindful of neighborhood
- Section east of Blaney - no soundwall; trail users protection from vehicles leaving the road
- Provide access to Portal Ave. through CalWater site
- I live next to the trail on Randy Lane; trail would cause such a problem for traffic and people, let alone criminal activity
- Consider adding Trailhead/access point at the end of Lucille adjacent to the Apple campus. Work with Apple to create a linkage to Lawson Middle School along the edge of the Apple property, parallel to Larry Way, it would be nice to have some way to go directly from the trail up to the Blaney overpass.
- Do not put the additional access points in the middle of Lucille. Trail amenities needed: a map of trail, a beach, mile markers, lighting. Extra security around the main entrance & under the bridge. There has been tagging & dumping (mattresses, etc) in this area. Keep the road (Lucille) open under the bridge. Do not close it. The neighborhood relies on it to get to Homestead without having to cross Blaney. Critical to AM/PM traffic flow & school traffic.

Flip Chart

- Concerns at Lucille Trailhead:
- Safety
- Parking (unwanted!)
- Traffic
- Increase of activity (peds/bikes/crime)
- Apple employees (this project is for Apple only)

Comments on Blaney Ave/ Lucille Ave Crossing Enlargement

- Concerns at Lucille Trailhead:
- Safety
- Parking (unwanted!)
- Traffic
- Increase of activity (peds/bikes/crime)
- Apple employees (this project is for Apple only)

Comments on Trail Segment 2 Plan

- Blaney avenue: don't block
- Blaney impacted by traffic
- Concern bringing kids through an already congested area.
- Keep fence to prohibit access from Lucille
- Drive kids to school due to speeding cars
- One access point may be ok
- No sidewalk
- Lucille not under some parking permit. Needs to be included in permit program
- Will trail encourage parking on Lucille?
- Lots of Apple bikes
- Can you provide access here? For Lawson & Apple
- Need access to Apple to Trail
- Two access points
- Speeding traffic to school
- Use mirrors for blind spots
- Call boxes along trail. Emergency.
- Bike runnels at stairs?
- Can we have police cameras on the trail
- Consider security of users in tunnel crossing
- Access for Apple employees to trail & the streets
- Would not preclude Alt 2 in the future
- Look @ stair channels





Trail Segment #3 (Vallco Center to Vallco Parkway)

Input Gathered From Community Meeting #2

Input was gathered through the input packet, comments written directly onto the plans, and comments written on large flip charts

Input Packet

Do you have any additional comments about the Station #5 Trail Segment?

General Station #5 Question: Do you have any additional comments about the Station #5 trail segment?

- Keep Crossing at Wolfe not competing with cross traffic
- This trail is for apple only. What a shame.
- Be sure the contractor of Vallco includes space for bikeway
- Perhaps stipulate that a proper multi-use trail along the south and east edges of hotel development be included in future development there.
- The proposed path behind the new hotel is bad! It's still under construction - is there a way to create a path (or alternative path) that passes in front of hotel tracing Perimeter Road.
- Nice
- Have Vallco future pay for access to trail and out of neighborhood!!! Access to trail from Vallco itself not in neighborhood at all!
- It is important to keep redwoods along 280 intact behind Hyatt House and property behind the old Macys. Will there be public creek trail along Calabazas Creek from 280 and Calabazas intersection to the Calabazas and Vallco Parkway intersection? One portion of the creek trail mentioned above along the small portion of Calabazas Creek should be both pedestrian and bike.
- Provide easy access to hotel for residents and guests. Use CalWater area for access to Portal Ave.
- East-west connectivity for bikes between Blaney and Tantau is important, especially with Pruneridge gone
- Underpass is good
- Make all sections of it as wide as possible to allow lots of multi-uses & improve safety. Add mirrors for blind spots & destination signs.

Flip Chart

- No e-bikes (more than 25 mph)
- No motorized
- Allow e-bikes, speed < 25 mph

Comments on Trail Segment 3 Plan

- Access for Guests & Visitors

Comments on Stelling Road Crossing Enlargement

- Concerns at Lucille Trailhead:
- Safety
- Parking (unwanted!)
- Traffic
- Increase of activity (peds/bikes/crime)
- Apple employees (this project is for Apple only)





Via Email

February 26, 2018

MEMO TO: Jennifer Chu

FROM: Jana Schwartz, Designer
 Dave Rubin, Project Manager
 Callander Associates

RE: JUNIPERO SERRA TRAIL FEASIBILITY STUDY / Document Review Summary Memo

The Junipero Serra Trail Feasibility Study is evaluating the feasibility of a trail segment that supports a bicycle and pedestrian connection south of and roughly parallel to Interstate 280 between Mary Avenue and Tantau Avenue. This trail segment is a part of a larger vision plan, called the “Loop”, for a bicycle and pedestrian network within the City of Cupertino, as well as a greater regional planning effort. The study includes providing background on the project history, goals, and relationship to existing plans and other relevant documents. This memo provides a summary of relevance to other planning efforts and describes how the Junipero Serra Trail aligns with previous planning efforts and standards, as well as any additional findings that would affect trail development.

Documents Reviewed		Standards Reviewed
Local Planning Efforts	Cupertino General Plan (2015)	Santa Clara Valley Water District (SCVWD)
	2016 Bicycle Transportation Plan (2016)	Americans with Disabilities Act (ADA)
	South Vallco Connectivity Plan (2014)	Valley Transportation Authority (VTA)
Regional Planning Efforts	Joint Cities Coordinated Stevens Creek Trail Feasibility Study (2015)	
	Santa Clara Countywide Trails Master Plan Update (1995)	
	Countywide Trails Prioritization and Gaps Analysis (2015)	
	VTA Bikeways Map D (Cupertino, Campbell, Saratoga, Los Gatos) (2016)	
	Santa Clara County I-280 Corridor Study (2017)	

The trail is envisioned as a 2.88 mile-long off-street, multi-use trail and serve as the City of Cupertino’s first east/west off-street transportation corridor. The City views this trail project as a high-priority and would like to see the trail allow for the shared use of bicycle and pedestrian users. A majority of the trail runs adjacent to a drainage ditch, owned by SCVWD. The proposed trail has a limited number of street crossings, located at Stelling Road, De Anza Boulevard, and Wolfe Road. There are underground and overhead utilities, identified by partnering agencies PG&E and CalWater. Overhead transmission lines run roughly parallel to the proposed trail west of Blaney Avenue. Underground utilities, such as water and gas mains have been identified and planned for in the development of the preferred trail alignment.

BURLINGAME
 1633 Bayshore Highway, Suite 133
 Burlingame, CA 94010
 T 650.375.1313
 F 650.344.3290

SAN JOSE
 300 South First Street, Suite 232
 San Jose, CA 95113
 T 408.275.0565
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Memo

RE: JUNIPERO SERRA TRAIL FEASIBILITY STUDY / Document Review Summary Memo

February 26, 2018

Page 2 of 4

Local planning efforts that correlate with this study include the Cupertino General Plan (Land Use and Community Design, Mobility, Parks and Open Space), City of Cupertino 2016 Bicycle Transportation Plan, Santa Clara County I-280 Corridor Study, and the South Vallco Connectivity Plan. Each of these plans encompasses the geographical study area and includes goals and objectives that have been reviewed and complimented by the study. Each of these plans has overarching goals that hit on two main ideas:

1. Improving connectivity for bicycles and pedestrians by creating a multi-modal transportation network.
2. Enhancing accessibility and safety for bicycles and pedestrians through trail design and maintenance.

Each of these plans provides a framework for the trail to align with and contribute towards the City-wide goal of elevating bicycle and pedestrian facilities. The South Vallco Connectivity Plan focuses on a specific section of the study area and provides information about the Vallco redevelopment project. The timeline of this effort coincides with this study and a final decision on the outcome of the Vallco project is unknown. Thus, the study will need to work in parallel with the final plan for the Vallco development to include a trail system as contemplated in this study.

Regional planning efforts have created plans that work together to strengthen the regional bicycle and pedestrian network. Documents that were reviewed include the Joint Cities Coordinated Stevens Creek Trail Feasibility Study, Santa Clara Countywide Trails Master Plan Update, Countywide Trails Prioritization and Gaps Analysis, and VTA Bikeways Map D (Cupertino, Campbell, Saratoga, Los Gatos). To balance the identity and goals of each jurisdiction, many of the regional plans relied on a city's general plan for city-specific information. The Joint Cities Coordinated Stevens Creek Trail Feasibility Study referenced the City of Cupertino General Plan from 2000. Information about City facilities and demographic information has been updated in the recent General Plan from 2015. The other regional plans take a similar snapshot of the Santa Clara County region and highlight bicycle and pedestrian facilities and opportunities to connect and expand the network. Countywide Trails Prioritization and Gaps Analysis summarizes the existing and potential trail reaches. This document, as well as the VTA Bikeways Map D, do not include the study area and only identify the Stevens Creek Trail and on-street connections as major bicycle and pedestrian projects for the City. More recent planning efforts, like the Caltrans District 4 Bicycle Plan (to be released spring 2018) and VTA's Santa Clara Countywide Bike Plan (in-progress) have been asked to include the study area in textual and graphic depictions of trail opportunities.

Standards that were reviewed are also across jurisdictions and not specific to the City of Cupertino. The review of standards ensures the safety of trail users and compliance with related entities. Since the trail is located in SCVWD right-of-way and includes PG&E facilities, standards related to maintenance and access were reviewed before proposing design alternatives.

PG&E Standards

4.4.4 Vertical Clearance

Table 4-3, "Vertical Clearance From the Ground on Nonresidential Property," located below, provides the minimum vertical distance (in feet) from the ground on nonresidential property.

Memo

RE: JUNIPERO SERRA TRAIL FEASIBILITY STUDY / Document Review Summary Memo

February 26, 2018

Page 3 of 4

Table 4-3 Vertical Clearance From the Ground on Nonresidential Property¹

Description	Minimum Vertical Distance (In Feet)
Over private driveways, lanes, and other areas (e.g., alleys and parking lots) accessible to vehicles.	16
Over areas accessible to pedestrians only.	12
Over buildings and bridges, or over structures (attached or unattached) that do not ordinarily support conductors and on which people can walk.	8

¹ Clearance requirements may be different than local electrical codes.

- 4.4.4A-1: Normal radial clearance: a minimum of 24 inches.
- 4.4.4A-2: Within 15 feet of the point of attachment on a building or structure: the normal radial clearances may be reduced to a minimum of 12 inches.

4.10 Required Vegetation Clearances

- 4.10.1 General Requirements: For electric distribution, high-voltage lines rated up to 60,000 volts, applicants must establish a 15-foot “low-growth” zone on both sides of all new lines. Also applicants must not plant trees that exceed 25 feet in height at maturity under or within 15 feet of distribution power poles.

SCVWD Standards

Most of the guidelines and details, which are specifically related to streams, grading and riparian resources, have been excerpted from the document, Uniform Interjurisdictional Trail Design, Use and Management Guidelines (UD) (April 15, 1999), which was prepared by the Santa Clara County Parks and Recreation Department.

- To control trail use and prevent environmental damage, the design should include barriers such as fences, vegetation, stiles and fallen trees. (UD – 1.3.1.3)
- Use existing maintenance trails, access route and levees wherever possible to minimize impacts of new construction in riparian zones (UD – 1.3.2.3)
- Trail use will generally be limited to the hours between dawn and dusk to minimize impacts to wildlife.
- Lighting of trails should be avoided. Exceptions include security lighting in downtown commercial and entertainment areas where lighting should be minimized.
- Surface water shall be diverted from trails by cross sloping the trail tread between 2 and 3%. (UD – 3.5.4)
- Do not locate irrigation systems within 2 feet of the edge of the trail. Irrigation for turf areas around a trail should use only a pop-up variety of irrigation head. To avoid erosion and undercutting of the trail, the irrigation system should be controlled so that only incidental spray might reach the trail surface and edge. (UD – 3.5.6)
- Select plants for streamside areas that do not require irrigation beyond an establishment period.
- Use permeable pavements where possible.
- Where overland direction of drainage away from the creek is constrained, provide positive drainage.

Memo

RE: JUNIPERO SERRA TRAIL FEASIBILITY STUDY / Document Review Summary Memo

February 26, 2018

Page 4 of 4

The study area is almost entirely within the City of Cupertino but would have regional and local benefits as a transportation and recreational corridor. Due to the location of the study area, the local planning efforts and the standards provide the most guidance for implementing a trail at this location. The regional planning efforts should include this study area to best illustrate the collective bicycle and pedestrian network. The trail study area does not connect directly with any other regional trail system, but there are potential future connections that may be captured in future development plans.

- END -

**Via Email**

September 15, 2017

MEMO TO: Jennifer Chu**FROM:** Dave Rubin
Callander Associates**RE: I-280 CHANNEL TRAIL FEASIBILITY STUDY/ Public Outreach Outline**

Below is an outline of all outreach events, as listed in the project scope. Details for each event are described to help anticipate the necessary materials and preparation. Details with “TBD” shall be discussed and decided on between the City of Cupertino (City) and Callander Associates (CA).

Community Events (2)**When:** 9/17 – 4/18**Where:** Pop-up style at City events

- Diwali Festival – September 30, 2017
- Earth Day – April 2018

Who: CA, City, Community**What:** Outreach materials, table banner, map of site/specific sections, meeting newsletter, pop-up tent, link to on-line resources, on-line survey link (?), balloons/eye catcher**Why:** Generate project interest, publicize upcoming meetings, and discuss project objectives**TAC Meeting #1****When:** Wednesday Nov. 29, 2017, 630pm to 8pm (scope: 11/27-12/1)**Where:** Working meeting; City Hall – Conference Room C**Who:** CA, City, TAC Members**What:** Review project purpose, background, and Public Meeting #1 materials**Why:** Gather input and apply edits to materials prior to public meeting, discuss next steps**Public Meeting #1****When:** Wednesday Dec. 6, 2017, 6pm to 8pm (scope: 12/4-12/8)**Where:** Quinlan Community Center – Cupertino Room**Who:** CA, City, Community, Commission and Council Members**What:** Existing conditions, local/regional context, goals and objectives, opportunity and constraints, initial public reactions, refreshments, on-line survey link**Why:** Listen to public input, discuss project objectives (short and long term), next steps**TAC Meeting #2****When:** Monday Feb. 12, 2017, 630pm to 8pm (scope: 2/12-2/16)**Where:** Working meeting; City Hall – Conference Room C**Who:** CA, City, TAC Members

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1633 Bayshore Highway, Suite 133
Burlingame, CA 94010
T 650.375.1313
F 650.344.3290

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300 South First Street, Suite 232
San Jose, CA 95113
T 408.275.0565
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Gold River, CA 95670
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**Via Email**

August 22, 2017

MEMO TO: Jennifer Chu**FROM:** Dave Rubin
Callander Associates**RE: I-280 CHANNEL TRAIL FEASIBILITY STUDY/ Public Outreach Plan**

Below is the language to be used on promotional materials for upcoming meetings. Items include, but are not limited to, meeting newsletter, meeting postcard, social media, utility mailer, and NextDoor postings. Dates for these events shall be confirmed by 9/15.

Document Text:**Large Text:** We want to hear from you! Come share your thoughts!**Sub Text:** Please join us to review trail alignment plans to help build connections in Cupertino. A series of community meetings have been planned for you to provide input on a proposed trail system near I-280 and participate in improving the pedestrian and bicycle network near you!

Upcoming events:

Pop-Up Events

- West Coast Farmers' Market | Cupertino Oaks Shopping Center, October 15, 2017 9am to 1 pm
- Silicon Valley Fall Festival | Memorial Park in Cupertino, September 9, 2017 from 10am to 5pm

Public Meeting #1

- Cupertino Public Library (10800 Torre Ave, Cupertino, CA 95014)| December 5, 2017, 6pm to 8pm

Public Meeting #2a

- Homestead High School (21370 Homestead Rd, Cupertino, CA 95014)| February 20, 2017, 4pm to 8pm

Public Meeting #2b

City Hall (10800 Torre Ave, Cupertino, CA 95014)| March 1, 2018, 4pm to 8pm

*Bike and Pedestrian Commission Meeting #1**City Council Meeting #1***Public Meeting #3**

- Cupertino Public Library (10800 Torre Ave, Cupertino, CA 95014)| June 6, 2017, 4pm to 8pm

*Bike and Pedestrian Commission Meeting #2**Park and Recreation Commission**Planning Commission**City Council Meeting #2*

Thank you.

- END -

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F 650.344.3290

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MEMORANDUM

Date: October 3, 2018
To: David Rubin, Callander Associates Landscape Architects
From: Steve Davis, PE, Fehr & Peers
Subject: **Alternatives Evaluation for Junipero Serra Trail Crossing at De Anza Boulevard
Cupertino, California**

SJ17-1771

The purpose of this memorandum is to present the results of a traffic operational analysis conducted to evaluate alternatives for an at-grade crossing of De Anza Boulevard for the proposed Junipero Serra Trail in Cupertino, California. It is our understanding that the City of Cupertino prefers a grade-separated crossing for the Junipero Serra Trail at De Anza Boulevard. However, due to construction and logistical challenges, a grade-separated alternative may not be feasible. The potential at-grade crossing would be provided at the location of the existing crosswalk on the south leg of the intersection of De Anza Boulevard with the Southbound Interstate 280 (I-280) Ramps.

EXISTING CONDITIONS

The intersection of De Anza Boulevard, which is oriented north-south, and the Southbound I-280 Ramps, which are oriented one-way eastbound, is signalized with crosswalks provided on the east, west, and south legs. The existing lane configuration and turning movement volumes from counts collected in December 2017 during the morning (AM) and afternoon (PM) peak hours are shown in **Figure 1**.

David Rubin
 October 3, 2018
 Page 2 of 6

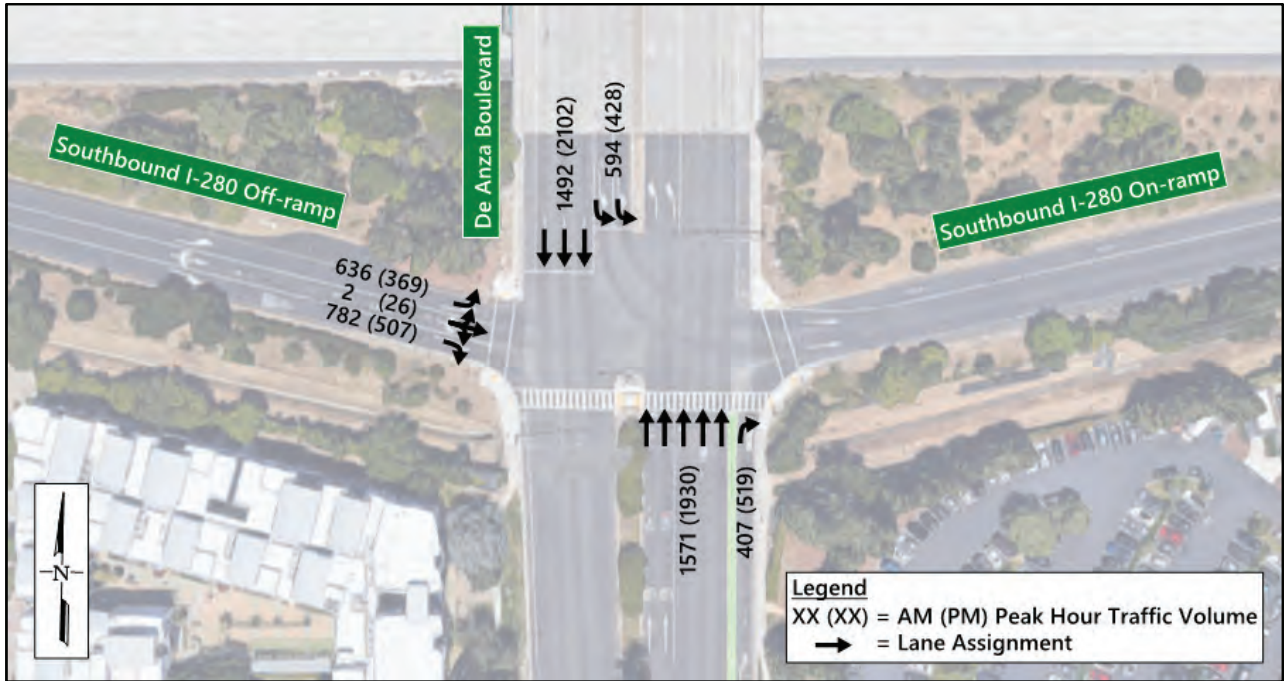


Figure 1: Existing Traffic Volumes and Lane Configuration

Fehr & Peers conducted field reconnaissance at this location to identify signal timing and phasing as well as overall traffic operational characteristics during the AM and PM peak periods as part of the Vallco Specific Plan EIR project. The eastbound approach of the Southbound I-280 Off-ramp operates concurrently with the parallel pedestrian crossing across De Anza Boulevard as depicted in **Figure 2**. This arrangement is most efficient for vehicle operations given the existing geometry, but results in a high potential for conflicts between pedestrians and vehicles since eastbound right turns from two lanes occur during the pedestrian “walk” signal phase. These concurrent movements increase the risk for collisions involving pedestrians as well as rear-end crashes resulting from vehicles unexpectedly stopping to wait for pedestrians.

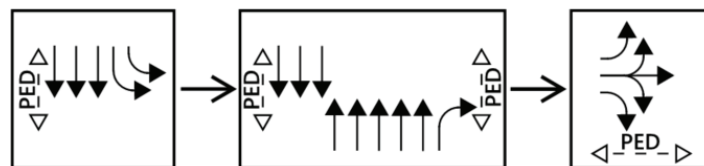


Figure 2: Existing Signal Phase Sequence

David Rubin
 October 3, 2018
 Page 3 of 6



PROJECT ALTERNATIVES

Due to the potential for collisions, high level of pedestrian exposure, and anticipated increase in usage of the at-grade crossing with the completion of the Junipero Serra Trail, it is desirable to modify the intersection to minimize interactions between modes. As such, two project alternatives have been developed for consideration:

Alternative 1 – No physical improvements would be constructed, but signal phasing would be modified such that the eastbound right-turn movement and pedestrian crossings would not be in conflict. As the eastbound approach has a shared left/through/right-turn lane, all movements on this approach would continue to operate together as a standalone phase and pedestrian crossings of De Anza Boulevard would operate concurrently with the southbound left turn as shown in **Figure 3**.

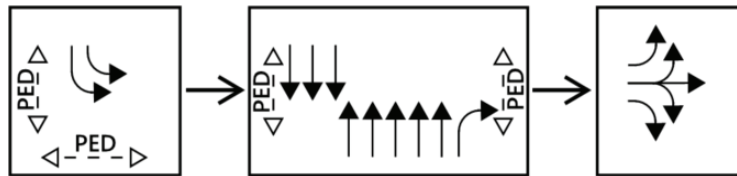


Figure 3: Proposed Alternative 1 Signal Phase Sequence

Alternative 2 – An additional lane would be constructed on the Southbound I-280 Off-ramp, as shown in **Attachment A**, to provide a left-turn lane, shared left-turn/through lane, and two dedicated right-turn lanes. This change would allow separate signal phases for the right-turn movement and the shared left-turn/through movement, making it possible for the crosswalk phase to operate concurrently with the eastbound left-turn/through movement as shown in **Figure 4**. Eastbound right turns and southbound left turns would operate concurrently in this alternative.

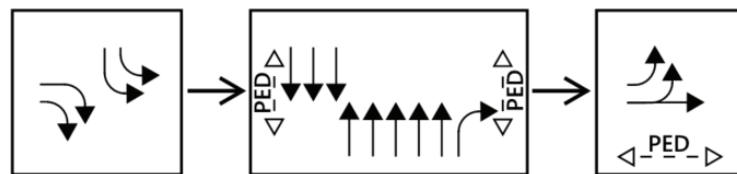


Figure 4: Proposed Alternative 2 Signal Phase Sequence

David Rubin
October 3, 2018
Page 4 of 6



OPERATIONS ANALYSIS

Weekday AM and PM peak hour intersection traffic operations were evaluated for the existing (no-build) conditions and two project alternatives using the HCM 2000 methodology included in Synchro 10 software.

Level of Service

The operations of roadway facilities are described with the term *level of service*. Level of Service (LOS) is a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, the best operating conditions, to LOS F, the worst operating conditions. LOS E represents “at-capacity” operations. When traffic volumes exceed the intersection capacity, stop-and-go conditions result, and operations are designated as LOS F.

The method described in Chapter 16 of the 2000 *Highway Capacity Manual* (HCM) (Special Report 209, Transportation Research Board) was used to prepare the level of service calculations for the subject intersection. This level of service method, which is approved by the City of Cupertino and VTA, analyzes a signalized intersection’s operation based on average control delay per vehicle. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is correlated to a LOS designation as shown in **Table 1**.

David Rubin
 October 3, 2018
 Page 5 of 6



**TABLE 1: SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS
 USING AVERAGE CONTROL VEHICULAR DELAY**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Traffic Level of Service Analysis Guidelines, October 2014; VTA Congestion Management Program, June 2003; Highway Capacity Manual, Transportation Research Board, 2000.

Analysis Results

The Existing operating conditions as well as anticipated operated conditions for Alternatives 1 and 2 are presented in **Table 2**. HCM 2000 capacity analysis outputs can be found in **Attachment B**.

As can be seen, the intersection generally operates acceptably in the Existing condition with LOS D or better during both peak periods. Operations would degrade with the implementation of Alternative 1 due to less efficient signal timing constraining overall intersection capacity.

Overall delay would remain relatively consistent compared to Existing Conditions with the implementation of Alternative 2 as the reduction in efficiency caused by modified traffic signal phasing is largely offset by the increase in physical capacity associated with ramp widening. Additionally, the separation of left-turn/through and right-turn traffic signal phases in Alternative 2 would allow more efficient signal phasing than proposed in Alternative 1.

David Rubin
 October 3, 2018
 Page 6 of 6



TABLE 2: SUMMARY OF INTERSECTION OPERATIONS

Alternative	AM		PM	
	Delay	LOS	Delay	LOS
Existing	38.7	D	34.3	C
Alternative 1	78.5	E	48.9	D
Alternative 2	38.2	D	35.4	D

Source: Fehr & Peers (2018)

FINDINGS

Based on the analysis the following can be concluded:

- This existing intersection configuration at De Anza Boulevard and the Southbound I-280 Ramps, while most efficient for vehicle operations, results in a high potential for conflicts between pedestrians and vehicles since eastbound right turns from two lanes occur during the parallel pedestrian “walk” signal phase.
- Alternative 1 would not include any physical improvements, but signal phasing would be modified such that the eastbound right turn and pedestrian crossings would not be in conflict. It is anticipated this would result in a degradation of traffic operations at the intersection.
- Alternative 2 would include the construction of an additional lane on the Southbound I-280 Off-ramp, resulting in a left-turn lane, shared left-turn/through lane, and two dedicated right-turn lanes. This change would allow separate signal phases for the right-turn movement and the shared left-turn/through movement, making it possible for the crosswalk phase to operate concurrently with the eastbound left-turn/through movement. Overall intersection delay would remain relatively consistent with Existing Conditions in this scenario.
- As a result of the above, Fehr & Peers recommends Alternative 2 should an at-grade crossing be pursued for the Junipero Serra Trail at De Anza Boulevard.

Attachment A – Proposed Alternative 2 Concept

Attachment B – HCM 2000 Capacity Analysis Outputs

David Rubin
October 2, 2018

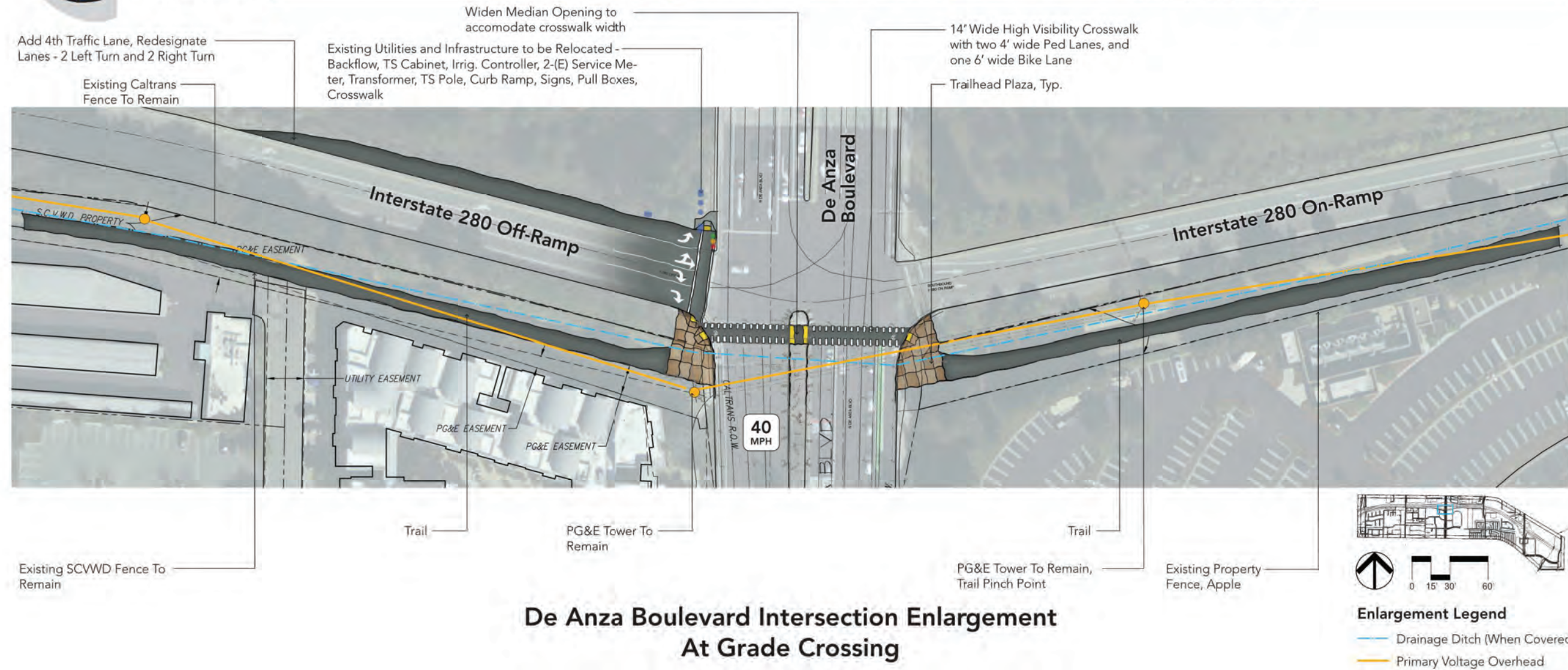


Attachment A

Proposed Alternative 2 Concept



Trail Enlargements



De Anza Boulevard Intersection Enlargement At Grade Crossing



September 26, 2018

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David Rubin
October 2, 2018



Attachment B

HCM 2000 Capacity Analysis Outputs

De Anza Boulevard At-Grade Crossing Traffic Impacts Memo

HCM 2000 Intersection Capacity Analysis De Anza Boulevard & I-280 Southbound Ramps

Existing Conditions
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	2	782	0	0	0	0	1571	407	594	1492	0
Future Volume (vph)	636	2	782	0	0	0	0	1571	407	594	1492	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95					0.81	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	0.98	0.97					1.00	0.92	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	0.90	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1665	1452	1448					7471	1443	3400	5036	
Flt Permitted	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1665	1452	1448					7471	1443	3400	5036	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	662	2	815	0	0	0	0	1636	424	619	1554	0
RTOR Reduction (vph)	0	13	26	0	0	0	0	0	282	0	0	0
Lane Group Flow (vph)	517	477	447	0	0	0	0	1636	142	619	1554	0
Confl. Peds. (#/hr)			18	18					23	23		14
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	48.4	48.4	48.4					43.6	43.6	26.0	73.6	
Effective Green, g (s)	48.4	48.4	48.4					43.6	43.6	26.0	73.6	
Actuated g/C Ratio	0.37	0.37	0.37					0.34	0.34	0.20	0.57	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	619	540	539					2505	483	680	2851	
v/s Ratio Prot	0.31	c0.33						c0.22		c0.18	0.31	
v/s Ratio Perm			0.31						0.10			
v/c Ratio	0.84	0.88	0.83					0.65	0.29	0.91	0.55	
Uniform Delay, d1	37.2	38.2	37.0					36.8	31.9	50.9	17.7	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.5	15.7	10.2					1.3	1.5	18.4	0.8	
Delay (s)	46.7	53.8	47.2					38.1	33.4	69.3	18.4	
Level of Service	D	D	D					D	C	E	B	
Approach Delay (s)		49.2			0.0			37.1			32.9	
Approach LOS		D			A			D			C	
Intersection Summary												
HCM 2000 Control Delay			38.7		HCM 2000 Level of Service						D	
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			130.0		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			76.8%		ICU Level of Service					D		
Analysis Period (min)			15									

c Critical Lane Group

De Anza Boulevard At-Grade Crossing Traffic Impacts Memo

HCM 2000 Intersection Capacity Analysis De Anza Boulevard & I-280 Southbound Ramps

Existing Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	369	26	507	0	0	0	0	1930	519	428	2102	0
Future Volume (vph)	369	26	507	0	0	0	0	1930	519	428	2102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95					0.81	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	0.96	0.94					1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	0.89	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1430	1413					7544	1514	3433	5085	
Flt Permitted	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1430	1413					7544	1514	3433	5085	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	380	27	523	0	0	0	0	1990	535	441	2167	0
RTOR Reduction (vph)	0	6	28	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	323	303	270	0	0	0	0	1990	535	441	2167	0
Confl. Peds. (#/hr)			51	51				12		10	10	12
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	38.0	38.0	38.0					54.0	54.0	36.0	94.0	
Effective Green, g (s)	38.0	38.0	38.0					54.0	54.0	36.0	94.0	
Actuated g/C Ratio	0.27	0.27	0.27					0.39	0.39	0.26	0.67	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	456	388	383					2909	583	882	3414	
v/s Ratio Prot	0.19	c0.21						0.26		0.13	c0.43	
v/s Ratio Perm			0.19						c0.35			
v/c Ratio	0.71	0.78	0.70					0.68	0.92	0.50	0.63	
Uniform Delay, d1	46.0	47.2	45.9					35.9	40.9	44.3	13.2	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.0	9.8	5.8					1.3	21.7	2.0	0.9	
Delay (s)	51.0	57.0	51.7					37.2	62.6	46.4	14.1	
Level of Service	D	E	D					D	E	D	B	
Approach Delay (s)		53.2			0.0			42.6			19.5	
Approach LOS		D			A			D			B	
Intersection Summary												
HCM 2000 Control Delay			34.3									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			140.0							12.0		
Intersection Capacity Utilization			81.6%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

De Anza Boulevard At-Grade Crossing Traffic Impacts Memo

HCM 2000 Intersection Capacity Analysis De Anza Boulevard & I-280 Southbound Ramps

Alternative 1
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	2	782	0	0	0	0	1571	407	594	1492	0
Future Volume (vph)	636	2	782	0	0	0	0	1571	407	594	1492	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95					0.81	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	0.97	0.96					1.00	0.92	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	0.90	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1665	1443	1435					7471	1443	3400	5036	
Flt Permitted	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1665	1443	1435					7471	1443	3400	5036	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	662	2	815	0	0	0	0	1636	424	619	1554	0
RTOR Reduction (vph)	0	64	371	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	517	426	102	0	0	0	0	1636	424	619	1554	0
Confl. Peds. (#/hr)			18	18					23	23		14
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	3	3						6		5 8	2	
Permitted Phases			3						6			
Actuated Green, G (s)	28.0	28.0	28.0					41.7	41.7	48.3	50.7	
Effective Green, g (s)	28.0	28.0	28.0					41.7	41.7	48.3	50.7	
Actuated g/C Ratio	0.22	0.22	0.22					0.32	0.32	0.37	0.39	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0		3.0	
Lane Grp Cap (vph)	358	310	309					2396	462	1263	1964	
v/s Ratio Prot	c0.31	0.29						0.22		c0.18	c0.31	
v/s Ratio Perm			0.07						c0.29			
v/c Ratio	1.44	1.37	0.33					0.68	0.92	0.49	0.79	
Uniform Delay, d1	51.0	51.0	43.1					38.4	42.5	31.4	35.0	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	215.1	187.1	0.6					1.6	25.7	0.3	3.4	
Delay (s)	266.1	238.1	43.7					40.0	68.2	31.7	38.3	
Level of Service	F	F	D					D	E	C	D	
Approach Delay (s)		185.7			0.0			45.8			36.4	
Approach LOS		F			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			78.5		HCM 2000 Level of Service					E		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			130.0		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			76.0%		ICU Level of Service				D			
Analysis Period (min)			15									

c Critical Lane Group

De Anza Boulevard At-Grade Crossing Traffic Impacts Memo

HCM 2000 Intersection Capacity Analysis De Anza Boulevard & I-280 Southbound Ramps

Alternative 1
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	369	26	507	0	0	0	0	1930	519	428	2102	0
Future Volume (vph)	369	26	507	0	0	0	0	1930	519	428	2102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95					0.81	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	0.93	0.90					1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	0.89	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1388	1355					7544	1514	3433	5085	
Flt Permitted	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1388	1355					7544	1514	3433	5085	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	380	27	523	0	0	0	0	1990	535	441	2167	0
RTOR Reduction (vph)	0	69	247	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	323	240	51	0	0	0	0	1990	535	441	2167	0
Confl. Peds. (#/hr)			51	51				12		10	10	12
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	3	3						6		5 8	2	
Permitted Phases			3						6			
Actuated Green, G (s)	24.0	24.0	24.0					57.6	57.6	46.4	66.6	
Effective Green, g (s)	24.0	24.0	24.0					57.6	57.6	46.4	66.6	
Actuated g/C Ratio	0.17	0.17	0.17					0.41	0.41	0.33	0.48	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0		3.0	
Lane Grp Cap (vph)	288	237	232					3103	622	1137	2419	
v/s Ratio Prot	c0.19	0.17						0.26		c0.13	c0.43	
v/s Ratio Perm			0.04						0.35			
v/c Ratio	1.12	1.01	0.22					0.64	0.86	0.39	0.90	
Uniform Delay, d1	58.0	58.0	49.9					32.9	37.5	35.9	33.5	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	89.8	62.0	0.5					1.0	14.5	0.2	5.7	
Delay (s)	147.8	120.0	50.4					34.0	52.0	36.1	39.2	
Level of Service	F	F	D					C	D	D	D	
Approach Delay (s)		107.4			0.0			37.8			38.7	
Approach LOS		F			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			48.9								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			140.0								Sum of lost time (s)	16.0
Intersection Capacity Utilization			72.7%								ICU Level of Service	C
Analysis Period (min)			15									
c Critical Lane Group												

De Anza Boulevard At-Grade Crossing Traffic Impacts Memo

HCM 2000 Intersection Capacity Analysis De Anza Boulevard & I-280 Southbound Ramps

Alternative 2
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	636	2	782	0	0	0	0	1571	407	594	1492	0	
Future Volume (vph)	636	2	782	0	0	0	0	1571	407	594	1492	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.88					0.81	1.00	0.97	0.91		
Frpb, ped/bikes	1.00	1.00	1.00					1.00	0.92	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00		
Fr _t	1.00	1.00	0.85					1.00	0.85	1.00	1.00		
Fl _t Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1665	1669	2760					7471	1443	3400	5036		
Fl _t Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1665	1669	2760					7471	1443	3400	5036		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	662	2	815	0	0	0	0	1636	424	619	1554	0	
RTOR Reduction (vph)	0	0	652	0	0	0	0	0	241	0	0	0	
Lane Group Flow (vph)	331	334	163	0	0	0	0	1636	183	619	1554	0	
Confl. Peds. (#/hr)			18	18					23	23		14	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	
Turn Type	Split	NA	custom					NA	Perm	Prot	NA		
Protected Phases	8	8	1!					6!		5!	2!		
Permitted Phases									6				
Actuated Green, G (s)	36.0	36.0	26.0					56.0	56.0	26.0	56.0		
Effective Green, g (s)	36.0	36.0	26.0					56.0	56.0	26.0	56.0		
Actuated g/C Ratio	0.28	0.28	0.20					0.43	0.43	0.20	0.43		
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	461	462	552					3218	621	680	2169		
v/s Ratio Prot	0.20	c0.20	0.06					0.22		c0.18	c0.31		
v/s Ratio Perm									0.13				
v/c Ratio	0.72	0.72	0.30					0.51	0.29	0.91	0.72		
Uniform Delay, d ₁	42.4	42.5	44.2					27.0	24.1	50.9	30.5		
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00		
Incremental Delay, d ₂	5.3	5.5	1.4					0.6	1.2	18.4	2.1		
Delay (s)	47.7	48.0	45.6					27.5	25.3	69.3	32.5		
Level of Service	D	D	D					C	C	E	C		
Approach Delay (s)		46.6			0.0			27.1			43.0		
Approach LOS		D			A			C			D		
Intersection Summary													
HCM 2000 Control Delay			38.2									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.76										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			71.1%									ICU Level of Service	C
Analysis Period (min)			15										
! Phase conflict between lane groups.													
c Critical Lane Group													

De Anza Boulevard At-Grade Crossing Traffic Impacts Memo

HCM 2000 Intersection Capacity Analysis De Anza Boulevard & I-280 Southbound Ramps

Alternative 2
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations			 					 	 	 	 	 		
Traffic Volume (vph)	369	26	507	0	0	0	0	1930	519	428	2102	0		
Future Volume (vph)	369	26	507	0	0	0	0	1930	519	428	2102	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0			
Lane Util. Factor	0.95	0.95	0.88					0.81	1.00	0.97	0.91			
Frbp, ped/bikes	1.00	1.00	1.00					1.00	0.96	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00			
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00			
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00			
Satd. Flow (prot)	1681	1696	2787					7544	1514	3433	5085			
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00			
Satd. Flow (perm)	1681	1696	2787					7544	1514	3433	5085			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	380	27	523	0	0	0	0	1990	535	441	2167	0		
RTOR Reduction (vph)	0	0	426	0	0	0	0	0	0	0	0	0		
Lane Group Flow (vph)	201	206	97	0	0	0	0	1990	535	441	2167	0		
Confl. Peds. (#/hr)			51	51				12		10	10		12	
Turn Type	Split	NA	custom					NA	Perm	Prot	NA			
Protected Phases	8	8	1!					6!		5!	2!			
Permitted Phases									6					
Actuated Green, G (s)	32.6	32.6	26.0					69.4	69.4	26.0	69.4			
Effective Green, g (s)	32.6	32.6	26.0					69.4	69.4	26.0	69.4			
Actuated g/C Ratio	0.23	0.23	0.19					0.50	0.50	0.19	0.50			
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	391	394	517					3739	750	637	2520			
v/s Ratio Prot	0.12	c0.12	0.03					0.26		c0.13	c0.43			
v/s Ratio Perm									0.35					
v/c Ratio	0.51	0.52	0.19					0.53	0.71	0.69	0.86			
Uniform Delay, d1	46.8	46.9	48.1					24.2	27.5	53.3	31.0			
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.1	1.3	0.8					0.5	5.7	6.1	4.1			
Delay (s)	47.9	48.2	48.9					24.7	33.3	59.4	35.1			
Level of Service	D	D	D					C	C	E	D			
Approach Delay (s)		48.5			0.0			26.5			39.2			
Approach LOS		D			A			C			D			
Intersection Summary														
HCM 2000 Control Delay			35.4										HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.74											
Actuated Cycle Length (s)			140.0								12.0		Sum of lost time (s)	
Intersection Capacity Utilization			79.0%										ICU Level of Service	D
Analysis Period (min)			15											
! Phase conflict between lane groups.														
c Critical Lane Group														

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #1

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
A	Project Start-Up												
1.	Bonding and mobilization	8%	LS	Allow	\$118,452		Allow	\$121,184		Allow	\$76,128		
2.	Construction staking	\$10,000.00	LS	Allow	\$10,000		Allow	\$10,000		Allow	\$10,000		
3.	Temporary construction fencing	\$5.00	LF	200	\$1,000		460	\$2,300		1,440	\$7,200		
4.	Traffic control	\$20,000.00	LS	Allow	\$20,000		Allow	\$20,000		Allow	\$20,000		
5.	Tree protection and pruning	Allow	LS	Allow	\$5,000		Allow	\$5,000		Allow	\$2,500		
						\$154,450		\$158,480			\$115,830		\$428,760
B	Demolition												
1.	Clear and grub	\$0.75	SF	70,000	\$52,500		70,400	\$52,800		68,800	\$51,600		
2.	Chain link fence	\$10.00	LF	35	\$350		1,050	\$10,500		20	\$200		
3.	Wood fence at Mary Ave	\$10.00	LF	490	\$4,900		0	\$0		0	\$0		
4.	Chain link gate	\$500.00	EA	3	\$1,500		4	\$2,000		2	\$1,000		
5.	Tree removal	\$750.00	EA	7	\$5,250		0	\$0		0	\$0		
						\$64,500		\$65,300			\$52,800		\$182,600
C	Grading & Drainage												
1.	Rough grading, 8" depth	\$30.00	CY	1,730	\$51,900		1,750	\$52,500		1,670	\$50,100		
2.	Adjust manholes and vaults to grade	\$25,000.00	LS	Allow	\$25,000		Allow	\$25,000		Allow	\$25,000		
3.	Soil off haul, 8" depth min.	\$50.00	CY	1,730	\$86,500		1,750	\$87,500		1,670	\$83,500		
						\$163,400		\$165,000			\$158,600		\$487,000
D	Erosion Control												
1.	Temporary construction entrance	\$3,000.00	LS	Allow	\$3,000		Allow	\$3,000		Allow	\$3,000		
2.	Fiber rolls	\$4.00	LF	5,100	\$20,400		4,000	\$16,000		3,500	\$14,000		
3.	SWPPP maintenance	Allow	LS	Allow	\$25,000		Allow	\$25,000		Allow	\$25,000		
						\$48,400		\$44,000			\$42,000		\$134,400
E	Trail & Site Furnishings												
1.	Asphalt path including base rock, 10' average width	\$5.00	SF	52,230	\$261,150		52,860	\$264,300		51,600	\$258,000		
2.	Asphalt shoulder, 2' wide both sides	\$5.00	LF	6,200	\$31,000		4,400	\$22,000		7,000	\$35,000		
3.	Striping, on-trail	\$2.00	LF	5,600	\$11,200		4,400	\$8,800		4,300	\$8,600		
4.	Decorative concrete pavement at trailhead	\$30.00	SF	480	\$14,400		2,700	\$81,000		2,300	\$69,000		
5.	Retaining curb	\$50.00	LF	5,100	\$255,000		4,400	\$220,000		4,000	\$200,000		
6.	Retaining wall (height varies, see plan)	\$200.00	LF	375	\$75,000		0	\$0		0	\$0		
7.	Concrete seatwall at trailhead	\$300.00	LF	30	\$9,000		120	\$36,000		70	\$21,000		
8.	Signal timing upgrades at De Anza (base project)	Allow	LS	0	\$0		1	\$30,000		0	\$0		
9.	Flashing beacon and crosswalk at Stelling (base project)	\$50,000.00	EA	1	\$50,000		0	\$0		0	\$0		
10.	Intersection modifications at Vallco Parkway trailhead	Allow	LS	0	\$0		0	\$0		1	\$50,000		
11.	Curb and gutter	\$45.00	LF	0	\$0		400	\$18,000		160	\$7,200		
12.	Curb ramp	\$3,500.00	EA	2	\$7,000		2	\$7,000		1	\$3,500		

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #1

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
13.	Interpretive sign	\$6,000.00	EA	1	\$6,000		1	\$6,000		1	\$6,000		
14.	Dog waste bag dispenser	\$1,200.00	EA	2	\$2,400		2	\$2,400		2	\$2,400		
15.	Trash receptacle	\$1,500.00	EA	3	\$4,500		3	\$4,500		3	\$4,500		
16.	Trail directional signage	\$500.00	EA	2	\$1,000		2	\$1,000		2	\$1,000		
17.	Security and privacy wood fence, 8'	\$100,000.00	LS	Allow	\$100,000		Allow	\$100,000		Allow	\$0		
18.	Barrier railing, 4'	\$60.00	LF	5,600	\$336,000		5,400	\$324,000		0	\$0		
19.	Chainlink fence, 6'	\$60.00	LF	70	\$4,200		0	\$0		0	\$0		
20.	Vehicular crash barrier	\$100.00	LF	0	\$0		75	\$7,500		0	\$0		
21.	Trail map sign	\$2,000.00	EA	2	\$4,000		2	\$4,000		2	\$4,000		
22.	Collapsible bollard	\$1,000.00	EA	3	\$3,000		4	\$4,000		3	\$3,000		
						\$1,174,850			\$1,140,500			\$673,200	\$2,988,550
F	Planting & Irrigation												
1.	Soil preparation, irrigation, planting, maintenance	Allow	LS	Allow	\$25,000		Allow	\$100,000		Allow	\$25,000		
2.	Tree, 24" box	\$500.00	EA	9	\$4,500		0	\$0		0	\$0		
						\$29,500			\$100,000			\$25,000	\$154,500
G	Construction Sub-Total, Base Project					\$1,635,100			\$1,673,280			\$1,067,430	\$4,375,810
H	Design Contingency	15%	LS	Allow	\$245,265		Allow	\$250,992		Allow	\$160,115		
						\$245,270			\$250,990			\$160,110	\$656,370
I	ANTICIPATED LOW BID, Base Project					\$1,880,370			\$1,924,270			\$1,227,540	\$5,032,180
J	Construction Contingency	10%	LS	Allow	\$188,037		Allow	\$192,427		Allow	\$122,754		
						\$188,040			\$192,430			\$122,750	\$503,220
K	Escalation (3% per yr for 3 years)	9%	LS	Allow	\$169,233		Allow	\$173,184		Allow	\$110,479		
						\$169,230			\$173,180			\$110,480	\$452,890
L	TOTAL CONSTRUCTION COSTS, BASE PROJECT					\$2,237,640			\$2,289,880			\$1,460,770	\$5,988,290
M	Professional Services, Base Project												
1.	Topographic survey	Allow	LS	Allow	\$15,000		Allow	\$15,000		Allow	\$15,000		
2.	Geotechnical services	Allow	LS	Allow	\$20,000		Allow	\$20,000		Allow	\$20,000		
3.	Design development	3%	LS	Allow	\$67,129		Allow	\$68,696		Allow	\$43,823		

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Estimate of Probable Construction Costs
Junipero Serra Trail
 Alternative #1

prepared for the
City of Cupertino

prepared on: 5/17/18
 prepared by: LC
 checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
4.	Construction documents and permitting	8%	LS	Allow	\$179,011		Allow	\$183,190		Allow	\$116,862		
5.	Bidding and construction administration	3%	LS	Allow	\$67,129		Allow	\$68,696		Allow	\$43,823		
6.	Testing and special inspection	1%	LS	Allow	\$22,376		Allow	\$22,899		Allow	\$14,608		
7.	Environmental documentation (MND), assumes no NEPA	Allow	LS	Allow	\$35,000		Allow	\$35,000		Allow	\$35,000		
						\$405,650			\$413,480			\$289,120	\$1,108,250
N	TOTAL BASE PROJECT COSTS					\$2,643,290			\$2,703,360			\$1,749,890	\$7,096,540
O	Stelling Undercrossing Option												
1.	Clear and grub	\$0.75	SF	13,380	\$10,035		0	\$0		0	\$0		
2.	Chain link fence removal	\$50.00	LF	30	\$1,500		0	\$0		0	\$0		
3.	Tree removal	\$750.00	EA	10	\$7,500		0	\$0		0	\$0		
4.	Rough grading, 8" depth	\$50.00	CY	250	\$12,500		0	\$0		0	\$0		
5.	Soil off-haul, 8" depth	\$100.00	CY	250	\$25,000		0	\$0		0	\$0		
6.	Barrier fence	\$100.00	LF	460	\$46,000		0	\$0		0	\$0		
7.	Concrete pavement	\$25.00	SF	4,600	\$115,000		0	\$0		0	\$0		
8.	Retaining wall	\$400.00	LF	840	\$336,000		0	\$0		0	\$0		
9.	Striping, on-trail	\$5.00	LF	840	\$4,200		0	\$0		0	\$0		
10.	Security lighting	\$40,000.00	LS	Allow	\$40,000		0	\$0		0	\$0		
11.	Design contingency	15%	LS	Allow	\$89,660		Allow	\$0		Allow	\$0		
12.	Construction contingency	10%	LS	Allow	\$59,774		Allow	\$0		Allow	\$0		
13.	Inflation	9%	LS	Allow	\$53,796		Allow	\$0		Allow	\$0		
14.	Professional Services	15%	LS	Allow	\$89,660		Allow	\$0		Allow	\$0		
						\$890,630			\$0			\$0	\$890,630
P	De Anza Pedestrian Bridge Crossing Option												
1.	Clear and grub	\$0.75	SF	0	\$0		19,700	\$14,775		0	\$0		
2.	Tree removal	\$750.00	EA	0	\$0		12	\$9,000		0	\$0		
3.	Steel utility pole relocation (PG&E)	\$1,000,000.00	EA	0	\$0		1	\$1,000,000		0	\$0		
4.	Pedestrian bridge, approaches, stairs, support columns and railing	\$8,000,000.00	LS	Allow	\$0		Allow	\$8,000,000		0	\$0		
5.	Box culvert, 5'x8'	\$1,250.00	LF	0	\$0		730	\$912,500		0	\$0		

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City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #1

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
6.	Asphalt path spur trail including base rock, 10' wide	\$5.25	SF	0	\$0		7,300	\$38,325		0	\$0		
7.	Security lighting	\$60,000.00	LS	Allow	\$0		0	\$60,000		0	\$0		
8.	Design contingency	15%	LS	Allow	\$0		Allow	\$1,505,190		Allow	\$0		
9.	Construction contingency	10%	LS	Allow	\$0		Allow	\$1,003,460		Allow	\$0		
10.	Inflation	9%	LS	Allow	\$0		Allow	\$903,114		Allow	\$0		
11.	Professional Services	15%	LS	Allow	\$0		Allow	\$1,505,190		Allow	\$0		
						\$0			\$14,951,550			\$0	\$14,951,550
Q	DeAnza Tunnel Crossing Option												
1.	Clear and grub	\$0.75	SF	0	\$0		16,900	\$12,675		0	\$0		
2.	Chain link fence removal	\$10.00	LF	0	\$0		170	\$1,700		0	\$0		
3.	Underground utility relocation	\$500,000.00	LS	Allow	\$0		Allow	\$500,000		0	\$0		
4.	Tunnel drainage	\$150,000.00	LS	Allow	\$0		Allow	\$150,000		Allow	\$0		
5.	Tree removal	\$750.00	EA	0	\$0		2	\$1,500		0	\$0		
6.	Steel utility pole relocation (PG&E)	\$1,000,000.00	EA	0	\$0		1	\$1,000,000		0	\$0		
7.	Tunnel, stairs, approaches, railings	\$12,000,000.00	LS	Allow	\$0		Allow	\$12,000,000		0	\$0		
8.	Box culvert, 5'x8'	\$1,250.00	LF	0	\$0		450	\$562,500		0	\$0		
9.	Asphalt path spur trail including base rock, 10' wide	\$5.25	SF	0	\$0		4,500	\$23,625		0	\$0		
10.	Skylight	\$10,000.00	EA	0	\$0		1	\$10,000		0	\$0		
11.	Chain link fence	\$60.00	LF	0	\$0		200	\$12,000		0	\$0		
12.	Property acquisition costs	\$8,000,000.00	Acre	0	\$0		0.05	\$400,000		0	\$0		
13.	Security lighting	\$200,000.00	LS	Allow	\$0		0	\$200,000		0	\$0		
14.	Design contingency	15%	LS	Allow	\$0		Allow	\$2,231,100		Allow	\$0		
15.	Construction contingency	10%	LS	Allow	\$0		Allow	\$1,487,400		Allow	\$0		
16.	Inflation	9%	LS	Allow	\$0		Allow	\$1,338,660		Allow	\$0		
17.	Professional Services	15%	LS	Allow	\$0		Allow	\$2,231,100		Allow	\$0		
						\$0			\$22,162,260			\$0	\$22,162,260
R	DeAnza At-grade Crossing Option												
1.	Clear and grub	\$0.75	SF	0	\$0		6,550	\$4,913		0	\$0		
2.	Curb removal	\$15.00	LF	0	\$0		220	\$3,300		0	\$0		
3.	Concrete removal	\$3.00	SF	0	\$0		1,500	\$4,500		0	\$0		
4.	Asphalt removal	\$3.00	SF	0	\$0		480	\$1,440		0	\$0		
5.	Sawcut	\$5.00	LF	0	\$0		280	\$1,400		0	\$0		

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #1

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
6.	Tree removal	\$750.00	EA	0	\$0		2	\$1,500		0	\$0		
7.	Traffic signal modification	\$500,000.00	LS	Allow	\$0		Allow	\$500,000		0	\$0		
8.	Traffic sign relocation	\$7,500.00	LS	Allow	\$0		Allow	\$7,500		0	\$0		
9.	Asphalt pavement	\$5.00	SF	0	\$0		5,200	\$26,000		0	\$0		
10.	Concrete pavement	\$25.00	SF	0	\$0		3,400	\$85,000		0	\$0		
11.	Concrete ramp	\$2,500.00	EA	0	\$0		4	\$10,000		0	\$0		
12.	Concrete curb and gutter	\$70.00	LF	0	\$0		200	\$14,000		0	\$0		
13.	Retaining wall, max. 4'	\$500.00	LF	0	\$0		360	\$180,000		0	\$0		
14.	Traffic striping	\$5,000.00	LS	Allow	\$0		Allow	\$5,000		0	\$0		
15.	Relocate irrigation	\$25,000.00	LS	Allow	\$0		Allow	\$25,000		0	\$0		
16.	Design contingency	15%	LS	Allow	\$0		Allow	\$130,433		Allow	\$0		
17.	Construction contingency	10%	LS	Allow	\$0		Allow	\$86,955		Allow	\$0		
18.	Inflation	9%	LS	Allow	\$0		Allow	\$78,260		Allow	\$0		
19.	Professional Services	15%	LS	Allow	\$0		Allow	\$130,433		Allow	\$0		
						\$0			\$1,295,630		\$0		\$1,295,630
Based on drawings entitled "Alternative Alignment Plan", dated "2/20/2018"													
The above items, amounts, quantities, and related information are based on Callander Associates' judgment at this level of document preparation and is offered only as reference data. Callander Associates has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable construction costs and actual construction prices.													

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #2

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallico (west extent) Trail Segment #2			Vallico (west extent) to Vallico Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
A	Project Start-Up												
1.	Bonding and mobilization	8%	LS	Allow	\$471,460		Allow	\$817,824		Allow	\$77,536		
2.	Construction staking	\$10,000.00	LS	Allow	\$10,000		Allow	\$10,000		Allow	\$10,000		
3.	Temporary construction fencing	\$5.00	LF	200	\$1,000		460	\$2,300		1,440	\$7,200		
4.	Traffic control	\$20,000.00	LS	Allow	\$20,000		Allow	\$20,000		Allow	\$20,000		
5.	Tree protection and pruning	Allow	LS	Allow	\$5,000		Allow	\$5,000		Allow	\$2,500		
						\$507,460		\$855,120			\$117,240		\$1,479,820
B	Demolition												
1.	Clear and grub	\$0.75	SF	67,800	\$50,850		70,400	\$52,800		68,800	\$51,600		
2.	Concrete lined ditch	\$30.00	LF	5,260	\$157,800		5,030	\$150,900		0	\$0		
3.	Chain link fence	\$10.00	LF	35	\$350		1,050	\$10,500		20	\$200		
4.	Wood fence at Mary Ave	\$10.00	LF	490	\$4,900		0	\$0		0	\$0		
5.	Chain link gate	\$500.00	EA	3	\$1,500		4	\$2,000		2	\$1,000		
6.	Tree removal	\$750.00	EA	7	\$5,250		0	\$0		0	\$0		
						\$220,650		\$216,200			\$52,800		\$489,650
C	Grading & Drainage												
1.	Rough grading, 8" depth	\$30.00	CY	1,680	\$50,400		1,750	\$52,500		1,670	\$50,100		
2.	Adjust manholes and vaults to grade	\$25,000.00	LS	Allow	\$25,000		Allow	\$25,000		Allow	\$25,000		
3.	Earthwork at box culvert	Allow	LS	Allow	\$50,000		Allow	\$50,000		Allow	\$0		
4.	Drainage re-connections to box culvert	Allow	LS	Allow	\$50,000		Allow	\$50,000		Allow	\$0		
5.	Soil off haul, 8" depth min.	\$50.00	CY	1,680	\$84,000		1,750	\$87,500		1,670	\$83,500		
						\$259,400		\$265,000			\$158,600		\$683,000
D	Erosion Control												
1.	Temporary construction entrance	\$3,000.00	LS	Allow	\$3,000		Allow	\$3,000		Allow	\$3,000		
2.	Fiber rolls	\$4.00	LF	5,100	\$20,400		4,000	\$16,000		3,500	\$14,000		
3.	SWPPP maintenance	Allow	LS	Allow	\$25,000		Allow	\$25,000		Allow	\$25,000		
						\$48,400		\$44,000			\$42,000		\$134,400
E	Trail & Site Furnishings												
1.	Asphalt lift over box culvert, 4" deep	\$2.50	SF	62,940	\$157,350		52,800	\$132,000		8,400	\$21,000		
2.	Asphalt pavement over agg base	\$5.00	SF	4,230	\$21,150		8,800	\$44,000		43,800	\$219,000		
3.	DG shoulder, 2' wide both sides	\$4.00	LF	22,400	\$89,600		17,600	\$70,400		17,200	\$68,800		
4.	4'x4' box culvert	\$500.00	LF	2,710	\$1,355,000		0	\$0		0	\$0		
5.	5'x8' box culvert	\$1,250.00	LF	2,550	\$3,187,500		0	\$0		0	\$0		
6.	6'x10' box culvert	\$1,750.00	LF	0	\$0		5,030	\$8,802,500		0	\$0		
7.	Striping, on-trail	\$2.00	LF	5,600	\$11,200		4,400	\$8,800		4,300	\$8,600		
8.	Decorative concrete pavement at trailhead	\$30.00	SF	480	\$14,400		2,700	\$81,000		2,300	\$69,000		
9.	Retaining curb	\$50.00	LF	5,100	\$255,000		4,400	\$220,000		4,000	\$200,000		
10.	Retaining wall (height varies)	\$200.00	LF	220	\$44,000		0	\$0		0	\$0		
11.	Concrete seatwall at trailhead	\$300.00	LF	30	\$9,000		120	\$36,000		70	\$21,000		
12.	Signal timing upgrades at De Anza (base project)	Allow	LS	0	\$0		1	\$30,000		0	\$0		

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #2

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
13.	Flashing beacon and crosswalk at Stelling (base project)	\$50,000.00	EA	1	\$50,000		0	\$0		0	\$0		
14.	Intersection modifications at Vallco Parkway trailhead	Allow	LS	0	\$0		0	\$0		1	\$50,000		
15.	Curb and gutter	\$45.00	LF	0	\$0		400	\$18,000		0	\$0		
16.	Curb ramp	\$3,500.00	EA	2	\$7,000		2	\$7,000		1	\$3,500		
17.	Interpretive sign	\$6,000.00	EA	1	\$6,000		1	\$6,000		1	\$6,000		
18.	Dog waste bag dispenser	\$1,200.00	EA	2	\$2,400		2	\$2,400		2	\$2,400		
19.	Trash receptacle	\$1,500.00	EA	3	\$4,500		3	\$4,500		3	\$4,500		
20.	Trail directional signage	\$3,500.00	EA	2	\$7,000		2	\$7,000		2	\$7,000		
21.	Security and privacy wood fence, 8' tall	\$100,000.00	LS	Allow	\$100,000		Allow	\$100,000		Allow	\$0		
22.	Chainlink fence, 6'	\$60.00	LF	70	\$4,200		0	\$0		0	\$0		
23.	Vehicular crash barrier	\$200.00	LF	0	\$0		75	\$15,000		0	\$0		
24.	Trail map sign	\$3,500.00	EA	2	\$7,000		2	\$7,000		2	\$7,000		
25.	Collapsible bollard	\$1,000.00	EA	3	\$3,000		6	\$6,000		3	\$3,000		
						\$5,335,300			\$9,597,600			\$690,800	\$15,623,700
F	Planting & Irrigation												
1.	Soil preparation, irrigation, planting, maintenance	Allow	LS	25,000	\$25,000		Allow	\$100,000		Allow	\$25,000		
2.	Tree, 24" box	\$500.00	EA	9	\$4,500		0	\$0		0	\$0		
						\$29,500			\$100,000			\$25,000	\$154,500
G	Construction Sub-Total, Base Project					\$6,400,710			\$11,077,920			\$1,086,440	\$18,565,070
H	Design Contingency	15%	LS	Allow	\$960,107		Allow	\$1,661,688		Allow	\$162,966		
						\$960,110			\$1,661,690			\$162,970	\$2,784,770
I	ANTICIPATED LOW BID, Base Project					\$7,360,820			\$12,739,610			\$1,249,410	\$21,349,840
J	Construction Contingency	10%	LS	Allow	\$736,082		Allow	\$1,273,961		Allow	\$124,941		
						\$736,080			\$1,273,960			\$124,940	\$2,134,980
K	Escalation (3% per yr for 3 years)	9%	LS	Allow	\$662,474		Allow	\$1,146,565		Allow	\$112,447		
						\$662,470			\$1,146,560			\$112,450	\$1,921,480
L	TOTAL CONSTRUCTION COSTS, BASE PROJECT					\$8,759,370			\$15,160,130			\$1,486,800	\$25,406,300
M	Professional Services, Base Project												

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #2

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
1.	Topographic survey	Allow	LS	Allow	\$15,000		Allow	\$15,000		Allow	\$15,000		
2.	Geotechnical services	Allow	LS	Allow	\$20,000		Allow	\$20,000		Allow	\$20,000		
3.	Design development	3%	LS	Allow	\$262,781		Allow	\$454,804		Allow	\$44,604		
4.	Construction documents and permitting	8%	LS	Allow	\$700,750		Allow	\$1,212,810		Allow	\$118,944		
5.	Bidding and construction administration	3%	LS	Allow	\$262,781		Allow	\$454,804		Allow	\$44,604		
6.	Testing and special inspection	1%	LS	Allow	\$87,594		Allow	\$151,601		Allow	\$14,868		
7.	Environmental documentation (MND), assumes no NEPA	Allow	LS	Allow	\$35,000		Allow	\$35,000		Allow	\$35,000		
						\$1,383,910			\$2,344,020			\$293,020	\$4,020,950
N	TOTAL BASE PROJECT COSTS					\$10,143,280			\$17,504,150			\$1,779,820	\$29,427,250
O	Stelling Undercrossing Option												
1.	Clear and grub	\$0.75	SF	13,380	\$10,035		0	\$0		0	\$0		
2.	Chain link fence removal	\$50.00	LF	30	\$1,500		0	\$0		0	\$0		
3.	Tree removal	\$750.00	EA	10	\$7,500		0	\$0		0	\$0		
4.	Rough grading, 8" depth	\$50.00	CY	250	\$12,500		0	\$0		0	\$0		
5.	Soil off-haul, 8" depth	\$100.00	CY	250	\$25,000		0	\$0		0	\$0		
6.	Barrier fence	\$100.00	LF	460	\$46,000		0	\$0		0	\$0		
7.	Concrete pavement	\$25.00	SF	4,600	\$115,000		0	\$0		0	\$0		
8.	Retaining wall	\$400.00	LF	840	\$336,000		0	\$0		0	\$0		
9.	Striping, on-trail	\$5.00	LF	840	\$4,200		0	\$0		0	\$0		
10.	Security lighting	\$40,000.00	LS	Allow	\$40,000		0	\$0		0	\$0		
11.	Design contingency	15%	LS	Allow	\$89,660		Allow	\$0		Allow	\$0		
12.	Construction contingency	10%	LS	Allow	\$59,774		Allow	\$0		Allow	\$0		
13.	Inflation	9%	LS	Allow	\$53,796		Allow	\$0		Allow	\$0		
14.	Professional Services	15%	LS	Allow	\$89,660		Allow	\$0		Allow	\$0		
						\$890,630			\$0			\$0	\$890,630
P	De Anza Pedestrian Bridge Crossing Option												
1.	Clear and grub	\$0.75	SF	0	\$0		19,700	\$14,775		0	\$0		
2.	Tree removal	\$750.00	EA	0	\$0		12	\$9,000		0	\$0		
3.	Steel utility pole relocation (PG&E)	\$1,000,000.00	EA	0	\$0		1	\$1,000,000		0	\$0		
4.	Pedestrian bridge, approaches, stairs, support columns and railing	\$8,000,000.00	LS	Allow	\$0		Allow	\$8,000,000		0	\$0		

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #2

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
5.	Box culvert, 5'x8'	\$1,250.00	LF	0	\$0		730	\$912,500		0	\$0		
6.	Asphalt path spur trail including base rock, 10' wide	\$5.25	SF	0	\$0		7,300	\$38,325		0	\$0		
7.	Security lighting	\$60,000.00	LS	Allow	\$0		0	\$60,000		0	\$0		
8.	Design contingency	15%	LS	Allow	\$0		Allow	\$1,505,190		Allow	\$0		
9.	Construction contingency	10%	LS	Allow	\$0		Allow	\$1,003,460		Allow	\$0		
10.	Inflation	9%	LS	Allow	\$0		Allow	\$903,114		Allow	\$0		
11.	Professional Services	15%	LS	Allow	\$0		Allow	\$1,505,190		Allow	\$0		
						\$0			\$14,951,550			\$0	\$14,951,550
Q	DeAnza Tunnel Crossing Option												
1.	Clear and grub	\$0.75	SF	0	\$0		16,900	\$12,675		0	\$0		
2.	Chain link fence removal	\$10.00	LF	0	\$0		170	\$1,700		0	\$0		
3.	Underground utility relocation	\$500,000.00	LS	Allow	\$0		Allow	\$500,000		0	\$0		
4.	Tunnel drainage	\$150,000.00	LS	Allow	\$0		Allow	\$150,000		Allow	\$0		
5.	Tree removal	\$750.00	EA	0	\$0		2	\$1,500		0	\$0		
6.	Steel utility pole relocation (PG&E)	\$1,000,000.00	EA	0	\$0		1	\$1,000,000		0	\$0		
7.	Tunnel, stairs, approaches, railings	\$12,000,000.00	LS	Allow	\$0		Allow	\$12,000,000		0	\$0		
8.	Box culvert, 5'x8'	\$1,250.00	LF	0	\$0		450	\$562,500		0	\$0		
9.	Asphalt path spur trail including base rock, 10' wide	\$5.25	SF	0	\$0		4,500	\$23,625		0	\$0		
10.	Skylight	\$10,000.00	EA	0	\$0		1	\$10,000		0	\$0		
11.	Chain link fence	\$60.00	LF	0	\$0		200	\$12,000		0	\$0		
12.	Property acquisition costs	\$8,000,000.00	Acre	0	\$0		0.05	\$400,000		0	\$0		
12.	Security lighting	\$200,000.00	LS	Allow	\$0		0	\$200,000		0	\$0		
13.	Design contingency	15%	LS	Allow	\$0		Allow	\$2,231,100		Allow	\$0		
14.	Construction contingency	10%	LS	Allow	\$0		Allow	\$1,487,400		Allow	\$0		
15.	Inflation	9%	LS	Allow	\$0		Allow	\$1,338,660		Allow	\$0		
16.	Professional Services	15%	LS	Allow	\$0		Allow	\$2,231,100		Allow	\$0		
						\$0			\$22,162,260			\$0	\$22,162,260
R	DeAnza At-grade Crossing Option												
1.	Clear and grub	\$0.75	SF	0	\$0		6,550	\$4,913		0	\$0		
2.	Curb removal	\$15.00	LF	0	\$0		220	\$3,300		0	\$0		
3.	Concrete removal	\$3.00	SF	0	\$0		1,500	\$4,500		0	\$0		

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prepared for the
City of Cupertino

Estimate of Probable Construction Costs
Junipero Serra Trail
Alternative #2

prepared on: 5/17/18
prepared by: LC
checked by: DR

Item #	Description	Cost	Unit	Mary Ave to De Anza Blvd Trail Segment #1			De Anza Blvd to Vallco (west extent) Trail Segment #2			Vallco (west extent) to Vallco Pkwy Trail Segment #3			Segments Subtotal
				Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	Qty	Item Total	Subtotal	
4.	Asphalt removal	\$3.00	SF	0	\$0		480	\$1,440		0	\$0		
5.	Sawcut	\$5.00	LF	0	\$0		280	\$1,400		0	\$0		
6.	Tree removal	\$750.00	EA	0	\$0		2	\$1,500		0	\$0		
7.	Traffic signal modification	\$500,000.00	LS	Allow	\$0		Allow	\$500,000		0	\$0		
8.	Traffic sign relocation	\$7,500.00	LS	Allow	\$0		Allow	\$7,500		0	\$0		
9.	Asphalt pavement	\$5.00	SF	0	\$0		5,200	\$26,000		0	\$0		
10.	Concrete pavement	\$25.00	SF	0	\$0		3,400	\$85,000		0	\$0		
11.	Concrete ramp	\$2,500.00	EA	0	\$0		4	\$10,000		0	\$0		
12.	Concrete curb and gutter	\$70.00	LF	0	\$0		200	\$14,000		0	\$0		
13.	Retaining wall, max. 4'	\$500.00	LF	0	\$0		360	\$180,000		0	\$0		
14.	Traffic striping	\$5,000.00	LS	Allow	\$0		Allow	\$5,000		0	\$0		
15.	Relocate irrigation	\$25,000.00	LS	Allow	\$0		Allow	\$25,000		0	\$0		
16.	Design contingency	15%	LS	Allow	\$0		Allow	\$130,433		Allow	\$0		
17.	Construction contingency	10%	LS	Allow	\$0		Allow	\$86,955		Allow	\$0		
18.	Inflation	9%	LS	Allow	\$0		Allow	\$78,260		Allow	\$0		
19.	Professional Services	15%	LS	Allow	\$0		Allow	\$130,433		Allow	\$0		
						\$0			\$1,295,630		\$0		\$1,295,630
Based on drawings entitled "Alternative Alignment Plan", dated "2/20/2018"													
The above items, amounts, quantities, and related information are based on Callander Associates' judgment at this level of document preparation and is offered only as reference data. Callander Associates													
has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable construction costs and													
actual construction prices.													

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Engineering Opinion of Probable Construction Costs for Box Culvert for Alternative #2

Date: 24-Apr-18

Project #: 617052
 Project: I-280 Channel trail
 Prepared By: DPH



Engineering Opinion of Probable Construction Costs

EARTHWORK

Item	Description	Unit	Quantity	Unit Price	Bid Amount
1	Earthwork (subgrade prep)	SF	53240	\$0.50	\$26,620
TOTAL					\$26,620

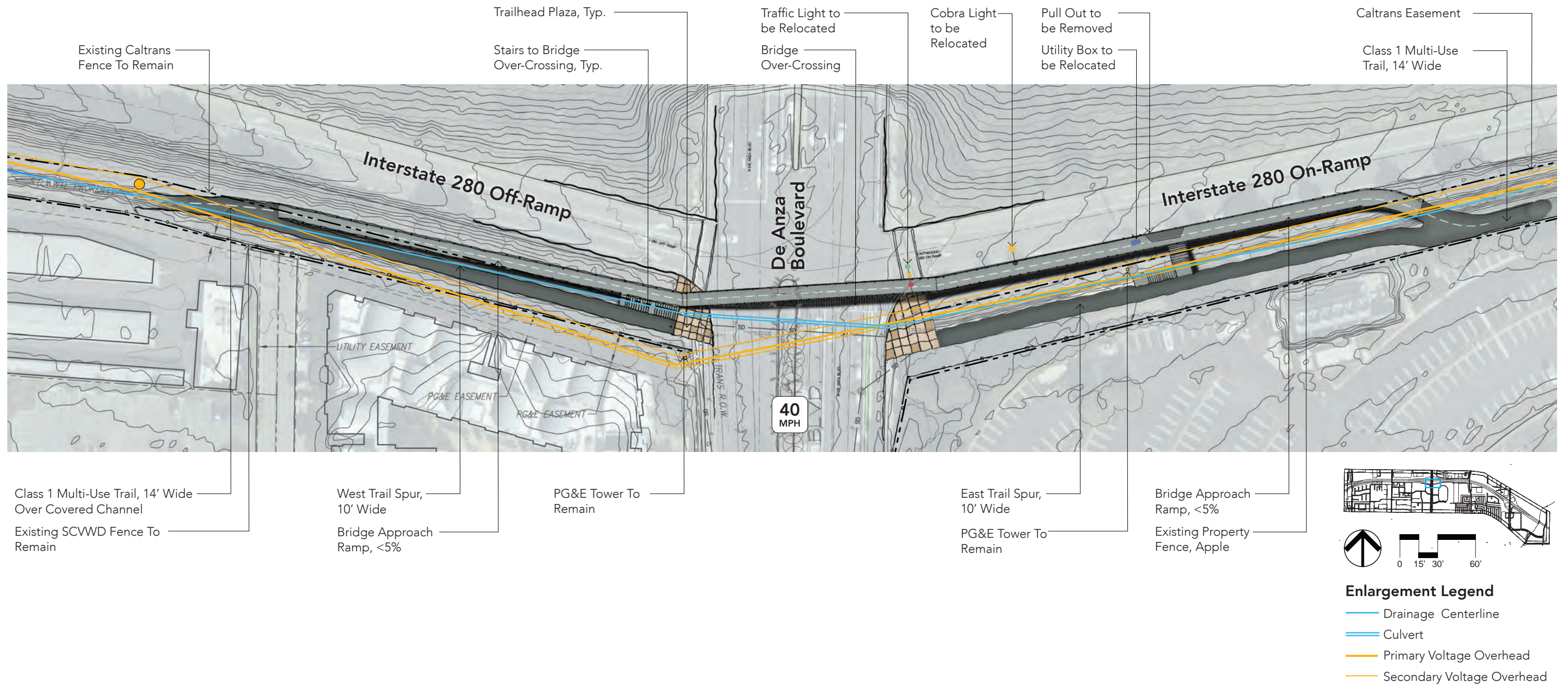
STORM DRAINAGE

Item	Description	Unit	Quantity	Unit Price	Bid Amount
2	4'x4' Box Culvert	LF	2686	\$500.00	\$1,343,000
3	8'x5' Box Culvert	LF	2532	\$1,250.00	\$3,165,000
4	10'x6' Box Culvert	LF	2224	\$1,750.00	\$3,892,000
TOTAL					\$8,400,000

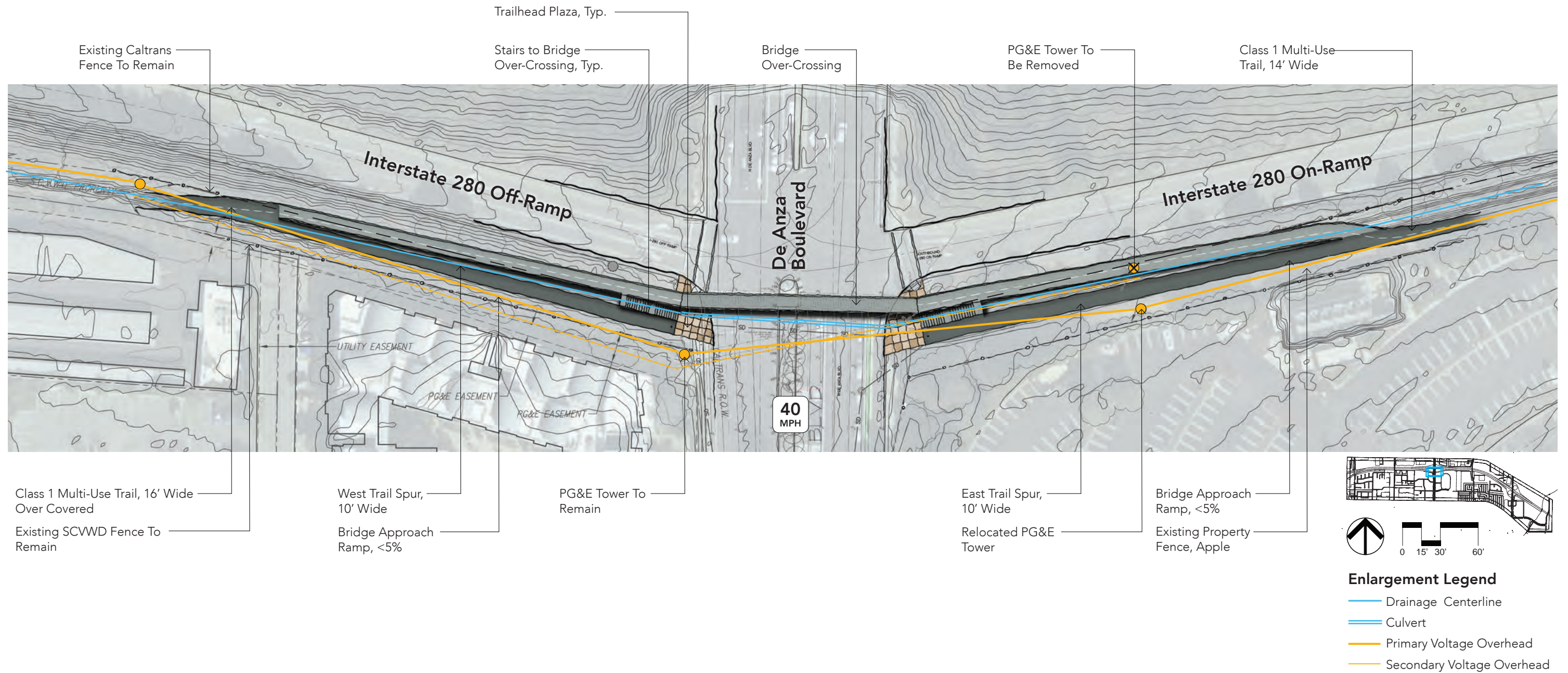
Notes:

1. This Preliminary opinion of probable construction costs should be used only as a guide. There is no responsibility assumed for fluctuations in cost or quantity of material, labor or components.

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November 12, 2018

Jennifer Chu, Associate Civil Engineer
City of Cupertino
Public Works
10300 Torre Avenue
Cupertino, CA 95014

Re: Comments for the Draft Junipero Serra Trail Feasibility Study

Dear Jennifer:

Thank you for allowing the City of Sunnyvale to review and provide comments for the Draft Junipero Serra Trail Feasibility Study in the City of Cupertino. Comments concerning the draft feasibility study are as follows:

1. On pages 15 and 17, the City Limits symbol shown on the legend do not match the City Limits show on the figures.

We truly appreciate your consideration of our comments in this matter. Please keep us up-to-date on any trail development. You can reach me by email at lbsang@sunnyvale.ca.gov or by phone at 408-730-7556.

Sincerely,

Lillian Tsang, P.E.
Principal Transportation Engineer
Division of Transportation and Traffic
Department of Public Work

Cc: Shahid Abbas, Transportation and Traffic Manager



Melinda Wang <m.wang@callanderassociates.com>

Fwd: FW: Junipero Serra Trail, Cupertino - Admin Draft Feasibility Study Available

David Rubin <drubin@callanderassociates.com>

Wed, Nov 14, 2018 at 9:04 AM

To: Melinda Wang <m.wang@callanderassociates.com>, Kelly Kong <kkong@callanderassociates.com>

FYI...

This is really more for F&P, but I still want to save a record of these comments on the server. Melinda, can you please do that? Thanks,

Dave

----- Forwarded message -----

From: **Jennifer Chu** <JenniferC@cupertino.org>

Date: Wed, Nov 14, 2018 at 7:41 AM

Subject: FW: Junipero Serra Trail, Cupertino - Admin Draft Feasibility Study Available

To: Dave Rubin (drubin@callanderassociates.com) <drubin@callanderassociates.com>

FYI – comments from Caltrans, mainly related to the analysis performed by Fehr & Peers on the improvements to the existing traffic operations.



Jennifer Chu

Associate Civil Engineer

Public Works

JenniferC@cupertino.org

(408) 777-3237



 Cupertino LinkedIn

From: Ruiz, Sergio@DOT [mailto:sergio.ruiz@dot.ca.gov]

Sent: Tuesday, November 13, 2018 5:46 PM

To: Jennifer Chu <JenniferC@cupertino.org>

Subject: RE: Junipero Serra Trail, Cupertino - Admin Draft Feasibility Study Available

Hi Jennifer,

Sorry this is a day late. Yesterday was a State holiday.

I received comments from our Traffic Operations staff:

What signal timing and phasing was set up in the model? Were demand volumes inputted into the traffic operations analysis model or are intersection output counts being used only? Traffic models require demand volumes as input. This area looks pretty congested so intersection output counts may not give you the true demand that is trying to use this intersection and the delay and LOS could be worse than what is being stated here. In addition, include the 95th percentile queuing results for existing and with project conditions in the report. If adjacent intersection operations or ramp meters are affecting the traffic flow at this intersection, then this would also need to be captured as a system analysis using the simtraffic software model in order to reflex the true operations of this intersection.

Our Traffic Operations staff also asked us to circulate to our Signal Operations Branch. I'll let you know if I receive any additional comments from them.

Sergio Ruiz

Pedestrian & Bicycle Coordinator / Branch Chief

Caltrans District 4

Tel: 510.622.5773

From: Jennifer Chu <JenniferC@cupertino.org>

Sent: Thursday, November 1, 2018 9:28 AM

To: Albert Le (AHLA@pge.com) <AHLA@pge.com>; Ben Porter (bporter@markthomas.com) <bporter@markthomas.com>; Chris Wilson (cwilson@calwater.com) <cwilson@calwater.com>; Yee, Dianne@DOT <Dianne.Yee@dot.ca.gov>; Jessie Borges (JY16@pge.com) <JY16@pge.com>; Lauren Ledbetter (Lauren.Ledbetter@vta.org) <Lauren.Ledbetter@vta.org>; Lillian Tsang (ltsang@sunnyvale.ca.gov) <ltsang@sunnyvale.ca.gov>; Ramiro Coronel (RSC7@pge.com) <RSC7@pge.com>; Richard Tanaka <rtanaka@markthomas.com>; Ruiz, Sergio@DOT <sergio.ruiz@dot.ca.gov>; Chatradhi, Shanthi <Shanthi.Chatradhi@vta.org>; Ted Quach (TPQ1@pge.com) <TPQ1@pge.com>; Usha Chatwani (uchatwani@valleywater.org) <uchatwani@valleywater.org>; tsaadati@sbcglobal.net

Cc: Timm Borden <Timmb@cupertino.org>; David Stillman <DavidS@cupertino.org>; Aarti Shrivastava <AartiS@cupertino.org>; Benjamin Fu <BenjaminF@cupertino.org>; Erick Serrano <ErickS@cupertino.org>; Brian Fletcher (bletcher@callanderassociates.com) <bletcher@callanderassociates.com>; Dave Rubin (drubin@callanderassociates.com) <drubin@callanderassociates.com>; Kelly Kong (kkong@callanderassociates.com) <kkong@callanderassociates.com>

Subject: RE: Junipero Serra Trail, Cupertino - Admin Draft Feasibility Study Available

Importance: High

Good morning All,

Just a friendly reminder that any comments on the Draft Junipero Serra Trail Feasibility Study can be emailed to me by Monday, November 12, 2018. Please feel free to contact me directly with any questions.



Jennifer Chu

Associate Civil Engineer

Public Works

JenniferC@cupertino.org

(408) 777-3237



From: Jennifer Chu
Sent: Monday, October 15, 2018 11:33 AM
To: Albert Le (AHLA@pge.com) <AHLA@pge.com>; Ben Porter (bporter@markthomas.com) <bporter@markthomas.com>; Chris Wilson (cwilson@calwater.com) <cwilson@calwater.com>; Yee, Dianne@DOT <Dianne.Yee@dot.ca.gov>; Jessy Borges (JY16@pge.com) <JY16@pge.com>; Lauren Ledbetter (Lauren.Ledbetter@vta.org) <Lauren.Ledbetter@vta.org>; Lillian Tsang (ltsang@sunnyvale.ca.gov) <ltsang@sunnyvale.ca.gov>; Ramiro Coronel (RSC7@pge.com) <RSC7@pge.com>; 'Richard Tanaka' <rtanaka@markthomas.com>; Sergio Ruiz (sergio.ruiz@dot.ca.gov) <sergio.ruiz@dot.ca.gov>; 'Chatradhi, Shanthi' <Shanthi.Chatradhi@vta.org>; Ted Quach (TPQ1@pge.com) <TPQ1@pge.com>; Usha Chatwani (uchatwani@valleywater.org) <uchatwani@valleywater.org>; 'tsaadati@sbcglobal.net' <tsaadati@sbcglobal.net>
Cc: Timm Borden <TimmB@cupertino.org>; David Stillman <DavidS@cupertino.org>; Aarti Shrivastava <AartiS@cupertino.org>; Benjamin Fu <BenjaminF@cupertino.org>; Erick Serrano <ErickS@cupertino.org>; Brian Fletcher (bfletcher@callanderassociates.com) <bfletcher@callanderassociates.com>; Dave Rubin (drubin@callanderassociates.com) <drubin@callanderassociates.com>; Kelly Kong (kkong@callanderassociates.com) <kkong@callanderassociates.com>
Subject: Junipero Serra Trail, Cupertino - Admin Draft Feasibility Study Available
Importance: High

Hello Junipero Serra Trail Technical Advisory Committee,

The administrative draft of the Junipero Serra Trail Feasibility Study is now available. As TAC members and key stakeholders, we are requesting your review and comments on the provided draft. Please use the link below to access the document:

https://www.dropbox.com/s/7arh4kw104b8nhx/17056_CheckFeasibilityStudyReport_DRAFT_181012.pdf?dl=0

Staff plans to take the final draft to the City’s Bicycle Pedestrian Commission in late November and would appreciate any comments you might have by Monday, November 12, 2018 (email directly to me is fine) so that Callander Associates can make any revisions necessary prior to the BPC meeting. The adoption of the final study is anticipated to be presented to Cupertino City Council in January 2019.

Thank you all again for your participation and guidance through this process. As always, feel free to contact me directly with any questions.



Jennifer Chu
Associate Civil Engineer
Public Works
JenniferC@cupertino.org
(408) 777-3237

   Cupertino Twitter  

 Cupertino Instagram 

--

Dave Rubin

Associate, PLA, QSD

300 South First Street, Suite 232, San Jose, CA 95113

(408) 275-0565 | www.callanderassociates.com

Burlingame | Gold River | San Jose



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File: 31988
Junipero Serra Channel

November 26, 2018

Ms. Jennifer Chu, P.E.
Associate Civil Engineer
City of Cupertino
Public Works Department
10300 Torre Avenue
Cupertino, CA 95014

Subject: Junipero Serra Trail Feasibility Study

Dear Ms. Chu:

Santa Clara Valley Water District (District) staff has reviewed the administrative draft of the Junipero Serra Trail Feasibility Study (Study) received on October 15, 2018. The proposed trail limits are generally along the District's right of way for the Junipero Serra Channel between Mary Avenue to Calabazas Creek (the feasibility study limits). The District requests that its facility be referenced throughout the document by its actual name, Junipero Serra Channel, rather than "drainage ditch." The District has the following specific comments on the subject document and requests they be addressed prior to final adoption of the feasibility study.

- 1) Page 1, Executive Summary: The executive summary states that Alternative #2 is the preferred alternative. Alternative #2 would enclose Junipero Serra Channel in a box culvert. District staff has preliminarily agreed to this concept if the City accepts all right of way and maintenance of the facility as part of the City storm drain system prior to construction of any improvements, subject to approval from the District's Board of Directors.
- 2) Page 22, "Trail Access": This section states "Direct access to the trail may be desired by Apple for its employees." For the portion of the trail along Calabazas Creek, public access should be limited to the trailhead at Vallco Parkway (Figure 3-15) in order that the District may control public access to the creek during operation and maintenance activities. Additionally, if Alternative 2 is not chosen, then similar controlled public access points should be provided along the Junipero Serra Channel.
- 3) Page 23, "CalTrans": This section should also mention that Caltrans reserved ingress-egress rights over the District's fee title right of way for Junipero Serra Channel when they transferred the right of way to the District. Caltrans may need to also review and approve any plans that could affect their ingress-egress rights.

Our mission is to provide Silicon Valley safe, clean water for a healthy life, environment, and economy.



Ms. Jennifer Chu, P.E.
 Page 2
 November 26, 2018

- 4) Page 26, "Santa Clara Valley Water District (SCVWD):" This section should reflect that the proposed guard rail barrier or fencing along Junipero Serra Channel in Alternative #1 is not acceptable to the District due to the significant adverse effects on maintenance operations, rather than just a concern. Other alternatives to address any safety concerns should be explored.

The discussion on alternative #2 should be revised to reflect that SCVWD staff has preliminarily agreed to alternative #2 upon the condition that the City of Cupertino (City) assume full ownership and maintenance of Junipero Serra Channel as part of the city storm drain system prior to any modifications being implemented. The transfer of the District's right of way and Junipero Serra Channel to the city is subject to prior approval by the District's Board of Directors. Additionally, regulatory approval will be needed from regulatory agencies, including US Army Corps of Engineers, California State Department of Fish and Wildlife, and the San Francisco Bay Regional Water Quality Control Board.

- 5) Page 28, "Santa Clara Valley Water District": Please revise the second bullet point to reflect that the District will not approve physical barriers along Junipero Serra Channel, rather than it being a preference.
- 6) Page 29, "CalTrans": Caltrans approval may also be required for any changes to the District's fee title right of way for Junipero Serra Channel where they reserved ingress-egress easement.
- 7) Page 30, Trail Criteria and Standards: This section should include the trail design standards contained in the Guidelines and Standards for Land Use Near Streams and the District's Water Resources Protection Manual for portions of the trail on District right of way.
- 8) Page 40, Pedestrian Trail Alternative #1: Please see comment 4, above, for comments on Alternative #1.
- 9) Page 40, Class I Multi-Use Trail Alternative #2: The text states "SCVWD has indicated that they do not maintain box culverts and that the City would need to assume maintenance and responsibility." This sentence should be revised to state "Maintenance of enclosed culverts or channels is not the District's expertise. If Alternative #2 is pursued by the city, the District will request that the city accept ownership and maintenance responsibility prior to project construction." The District suggests that the text and/or figures include the sizing of the box culvert and describe the maintenance activities that will be needed.
- 10) Page 40, Figure 4-3: On the portion of Junipero Serra Channel, generally east of Wolfe Road, where the channel is not proposed to be enclosed as part of Alternative #2, the District may still not allow guard railing or fencing along the top of bank where it would reduce the width of our maintenance road unacceptably or inhibit access to the channel for maintenance operations.
- 11) Page 41, Figure 4-4: Please see comment 4, above, for comments on Alternative #1.

Ms. Jennifer Chu, P.E.
Page 3
November 26, 2018

- 12) Page 51, Figure 4-9: The figure shows a proposed trail connection to the Junipero Serra Channel “within existing roadway easement.” The alignment of the trail connection appears to be very similar to the alignment of a road easement the District previously quitclaimed in 1975 in exchange for a new ingress-egress easement through assessor parcel number 326-06-050. If the City has its own road easement at this location, then there is no issue. However, if the roadway easement is referring to our prior easement, then the trail connection will need to be redesigned or new right of way will need to be acquired by the City.
- 13) Page 72, Figure 4-29, Alternative 1: Please see comment 4, above, for comments on Alternative #1.
- 14) Page 77, Segment 3—Vallco to Vallco Parkway: This section runs along Junipero Serra Channel from Wolfe Road to the Calabazas Creek confluence and then along the west bank of Calabazas Creek to Vallco Parkway. There is only one proposed alternative in this section due to the maintenance access road width of 14 feet or greater. The proposed channel and creek are to remain as is, but there are still fences or guard rails proposed along the bank in areas where the bank is steeper than 3:1 slope. Comment 4, above, is still applicable for the area along Junipero Serra Channel. The District’s as-builts for Calabazas Creek show the bank was constructed at 3:1 between Highway 280 and Vallco Parkway, so the study should be revised to reflect this condition and remove reference to fencing. Additionally, District studies indicate the maintenance road along Calabazas Creek is below top of bank of the creek and subject to inundation approximately during 10-year storm events and greater. Improvements to the Calabazas Creek maintenance road will require approvals from regulatory agencies, including California State Department of Fish and Wildlife and the San Francisco Bay Regional Water Quality Control Board.
- 15) Page 84, Guard Rail Adjacent to Open Ditch: Again, please see comment 4 and 14 for comments regarding fencing and/or guard rails adjacent to Junipero Serra Channel or Calabazas Creek.
- 16) Page 87, Summary Recommendations: This section states that a joint use agreement is only necessary if SCVWD retains ownership. This appears to be a reference to Alternative 2. However, Even Alternative 2 includes a portion of Junipero Serra Channel and Calabazas Creek which will not be placed in a culvert and is assumed to be retained by the District (please clarify if that is not the City’s understanding). Therefore, in any alternative, a joint use agreement with the District will be necessary.
- 17) Page 97, TAC Meeting #1 Summary, Item 5: The District would like to clarify that the loss of access at Wolfe Road was due to the installation of a concrete guard rail, not a fallen tree.

In general, the District is supportive of Alternative 2 if the City assumes ownership and maintenance responsibilities of Junipero Serra Channel. Our chief concerns with Alternative 1 and for portions of Alternative 2 where the channel or creek will remain open are the loss of maintenance access due to the narrow bank in many areas and proposals to install guard rails which block our access to the channel from the maintenance access road. The District looks forward to working with the City to meet our respective goals in providing flood protection and

Ms. Jennifer Chu, P.E.
Page 4
November 26, 2018

recreational opportunities to the public. We appreciate the opportunity to provide comments. I may be reached at (408) 630-2319 or via e-mail at yarroyo@valleywater.org if you have any questions.

Sincerely,



Yvonne Arroyo
Associate Engineer
Community Projects Review Unit

cc: U. Chatwani, D. Mody, C. Houston, J. Codianne, C. Grande, Y. Arroyo, File



PUBLIC WORKS DEPARTMENT

CITY HALL
10300 TORRE AVENUE • CUPERTINO, CA 95014-3255
TELEPHONE: (408) 777-3354 • FAX: (408) 777-3333
CUPERTINO.ORG

December 18, 2018

Ms. Lillian Tsang, P.E.
Principal Transportation Engineer
City of Sunnyvale, Public Works
456 W Olive Ave
Sunnyvale, CA 94086

Re: Junipero Serra Trail Feasibility Study
Response Letter to City of Sunnyvale 11/12/18 Comments

Dear Ms. Tsang,

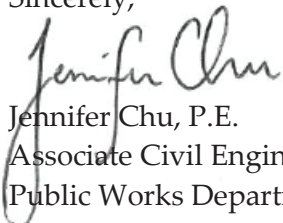
The City of Cupertino would like to thank City of Sunnyvale staff for their participation in the project's Technical Advisory Committee and the time and guidance provided throughout the preparation of the Junipero Serra Trail Feasibility Study. We look forward to continuing to work with Sunnyvale as this project moves forward.

Prior to final adoption of the study, the City understands we need to address Sunnyvale comments which were received on November 12, 2018. The City has provided the following responses to these comments noting where revisions to the study will be made. Sunnyvale comments are reiterated below followed by City responses in ***bold italics***.

- 1) On Pages 15 and 17, the City Limits symbol shown on the legend do not match the City Limits shown on the figures.
The City Limits have been revised to match.

Thank you again for your consideration. Should you have any questions, please feel free to contact me directly at (408) 777-3237.

Sincerely,



Jennifer Chu, P.E.
Associate Civil Engineer
Public Works Department

Junipero Serra Trail Feasibility Study
December 18, 2018
Page 2

cc: City of Cupertino – Timm Borden, David Stillman
City of Sunnyvale – Shahid Abbas



PUBLIC WORKS DEPARTMENT

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10300 TORRE AVENUE • CUPERTINO, CA 95014-3255
TELEPHONE: (408) 777-3354 • FAX: (408) 777-3333
CUPERTINO.ORG

December 18, 2018

Mr. Sergio Ruiz
Pedestrian & Bicycle Coordinator, Branch Chief
Caltrans District 4
111 Grand Ave
Oakland, CA 94612

Re: Junipero Serra Trail Feasibility Study
Response Letter to Caltrans 11/13/18 Comments

Dear Mr. Ruiz,

The City of Cupertino would like to thank Caltrans District 4 staff for their participation in the project's Technical Advisory Committee and the time and guidance provided throughout the preparation of the Junipero Serra Trail Feasibility Study. We look forward to continuing to work with Caltrans as this project moves forward.

Prior to final adoption of the study, the City understands we need to address Caltrans comments which were received on November 13, 2018. The City has provided the following responses to these comments noting where revisions to the study will be made. Caltrans comments are reiterated below followed by City responses in *bold italics*.

- 1) What signal timing and phasing was set up in the model? Were demand volumes inputted into the traffic operations analysis model or are intersection output counts being used only? Traffic models require demand volumes as input. This area looks pretty congested so intersection output counts may not give you the true demand that is trying to use this intersection and the delay and LOS could be worse than what is being stated here. In addition, include the 95th percentile queuing results for existing and with project conditions in the report. If adjacent intersection operations or ramp meters are affecting the traffic flow at this intersection, then this would also need to be captured as a system analysis using the SimTraffic software model in order to reflect the true operations of this intersection.

The preliminary traffic evaluation referenced in the feasibility study was performed utilizing traffic signal timing measured during on-site observations during the morning and afternoon peak periods. Volumes utilized for this effort were

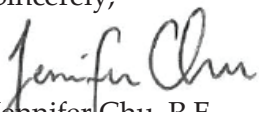
Junipero Serra Trail Feasibility Study
December 18, 2018
Page 2

intersection output counts and only the study intersection was included for the purpose of evaluating high-level feasibility for an at-grade crossing solution where the proposed trail intersects De Anza Blvd.

City staff is anticipating to seek City Council approval of the study in February 2019. Should City Council decide to approve the study and fund the engineering design of the trail to include an at-grade crossing solution at De Anza Blvd, then the City understands that design, and ultimately implementation, of geometric modifications would require the completion of traffic operations analyses scoped in coordination with Caltrans staff.

Thank you again for your consideration. Should you have any questions, please feel free to contact me directly at (408) 777-3237.

Sincerely,



Jennifer Chu, P.E.



PUBLIC WORKS DEPARTMENT

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10300 TORRE AVENUE • CUPERTINO, CA 95014-3255
TELEPHONE: (408) 777-3354 • FAX: (408) 777-3333
CUPERTINO.ORG

December 18, 2018

Ms. Yvonne Arroyo
Associate Engineer, Community Projects Review Unit
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Re: Junipero Serra Trail Feasibility Study
Response Letter to SCVWD 11/26/18 Comments

Dear Ms. Arroyo,

The City of Cupertino would like to thank Santa Clara Valley Water District (District) staff for their participation in the project's Technical Advisory Committee and the time and guidance provided throughout the preparation of the Junipero Serra Trail Feasibility Study. We look forward to continuing to work with the District as this project moves forward.

Prior to final adoption of the study, the City understands we need to address the District comments which were received on November 26, 2018. The City has provided the following responses to these comments noting where revisions to the study will be made. District comments are reiterated below followed by City responses in *bold italics*.

1) Page 1, "Executive Summary": The executive summary states that Alternative #2 is the preferred alternative. Alternative #2 would enclose Junipero Serra Channel in a box culvert. District staff has preliminarily agreed to this concept if the City accepts all right of way and maintenance of the facility as part of the City storm drain system prior to construction of any improvements, subject to approval from the District's Board of Directors.

This section has been revised as noted.

2) Page 22, "Trail Access": This section states "Direct access to the trail may be desired by Apple for its employees." For the portion of the trail along Calabazas Creek, public access should be limited to the trailhead at Vallco Parkway (Figure 3-15) in order that the District may control public access to the creek during operation and maintenance

Junipero Serra Trail Feasibility Study
 December 18, 2018
 Page 2

activities. Additionally, if Alternative 2 is not chosen, then similar controlled public access points should be provided along the Junipero Serra Channel.

This section has been revised as noted.

- 3) Page 23, "CalTrans": This section should also mention that Caltrans reserved ingress-egress rights over the District's fee title right of way for Junipero Serra Channel when they transferred the right of way to the District. Caltrans may need to also review and approve any plans that could affect their ingress-egress rights.

This section has been revised as noted.

- 4) Page 26, "Santa Clara Valley Water District (SCVWD):" This section should reflect that the proposed guard rail barrier or fencing along Junipero Serra Channel in Alternative #1 is not acceptable to the District due to the significant adverse effects on maintenance operations, rather than just a concern. Other alternatives to address any safety concerns should be explored.

This section has been revised as noted. City staff is anticipating to seek City Council approval of the study in February 2019. Should City Council decide to approve the study and fund the engineering design phase of the trail to include Alternative #1, then City staff will continue to work with SCVWD staff for alternative edge treatments for pedestrian protection. For this reason, the guard rails are still shown in all Alternative #1 graphics.

The discussion on alternative #2 should be revised to reflect that SCVWD staff has preliminarily agreed to alternative #2 upon the condition that the City of Cupertino (City) assume full ownership and maintenance of Junipero Serra Channel as part of the city storm drain system prior to any modifications being implemented. The transfer of the District's right of way and Junipero Serra Channel to the city is subject to prior approval by the District's Board of Directors. Additionally, regulatory approval will be needed from regulatory agencies, including US Army Corps of Engineers, California State Department of Fish and Wildlife, and the San Francisco Bay Regional Water Quality Control Board.

This section has been revised as noted.

- 5) Page 28, "Santa Clara Valley Water District": Please revise the second bullet point to reflect that the District will not approve physical barriers along Junipero Serra Channel, rather than it being a preference.

This section has been revised as noted.

- 6) Page 29, "CalTrans": Caltrans approval may also be required for any changes to the District's fee title right of way for Junipero Serra Channel where they reserved ingress-egress easement.

This section has been revised as noted.

Junipero Serra Trail Feasibility Study
 December 18, 2018
 Page 3

- 7) Page 30, Trail Criteria and Standards: This section should include the trail design standards contained in the Guidelines and Standards for Land Use Near Streams and the District's Water Resources Protection Manual for portions of the trail on District right of way.
This section has been revised as noted.

- 8) Page 40, Pedestrian Trail Alternative #1: Please see comment 4, above, for comments on Alternative #1.
See response to Comment #4.

- 9) Page 40, Class I Multi-Use Trail Alternative #2: The text states "SCVWD has indicated that they do not maintain box culverts and that the City would need to assume maintenance and responsibility." This sentence should be revised to state "Maintenance of enclosed culverts or channels is not the District's expertise. If Alternative #2 is pursued by the city, the District will request that the city accept ownership and maintenance responsibility prior to project construction." The District suggests that the text and/or figures include the sizing of the box culvert and describe the maintenance activities that will be needed.
This section has been revised as noted.

- 10) Page 40, Figure 4-3: On the portion of Junipero Serra Channel, generally east of Wolfe Road, where the channel is not proposed to be enclosed as part of Alternative #2, the District may still not allow guard railing or fencing along the top of bank where it would reduce the width of our maintenance road unacceptably or inhibit access to the channel for maintenance operations.
Understood. The proposed guard rails are removed along the trail segment east of Wolfe Rd.

- 11) Page 41, Figure 4-4: Please see comment 4, above, for comments on Alternative #1.
See response to Comment #4.

- 12) Page 51, Figure 4-9: The figure shows a proposed trail connection to the Junipero Serra Channel "within existing roadway easement." The alignment of the trail connection appears to be very similar to the alignment of a road easement the District previously quitclaimed in 1975 in exchange for a new ingress-egress easement through assessor parcel number 326-06-050. If the City has its own road easement at this location, then there is no issue. However, if the roadway easement is referring to our prior easement, then the trail connection will need to be redesigned or new right of way will need to be acquired by the City.
Cupertino Loc-N-Stor (APN 326-06-050) is proposing to improve their property and has submitted preliminary plans for City review. This section has been revised to clarify that any improvements made to the Cupertino Loc-N-Stor property will not preclude trail development.

Junipero Serra Trail Feasibility Study
 December 18, 2018
 Page 4

- 13) Page 72, Figure 4-29, Alternative 1: Please see comment 4, above, for comments on Alternative #1.
See response to Comment #4.

- 14) Page 77, Segment 3-Vallco to Vallco Parkway: This section runs along Junipero Serra Channel from Wolfe Road to the Calabazas Creek confluence and then along the west bank of Calabazas Creek to Vallco Parkway. There is only one proposed alternative in this section due to the maintenance access road width of 14 feet or greater. The proposed channel and creek are to remain as is, but there are still fences or guard rails proposed along the bank in areas where the bank is steeper than 3:1 slope. Comment 4, above, is still applicable for the area along Junipero Serra Channel. The District's as-builts for Calabazas Creek show the bank was constructed at 3:1 between Highway 280 and Vallco Parkway, so the study should be revised to reflect this condition and remove reference to fencing. Additionally, District studies indicate the maintenance road along Calabazas Creek is below top of bank of the creek and subject to inundation approximately during 10-year storm events and greater. Improvements to the Calabazas Creek maintenance road will require approvals from regulatory agencies, including California State Department of Fish and Wildlife and the San Francisco Bay Regional Water Quality Control Board.
This section has been revised as noted and the proposed guard rails are removed from the graphics shown along the trail segment east of Wolfe Rd.

- 15) Page 84, Guard Rail Adjacent to Open Ditch: Again, please see comment 4 and 14 for comments regarding fencing and/or guard rails adjacent to Junipero Serra Channel or Calabazas Creek.
See response to Comment #4 and #14.

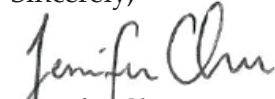
- 16) Page 87, Summary Recommendations: This section states that a joint use agreement is only necessary if SCVWD retains ownership. This appears to be a reference to Alternative 2. However, even Alternative 2 includes a portion of Junipero Serra Channel and Calabazas Creek which will not be placed in a culvert and is assumed to be retained by the District (please clarify if that is not the City's understanding). Therefore, in any alternative, a joint use agreement with the District will be necessary.
The City is in agreement with this understanding. This section has been revised to specify a joint use agreement with the District will be necessary in any alternative.

- 17) Page 97, TAC Meeting #1 Summary, Item 5: The District would like to clarify that the loss of access at Wolfe Road was due to the installation of a concrete guard rail, not a fallen tree.
The meeting summary has been revised as noted.

Junipero Serra Trail Feasibility Study
December 18, 2018
Page 5

Thank you again for your consideration. Should you have any questions, please feel free to contact me directly at (408) 777-3237.

Sincerely,



Jennifer Chu, P.E.
Associate Civil Engineer
Public Works Department

cc: City of Cupertino – Timm Borden, David Stillman
SCVWD – Usha Chatwani, Devin Mody, Cody Houston, Jennifer Codianne,
Chad Grande



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