

Chapter 4 details the feasible pedestrian/bicycle paths throughout the study area. The assessments of land availability, habitat sensitivity and roadway, creek and on-street crossing feasibilities are highlighted for each route. The pedestrian/bicycle paths most closely approximate the trail user experience present in the constructed sections of the trail in Mountain View and Cupertino. These potential alignments provide for the exclusive use of pedestrians and bicyclists and minimize roadway crossings. Pedestrian/bicycle paths are feasible both in the open space parcels along the creek and within the public right-of-way of a few roadways. A unique set of technical challenges is associated with each route. This chapter is devoted to individually describing each of the feasible pedestrian/bicycle paths and associated conceptual engineering solutions identified to address these technical issues.

Engineering solutions have been identified for specific sites along the routes. These solutions include the reconstruction of roadway features and new pedestrian/bicycle bridges, trail underpasses and pedestrian overcrossings. The path alignments and conceptual crossing solutions meet the feasibility criteria described in Chapter 2. These routes and conceptual engineering solutions have also been preliminarily reviewed by agencies with jurisdiction over the creek corridor and roadway system. The potential alignments and engineered structures were presented to these agencies to obtain feedback sufficient for determining conceptual feasibility.

Throughout the course of this trail feasibility investigation, information was gathered from north to south and divided into four study segments to facilitate presentation of the feasibility findings. The study segments vary by length and begin and end at natural termini that are likely to be used in developing future construction phasing limits. Maps, cross-sections and drawings are provided to illustrate the feasible pedestrian/bicycle paths and associated engineering concepts.

The pedestrian/bicycle paths described in this chapter are listed beneath each of the four study segments noted below:

- ◆ Study Segment 1: Dale Avenue/ Heatherstone Way to Fremont Avenue
  - Creek Corridor Path
- ◆ Study Segment 2: Fremont Avenue to Homestead Road
  - Bernardo Avenue Path parallel to State Route 85 soundwall
  - Fremont Avenue and Grant Road Path parallel to the roadways
- ◆ Study Segment 3: Homestead Road to Stevens Creek Boulevard
  - Foothill Expressway Path parallel to the expressway from Homestead/ Vineyard to Cristo Rey/ Starling
- ◆ Study Segment 4: Trail Connections to Rancho San Antonio County Park via Stevens Creek Boulevard
  - Stevens Creek Boulevard Path to Rancho San Antonio County Park

The study identified many on-street routes where the conditions could be improved for bicyclists and pedestrians to access to the creek corridor thus closing the gap in this regional trail. The investigation also determined that many on-street routes and crossing locations were not suitable or feasible to support the extension of the Stevens Creek Trail. Many roadways lack adequate width to support new pedestrian and bicycle facilities. These on-street findings are the subject of Chapter 5.

All of these feasible pedestrian/bicycle paths and conceptual engineering solutions will require further investigation through the development of a trail master plan. The engineered structures proposed with these pedestrian/bicycle paths are described in detail within this chapter. Cost estimates have been prepared for the pedestrian/bicycle path alternatives and are provided in Chapter 6.

### CREEK CORRIDOR PATH

This investigation determined that extending the Stevens Creek Trail south approximately 1.35 miles through the 22 acres of open space land adjacent to creek from the Dale/Heatherstone pedestrian overcrossing to Fremont Avenue is feasible. This pedestrian/bicycle path has a number of technical challenges that will require engineering solutions. The route offers several alternatives for connecting with city streets.

### LOCATION AND OWNERSHIP

The open space land in Study Segment 1 connects the cities of Mountain View, Sunnyvale and Los Altos. The majority of the 22 acres of open space is encircled by the steep banks of Stevens Creek and soundwalls of State Route 85. The site is currently inaccessible to the public. Study Segment 1 includes State Route 85, which is owned and operated by California Department of Transportation (Caltrans), and Fremont Avenue, which is jointly managed by the cities of Los Altos and Sunnyvale. These roadways span Stevens Creek and present constraints to developing the trail. Single-family residential neighborhoods are located across the creek from the open space lands. An industrial parcel is located on the corner of Fremont Avenue and State Route 85.

The public land along the creek corridor is primarily owned by the City of Mountain View and the City of Sunnyvale. The Santa Clara Valley Water District, Caltrans, California Water Service Company (Cal Water) and Pacific Gas & Electric Company (PG&E) control additional parcels of land in this study segment.

### SITE ANALYSIS SUMMARY

The land availability assessment determined that approximately 85% of the west bank provides adequate to ideal width to support the development of a path. Approximately 15% provides inadequate width to support the development of a trail along the creek corridor. There are several

pinch points along the west bank where State Route 85 was constructed very close to the top-of-bank of Stevens Creek and inadequate width remains to support a trail without engineering structures to bridge these constrained sites.

### CREEK CHARACTER, PLANT COMMUNITIES AND WILDLIFE

The land in Study Segment 1 includes riverine habitat and in-stream wetlands shaded by a California sycamore woodland (Sawyer, 2009). The upper banks host an oak woodland and ruderal grasslands. This riparian habitat includes a number of tree species including California sycamore (*Platanus racemosa*), black cottonwood (*Populus trichocarpa*), coast live oak (*Quercus agrifolia*), white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*) and arroyo willow (*Salix lasiolepis*) which line the stream banks along this stretch of the creek. Water releases from Stevens Creek Dam typically maintain surface flow year-round through a 5.7-mile groundwater recharge area that ends at approximately Fremont Avenue. Flows often reach to the Fremont Drop Structure located just downstream of the State Route 85 bridge. The Fremont Drop Structure is intended to aid in groundwater recharge through this high percolation zone of Stevens Creek. A fish ladder runs along the east side of this concrete structure. Passage by federally threatened Central California Coast steelhead (*Oncorhynchus mykiss*) is limited to certain flow regimes. NOAA National Marine Fisheries Service has designated Stevens Creek as “critical habitat” for the recovery of Central California Coast steelhead.

More than 225 species of birds, mammals, reptiles and amphibians rely on riparian habitat. Riparian habitat hosts the most diverse bird communities in the west. Less than 5% of California’s riparian habitat remains (Riparian Habitat Joint Venture, 2004). The Baylands Ecosystem Habitat Goals Project states that in the South Bay, “Riparian restoration and enhancement of tributary streams would improve stream and riparian habitat and benefit anadromous fishes, amphibians, small

mammals and birds (Baylands Project, 1999, p. 129). Mammals including raccoon, opossum, striped skunk, gray fox, Eastern gray squirrel, Eastern fox squirrel, ground squirrel and black-tailed deer frequent the creek corridor and open space lands. Two California species of special concern are also known to occur in the creek corridor including the western pond turtle (*Actinemys marmorata*) and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). The creek supports four native fish species: three-spined stickleback, Sacramento sucker, California roach and Central California Coast steelhead.



*Western pond turtles persist in Stevens Creek.*

The mapped oak woodland areas include Coast live oak woodland and ruderal grassland. The Coast live oak woodland extends from the edge of the stream bank across the alluvial terraces of the creek corridor. Along Stevens Creek this plant community includes box elders (*Acer negundo*) black walnut (*Juglans californica*), California sycamore (*Platanus racemosa*), black cottonwood (*Populus trichocarpa*), Coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*) and arroyo willow (*Salix lasiolepis*) (Sawyer, 2009). In disturbed areas the woodland is interspersed by ruderal grassland comprised of both native grasses and forbes and many non-native annual grasses.

#### CONCEPTUAL ALIGNMENTS

The proposed pedestrian/bicycle path between Dale/Heatherstone and Fremont Avenue would extend along the west side

of Stevens Creek between the State Route 85 soundwall and the stream corridor (See Map 9 – Study Segment 1: Dale/Heatherstone to Fremont Avenue Alignments Map).

#### Access into the Open Space from the North

The trail must pass by Heatherstone Apartments before entering the open space lands. Three alternatives to accessing the open space lands are retained for further review.

##### Option 1 – Relocate the Soundwall

The first alternative routes the path through existing Caltrans right-of-way and requires relocation of approximately 1,000 feet of the soundwall behind Heatherstone Apartments. Excess right-of-way, beyond that needed for future widening of State Route 85, exists on the highway side of the soundwall. The future widening of State Route 85 will include four 12-foot travel lanes and two 10-foot wide shoulders totaling 68 feet. Placement of the trail behind a reconstructed soundwall is preferred over placing the trail on the highway side of the soundwall. The footing design of the new soundwall would need to accommodate the future highway widening and grade changes in this area. Caltrans has expressed a potential interest in selling the right-of-way that would eventually be located behind the new soundwall (See Figure 22 – Trail behind Heatherstone Apartment with reconstructed soundwall).

##### Option 2 – Extend Trail behind Parking Lot at Heatherstone Apartments

The second alternative would extend the trail between the existing soundwall and the parking lot at Heatherstone Apartments. This option would require a trail easement from the property owner (See Chapter 6 – Development Challenge). The alignment would include some redesign of the parking lot and landscape strip between the parking lot and the soundwall. Placement of the trail behind the existing soundwall would buffer trail users from the noise of State Route 85.

### Option 3 – Use City Streets to Mockingbird Lane

This option would route the trail on city streets from the Dale/Heatherstone pedestrian overcrossing to Mockingbird Lane. Bicyclists would share the street with automobiles on Heatherstone Way, Knickerbocker Drive and Mockingbird Lane through the combination of a new neighborhood greenway and existing bike lanes. An approximately 90-foot pedestrian/bicycle bridge would span the creek at the end of Mockingbird lane to provide access to the open space lands and continue the trail to the south. This route is less direct and requires trail users to navigate city streets, but does provide an alternate northern connection to the open space acreage (See Map 9 – Study Segment 1: Dale/Heatherstone to Fremont Avenue Alignments Map).

### **Crossing the Creek**

Stevens Creek crosses beneath State Route 85 twice within this study segment. In the north, the creek swings west at Heatherstone Apartments near Village Court and passes beneath State Route 85 as it flows to San Francisco Bay. The creek flows through a box culvert that provides no opportunity for a trail underpass. This constraint to providing trail access to Mountain View residents living to the east of State Route 85 was overcome with the construction of the Dale/Heatherstone

pedestrian overcrossing, but must be tackled from the east bank to extend the trail south through the 22 acres of open space land. Option 3 above uses a pedestrian/bicycle bridge at the end of Mockingbird Lane to route the trail from the east bank to the west bank. In Option 1 and 2 the trail must span the bend in Stevens Creek near Village Court. An approximately 300-foot pedestrian/bicycle bridge (constructed of two spans 180 feet and 120 feet) is proposed to span the channel and narrow section of land located between the soundwall and the top-of-bank of Stevens Creek. This pedestrian/bicycle bridge would be designed as a clear span over the creek and freestanding structure unattached to any Caltrans structures.

Adequate to ideal top-of-bank, with the exception of two pinch points, exists beyond this location to convey the trail south. The top-of-bank in the two constrained areas is too narrow to support a trail. One pinch point is located just downstream of Mockingbird Lane and another near the Permanente Creek Bypass Channel. State Route 85 was constructed very close to the edge of the creek bank at these bends in the stream. The proximity of State Route 85 combined with changes in the streambed have caused significant erosion to occur in these locations. Construction of Stevens Creek reservoir and dam has starved the lower reaches of the creek of sediment. The loss of upstream

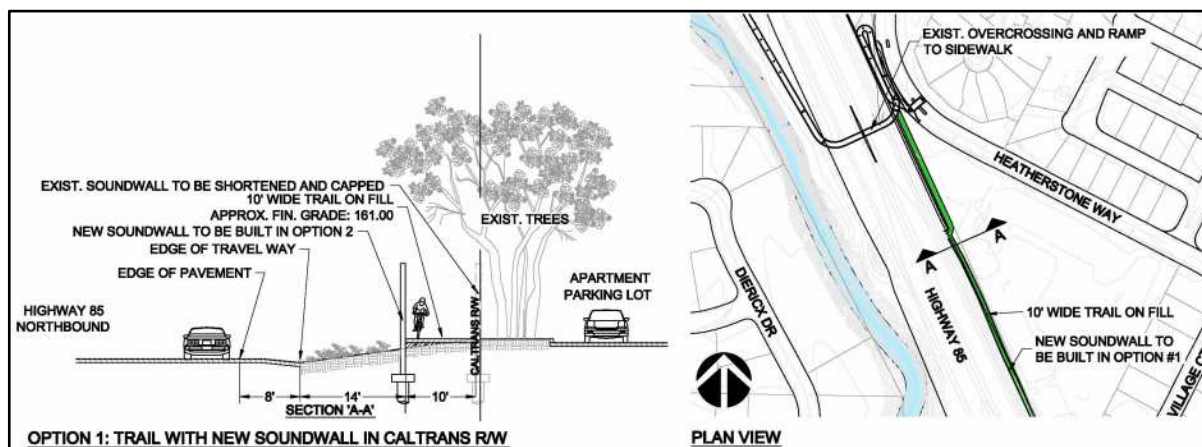


Figure 22 – Trail behind Heatherstone Apartment with reconstructed soundwall.



sediment combined with increased peak storm flows from continued urbanization has resulted in downcutting of the streambed and subsequent bank erosion. These hydrogeomorphic changes have created the pinch points that are constraints to trail development.

Engineering solutions are required at these sites. An approximately 100-foot structure slab trail on piles with curtain wall is proposed just north of Mockingbird Lane and an approximately 380-foot structure slab trail on piles is recommended from the Permanente Creek Bypass Channel south to the large meadow located across the creek from Remington Drive. These two structures would be built immediately adjacent to the soundwall (See Figure 23 – *Engineering solutions for constrained areas along State Route 85 soundwall*). The piles and curtain wall would help to protect the Caltrans soundwall and stabilize the channel embankment. Habitat restoration is proposed along the streambed to support

threatened Central California Coast steelhead (*Oncorhynchus mykiss*). A hydrology study would be required to further assess the impact of the proposed engineered structures. All of the engineered trail structures that parallel the soundwall would be constructed from the freeway side of the soundwall. The costs estimates prepared for these structures included soundwall demolition and reconstruction (See Chapter 6 – *Development Challenge*).



*Pinch point downstream of Mockingbird Lane.*



*Pinch point near Permanente Creek Bypass.*

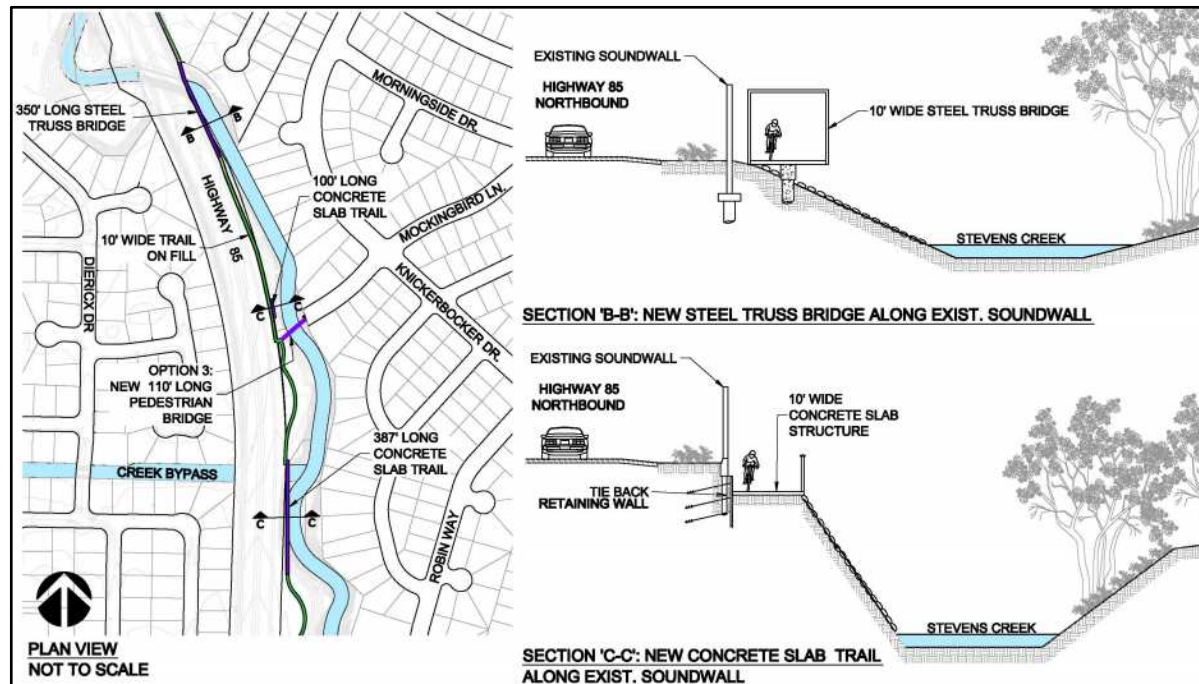


Figure 23 – Engineering solutions for constrained areas along State Route 85 soundwall.

### Access from the Open Space to Fremont Avenue

The trail must exit the open space lands to the south. Four alternatives to accessing Fremont Avenue are retained for consideration.

#### Option 1: Trail Underpass with Ramps beneath State Route 85

The trail could continue south meandering through the meadow past the Cal Water property. Stevens Creek flows beneath State Route 85 just downstream from Fremont Avenue. Public property between Fremont Avenue and this upstream crossing of State Route 85 is very limited. A trail underpass is feasible only on the south side of the State Route 85 bridge due to limited public ownership. A pedestrian/bicycle bridge is proposed downstream of the Fremont Drop Structure to convey the path across the creek to the east bank. The trail would extend along the east bank for a short distance through City of Sunnyvale and Santa Clara Valley Water District lands to the State Route 85 bridge. The path must access the trail underpass from the east to take advantage of the public lands. The

properties along the east side of the creek in this area are owned by the City of Sunnyvale, Santa Clara Valley Water District and Caltrans.

A concrete trail underpass and ramps are proposed to extend along the east bank and beneath State Route 85 to connect the path to Fremont Avenue. At State Route 85, the trail would be ramped below the roadway into the channel. Sufficient vertical clearance exists to create a trail underpass within the southern bent of the bridge and preserve the flood carrying capacity of the channel. The trail underpass would be subject to flooding during significant winter storms resulting in temporary trail closures. A hydrology study would be required to further assess the impact of the proposed trail underpass.

The path would emerge from the trail underpass and parallel the State Route 85 Fremont Avenue southbound off-ramp (See *Illustration 1 – Trail underpass beneath State Route 85 north of Fremont Avenue*). The alignment must accommodate the future widening of the off-ramp to two lanes at full design standards. Sufficient right-of-



way appears available to accommodate the trail to Fremont Avenue. A short wall along the highway side of the southbound off-ramp may be required to retain the slope to gain maximum right-of-way width (See *Figure 24 – Grade-separated options for connecting to Fremont Avenue*). The trail connection to Fremont Avenue would need to consider the design and signal timing of the intersections along Fremont Avenue with specific emphasis on where the trail would cross Fremont to extend the route south and to place bicyclists in the proper direction of travel in the eastbound bicycle lanes on Fremont Avenue. This option maintains a grade-separated trail to Fremont Avenue and may be an advantageous connection to the Fremont Avenue/Grant Road path. In 2008, Los Altos identified a pedestrian/bicycle path on the north side of Fremont Avenue and east side of Grant Road as the preferred alignment for the Stevens Creek Trail and as trail access for Los Altos residents (See *Fremont Avenue/Grant Road Path discussion below*).

#### Fremont Avenue Bridge

Traffic operations and pedestrian and bicycle circulation in this area could be enhanced with a new bridge over the Stevens Creek at Fremont Avenue. The existing bridge is approximately 55 feet wide with a 10-foot wide cantilevered wooden path attached to the north side of the bridge structure. This bridge conveys a single lane of traffic in each direction with a merge lane heading west into Los Altos. Traffic speeds are 9 mph faster than the posted 30 mph speed limit and the area is subject to significant traffic backups (Los Altos, 2011, pp. 63-64). A wider bridge would allow for improved traffic queuing and complete pedestrian and bicycle facilities. A new bridge would also provide an opportunity to construct a trail underpass that would safely convey trail users to both sides of the bridge and into the appropriate travel direction of the bicycle lanes and possible Fremont/Grant path alignment. A trail underpass is not feasible with the current concrete arch bridge built in 1911.



*Illustration 1 – Trail underpass beneath State Route 85 north of Fremont Avenue.*

A trail underpass would require an easement through the industrial property on the corner of Fremont Avenue and State Route 85. The 5.88-acre privately-held parcel at 1195 W. Fremont Avenue is bordered by Stevens Creek, State Route 85 and Fremont Avenue. Pacific Gas & Electric Company and Santa Clara Valley Water District have easements over a portion of the site. Acquisition of a portion of the parcel or a trail easement along the creekside of the property would provide the opportunity to extend the trail to Fremont Avenue and assist with the development of a grade-separated trail underpass beneath Fremont Avenue (See Chapter 6 – Development Challenge for additional details). If this were feasible the path alignment along the State Route 85 southbound off-ramp would not be necessary.

#### Option 2: Pedestrian Overcrossing to Bernardo Avenue

A pedestrian overcrossing of Fremont Avenue may be feasible using excess Caltrans right-of-way along the Fremont Avenue northbound on-ramp. A pedestrian overcrossing supported by piers would extend along the property line of the

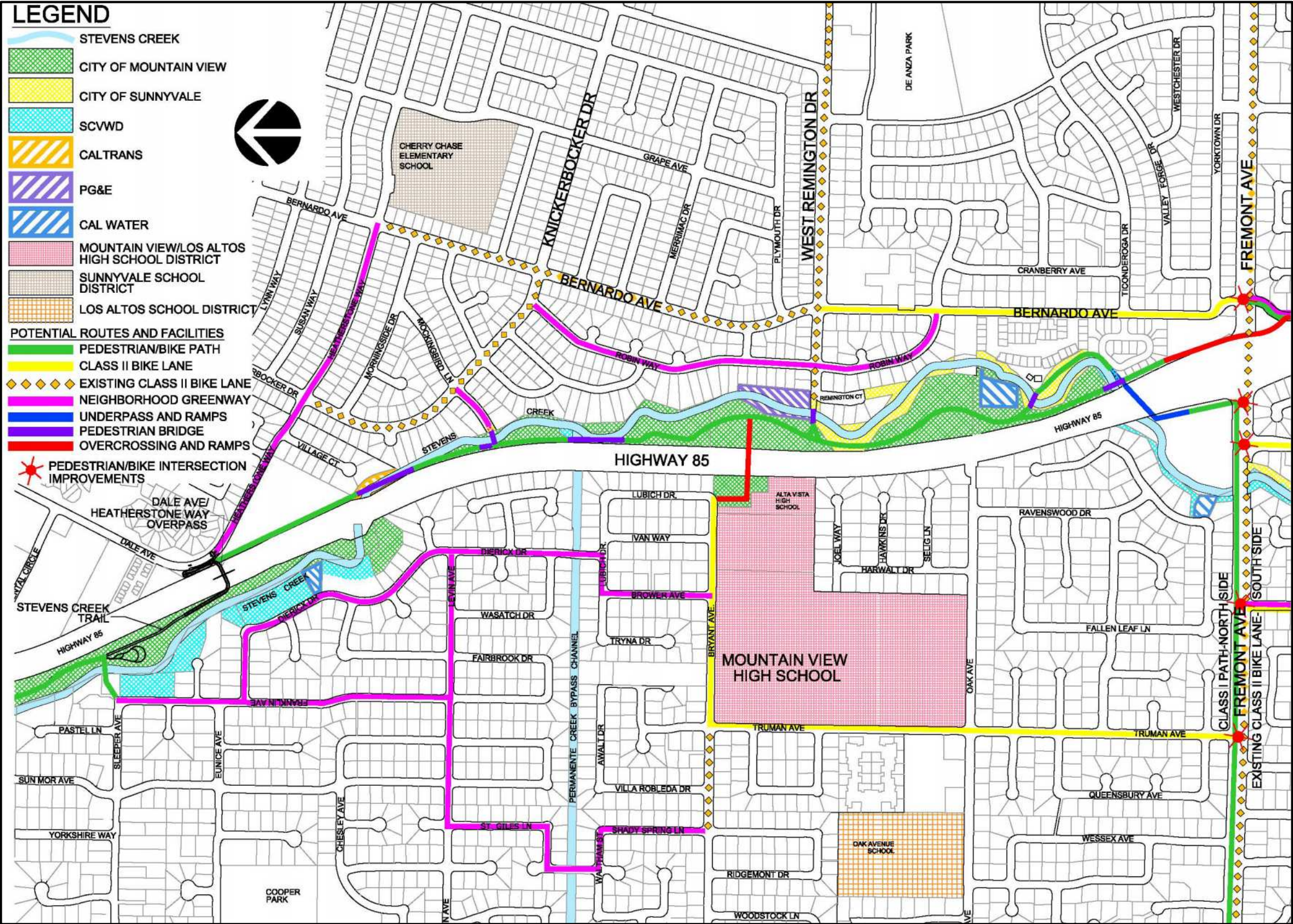
northbound on-ramp, span Fremont Avenue and touch down in a Sunnyvale-owned parcel adjacent to Bernardo Avenue (See Figure 24 – Plan View of Options 1 and 2 for Connecting to Fremont Avenue). A retaining wall along the highway side of the northbound on-ramp may be required to gain additional width to support both the full design of the on-ramp and elevated trail structure. This potential structure requires additional study and consultation with Caltrans.

In Option 2 the pedestrian/bicycle bridge conveying trail users from the west bank to the east bank is proposed immediately downstream and parallel to the State Route 85 bridge. This pedestrian bicycle bridge would convey the path across the creek to a short stretch of trail that would then enter the proposed pedestrian overcrossing (See Map 9 – Study Segment 1: Dale/Heatherstone to Fremont Avenue Alignments Map). This option maintains a grade-separated trail beyond Fremont Avenue and may be advantageous if a grade-separated path was desired along the length of Bernardo Avenue (See Bernardo Avenue Path discussion below).



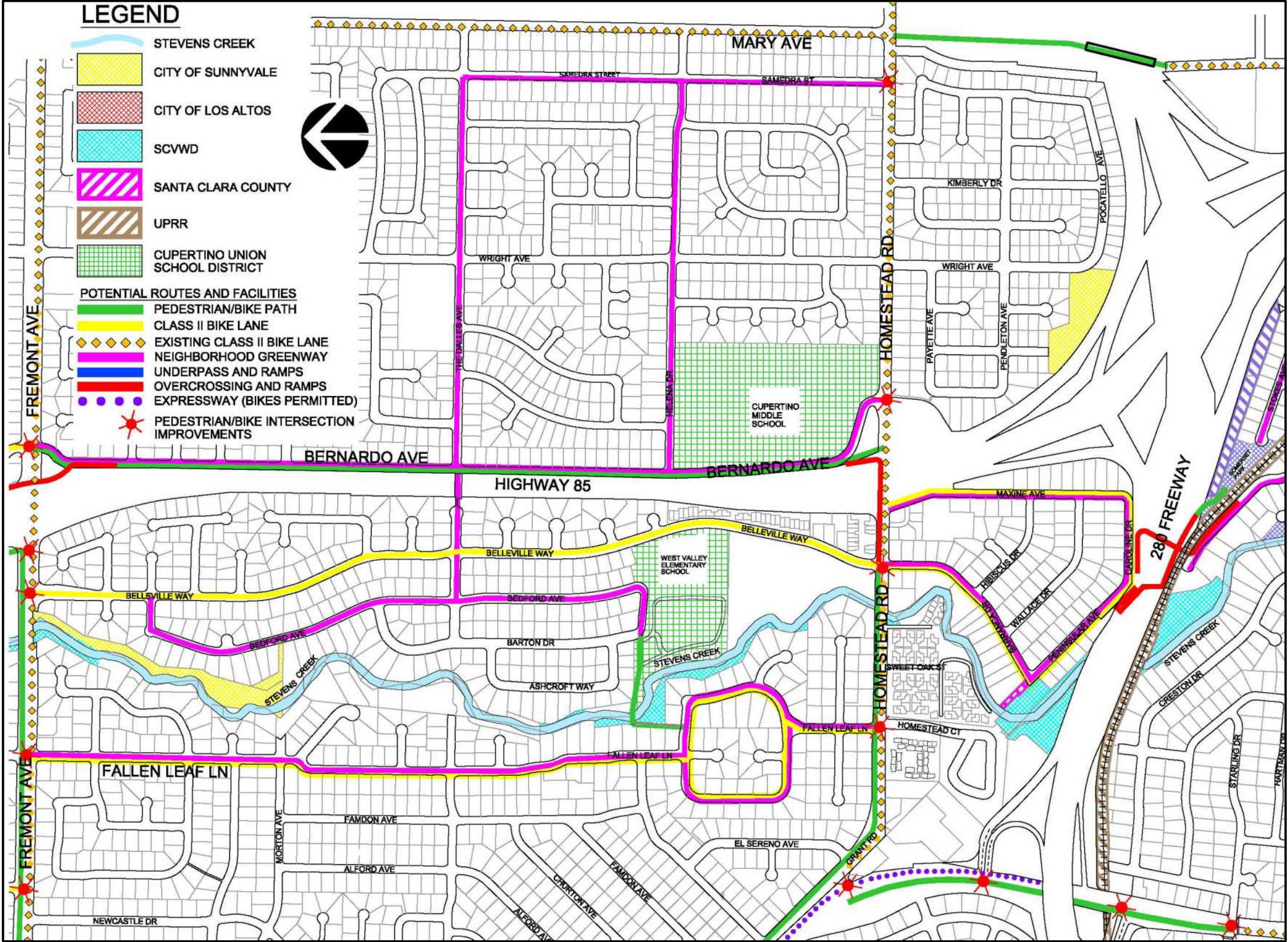
Figure 24 – Grade-separated options for connecting to Fremont Avenue.





Map 9 – Study Segment 1: Dale/Heatherstone to Fremont Avenue Alignments Map.





Map 10 – Study Segment 2: Fremont Avenue to Homestead Road Alignments Map



### Option 3: Pedestrian Overcrossing to Mountain View High School

In 2004, Mountain View planned to extend the trail from Dale/Heatherstone to Mountain View High School. The route was to extend through the meadow and over State Route 85 on a pedestrian overcrossing similar to the existing Dale/Heatherstone trail facility. This structure would touch down in a Mountain View-owned parcel adjacent to Mountain View High School. This concept is retained for consideration. As with all structures spanning Caltrans facilities the pedestrian overcrossing would need to meet or exceed Caltrans design standards. More recently, Caltrans has been recommending 12-foot wide pedestrian overcrossings. The trail and engineered structures in Mountain View are typically 10 feet wide.

### Option 4: Pedestrian/Bicycle Bridge to West Remington Drive

This option would route the trail on city streets from the West Remington Drive to Fremont Avenue. Bicyclists would share the street with automobiles on a combination of West Remington Drive with either Bernardo Avenue or Mary Avenue to access Fremont Avenue. The route would use proposed and existing bike lanes. A pedestrian/bicycle bridge would span the creek at the end of West Remington Drive to provide a connection to the city streets. A pedestrian/bicycle bridge at West Remington Drive could also serve as a midpoint access for area residents (*See Map 9 – Study Segment 1: Dale/Heatherstone to Fremont Avenue Alignments Map*).

### **BERNARDO AVENUE PATH**

This study determined that a pedestrian/bicycle path adjacent to the soundwall along Bernardo Avenue from Fremont Avenue to Homestead Road is feasible if either the roadway becomes a one-way street or parking is reduced. The potential to reallocate street space to create a separated pedestrian/bicycle path is

feasible, but would require additional traffic studies to fully evaluate the impacts of the roadway change (*See Map 9 – Study Segment 2: Fremont Avenue to Homestead Road Alignments Map*).

### **ROADWAY CONDITIONS**

Bernardo Avenue between Fremont Avenue and Homestead Road is a two-lane street with low traffic volume (*See Figure 19 – Fremont Avenue to Homestead Road feasibility of studied roadways to support pedestrian and bicycle facilities*). The State Route 85 soundwall lies to the west and single-family residences to the east of the roadway. A pedestrian/bicycle path along the soundwall would be fully separated from automobile traffic. The pavement section on Bernardo Avenue measures 32 feet wide. A sidewalk and planter strip measuring 10 ½ feet runs along the east side of the street. No changes to the east side of the street are envisioned. The width of the undeveloped street right-of-way from back of curb to the soundwall on the west side of the street varies from 3 to 8 feet.

### **CONCEPTUAL ALIGNMENT**

Areas with a wider undeveloped street right-of-way (8 feet) would allow for a landscape buffer with street trees between the path and travel lane on Bernardo Avenue. The narrower condition (3 feet) would allow for a curb and fencing (*See Illustration 2 – Astoria to The Dalles on Bernardo and Illustration 3 – The Dalles to Helena on Bernardo*). The separated pedestrian/bike path would extend behind the gas station to Homestead Road in the location of the existing pathway. The path would connect at-grade to the signal lights on Fremont Avenue as well as selected residential streets such as Astoria Drive, The Dalles and Helena Drive. Path access would be guided by the results of traffic studies. However, the existing pedestrian overcrossing of State Route 85 at The Dalles would make this street a likely location for trail access.





Illustration 2 – Astoria to The Dalles on Bernardo



Illustration 3 – The Dalles to Helena on Bernardo

The pedestrian/bicycle path could also connect to the grade-separated crossing of Fremont Avenue (See *Option 2 – Access from Open Space to Fremont Avenue*) and a proposed crossing of State Route 85 at Homestead Road. Two options for crossing State Route 85 have potential to link the Bernardo Avenue pathway to the new pedestrian/bicycle path on the north side of Homestead Road. This path was completed in 2013 and extends from the Los Altos city limit on west side of Stevens Creek to El Sereno Avenue, which is opposite the busy Foothill Crossings Shopping Center. Los Altos also plans an exclusive green bike track that will assist cyclists through the Grant/Homestead signal and into and out of Foothill Crossing Shopping Center.

#### CROSSING STATE ROUTE 85 AT HOMESTEAD ROAD

The two options for crossing State Route 85 at Homestead Road include widening the existing roadway bridge to provide a separate path for pedestrians and bicyclists or installing a new pedestrian/bicycle bridge parallel to the Homestead Road bridge over the highway that would be directly accessed from the Bernardo path.

Either bridge option would require extension of the pathway improvements on the north side of Homestead Road from the east side of Stevens Creek to the State Route 85 northbound off-ramp to close the gap in this alignment. These improvements would be located within Sunnyvale.

#### FALLEN LEAF LANE PATH

A pedestrian/bicycle path is also feasible along the east side of Fallen Leaf Lane from Fremont Avenue to Homestead Road, but would require use of the 60-foot wide public right-of-way of which 18 feet is currently undeveloped and integrated into the front yards of homes along the street. The pathway would be aligned along the east side of the street to minimize cross traffic as the streets to the east are all short cul de sacs that dead end at the creek. Development of a pedestrian/bicycle path would also address other needed street maintenance including pavement improvements. Other on-street routing solutions that could be implemented within the existing paved 42-foot right-of-way are also feasible on Fallen Leaf Lane. These on-street options, which include a bike route and neighborhood greenway, are described in Chapter 5.

**FREMONT AVENUE/GRANT ROAD PATH**

In 2008, Los Altos selected a preferred Stevens Creek Trail alignment that extended through the creek corridor and parallel to Fremont Avenue and Grant Road. Los Altos did not adopt this alignment and opted to work collaboratively with the four cities. However, the preferred alignment is identified in the 2012 *Los Altos Bicycle Transportation Plan*. The route is planned as a 10-foot wide Class I multi-use path that would be constructed within the existing right-of-way of these collector streets. The route jogs west on Fremont Avenue and then extends south and southeast on Grant Road for approximately two miles to connect to Foothill Expressway at Homestead Road/Vineyard Drive. The existing westbound bike lane on the north side of Fremont Avenue and southbound bike lane on the west side of Grant Road are integrated into the new multi-use path in an effort to preserve oak trees in the undeveloped right-of-way. Twelve side streets, two cul de sacs and the driveways to the Woodland Branch Library and Lucky Supermarket intersect the proposed two-mile multi-use path. The 2012 *Los Altos Bicycle Transportation Plan* notes “The final alignment for this project has not yet confirmed. The Class I pathway is only recommended if it is confirmed to be part of the Stevens Creek Trail or serve as a connector trail (Los Altos, 2012, p. 5-16).”

These pedestrian and bicycle improvements proposed for Fremont Avenue and Grant Road were considered a high priority to connect to the Stevens Creek Trail regardless of whether or not the trail is eventually routed through Los Altos. In particular, the safety improvements proposed for the intersection of Truman and Fremont and the bike path proposed for Grant Road would improve the school routes for Mountain View High School and Montclair Elementary School, respectively (Los Altos, 2012, p. D-5).

**FOOTHILL EXPRESSWAY PATH**

The potential to extend a short pedestrian/bicycle path from the intersection of Homestead Road and Vineyard Drive with Foothill Expressway to the intersection of Starling Drive and Cristo Rey Drive with Foothill Boulevard appears feasible. This path would parallel the expressway and require reconfiguration of the west side of the Interstate 280 bridge underpass (See *Figure 25 – Plan view of path parallel to Foothill Expressway*). The pathway would use Caltrans and Santa Clara County Roads & Airports Department excess expressway right-of-way and pass beneath Interstate 280. The path would link the new pedestrian/bicycle path extending along the north side of Homestead Road to existing bicycle lanes on Foothill Boulevard. This trail concept requires squaring up and controlling traffic at the Interstate 280/Foothill Interchange, widening and reconstructing the southbound travel lanes of Foothill Expressway through modifications to the Caltrans bridge and extending a multi-use path along the west side of Foothill Expressway. This concept would also include improved shoulder width for bicyclists on the street (See *Figure 26 – Cross-section of reconfigured Foothill Expressway underpass beneath Interstate 280*). The modifications to the bicycle lanes at the underpass should attempt to meet Santa Clara Valley Transportation Authority Bicycle Technical Guidelines for steep grades and expressway speed (VTA, 2012, pp. 7-2 and 7-3). These guidelines suggest 8-foot wide bike lanes in the uphill and 2-foot wide lane in the downhill direction. The proposed path would be adjacent to the uphill bike lane separated by safety rail. The bicycle and pedestrian concepts incorporated into the path and on-street facilities improvements build upon the 2008 Comprehensive County Expressway Planning Study Update - Pedestrian Route for Foothill Expressway, which is currently the subject of the Expressway Plan 2040 Study. It also moves forward the Caltrans and Santa Clara County goal of controlling interchange traffic.



Figure 25 – Plan view of path parallel to Foothill Expressway.

#### INTERSTATE 280/FOOTHILL EXPRESSWAY INTERCHANGE MODIFICATIONS

A parallel path requires squaring up and controlling traffic at the Interstate 280/Foothill Interchange. A traffic operations/queuing analysis would be required to assess these roadway changes. Santa Clara County Roads & Airports Department traffic forecasts indicate that the northbound Interstate 280 off-ramp will be operating at LOS F (Level of Service F)

by 2025 with queue spillbacks onto the freeway. Santa Clara County is studying adding an auxiliary lane between the off-ramp to Homestead Road to reduce backups. This study assumes maintaining the existing free right hand turn at the off-ramp. Significant additional ramp storage would likely be needed if the free right turn were removed (See Map 11 – Study Segment 3: Homestead Road to Stevens Creek Boulevard Alignments Map).

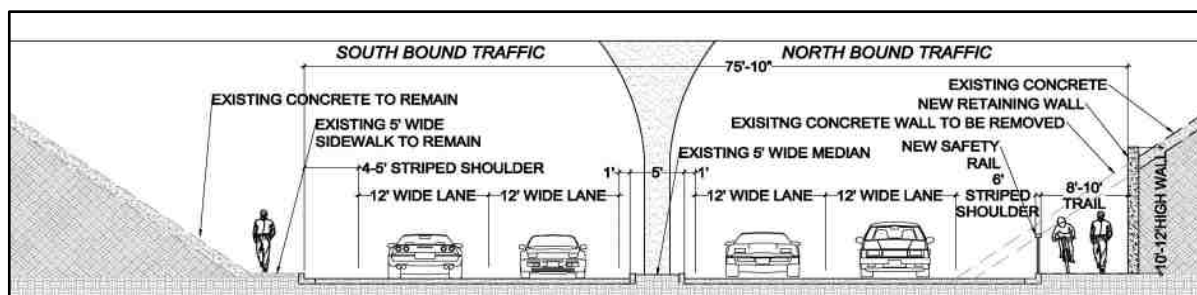
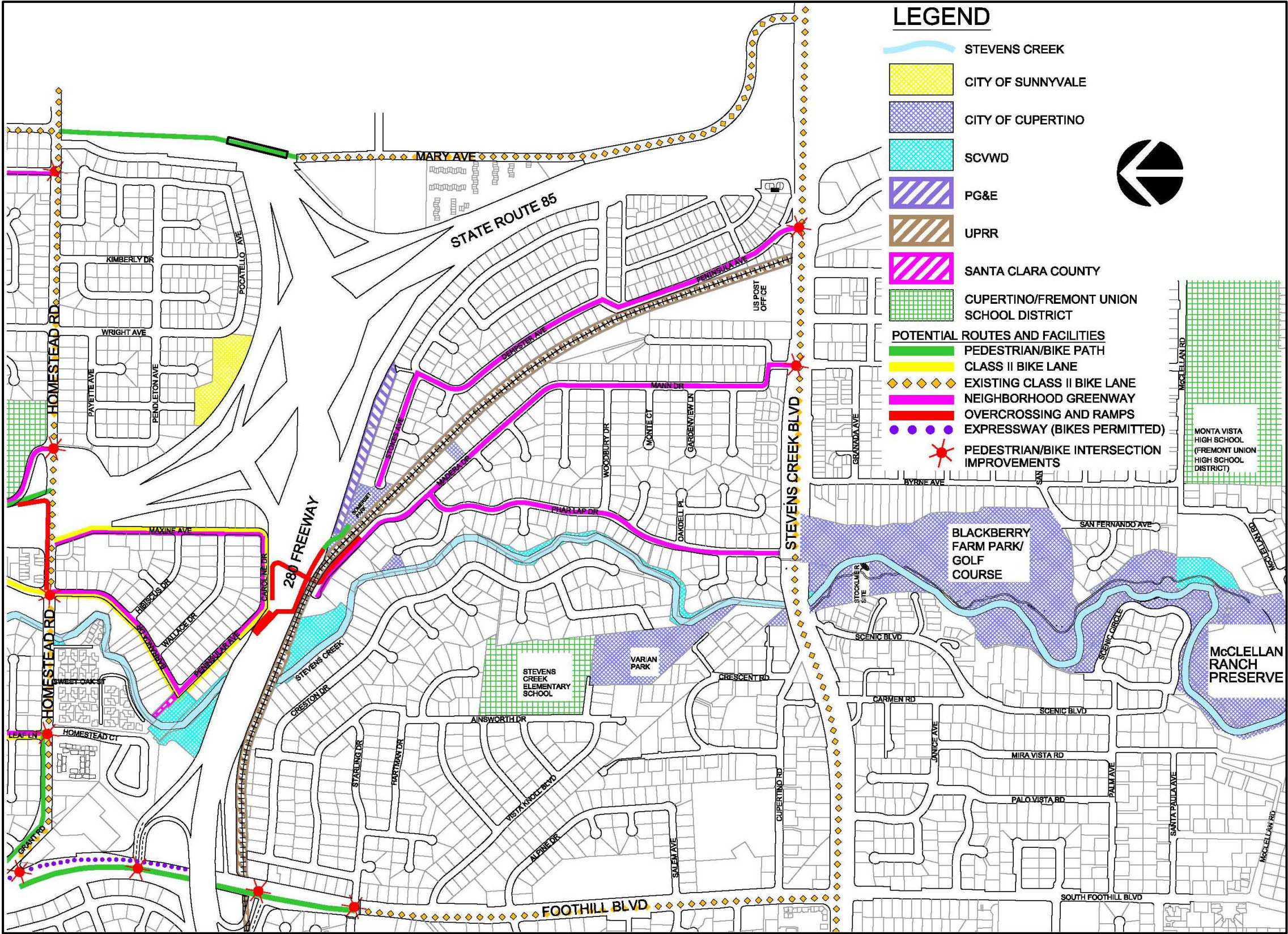


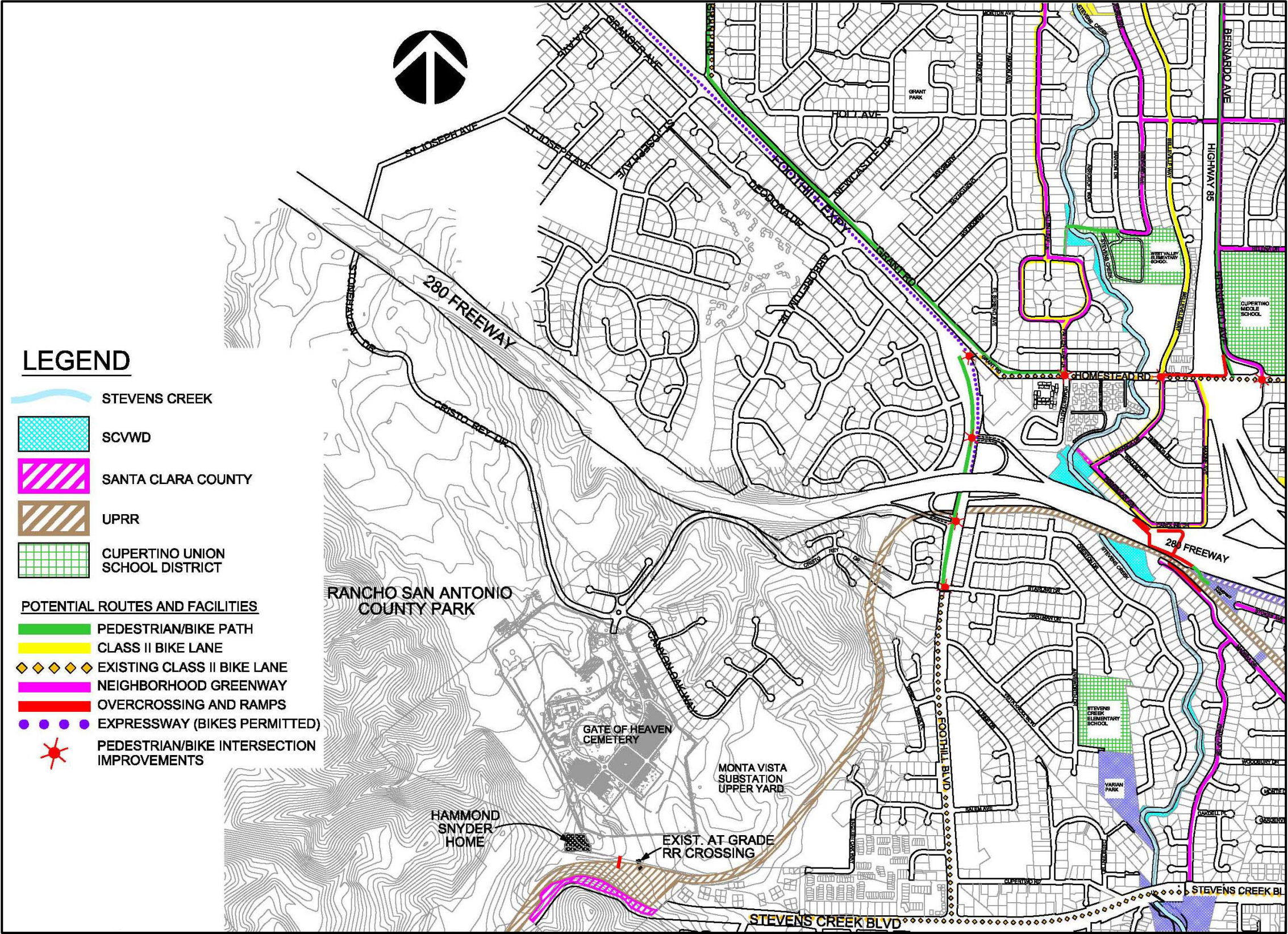
Figure 26 – Cross-section of reconfigured Foothill Expressway underpass beneath Interstate 280.





Map 11 – Study Segment 3: Homestead Road to Stevens Creek Alignments Map





Map 12 – Study Segment 4: Stevens Creek Boulevard Connection to Rancho San Antonio County Park Alignments Map.



**PEDESTRIAN OVERCROSSING AT INTERSTATE 280**

A grade-separated crossing of Interstate 280 was investigated to continue the trail south into Cupertino. There are two existing crossings of Interstate 280 that connect to Stevens Creek Boulevard. The Don Burnett Bicycle-Pedestrian Bridge at Mary Avenue provides access over Interstate 280 connecting to Stevens Creek Boulevard at DeAnza College. Foothill Expressway passes beneath Interstate 280 becoming Foothill Boulevard to connect with Stevens Creek Boulevard. Pedestrians use a sidewalk on the east side of Foothill and bicyclists share the travel lane with vehicles. These two locations require pedestrians and bicyclists to navigate city streets, highway interchanges and the steep hill on Stevens Creek Boulevard to connect to Cupertino's existing trail along the creek that extends through Blackberry Farm Park to Stevens Creek Boulevard. Five locations were evaluated for a pedestrian overcrossing that would eliminate the need to navigate highway interchanges and the steep grade on Stevens Creek Boulevard. The use of the existing tunnels that convey

Stevens Creek flows beneath Interstate 280 and use of Santa Clara Valley Water District lands along the creek to either Groveland Drive or Madera Drive were deemed infeasible (*See Appendix B – Summary of Studied Routes*).

The other two locations may provide a technically feasible option for a pedestrian overcrossing north of the I-280/SR85 Interchange. These locations include Peninsular Avenue to Somerset Park and Caroline Drive to Madera Drive (*See Figure 27–Potentially feasible pedestrian overcrossings of Interstate 280*). Both of the routes require use of very low-density residential streets in neighborhoods without any through traffic. These neighborhoods back up to Interstate 280. The Peninsular Avenue to Somerset Park route would connect to Stevens Creek Boulevard via Peninsula Avenue located just east of the Union Pacific Railroad line near the US Post Office. The Caroline Drive to Madera Drive route would span both Interstate 280 and the Union Pacific Railroad (UPRR) line connecting to Stevens Creek Boulevard via Phar Lap Drive located at the existing Stevens Creek Trail terminus.



*The two tunnels beneath Interstate 280 and Union Pacific Railroad were deemed infeasible for a trail.*



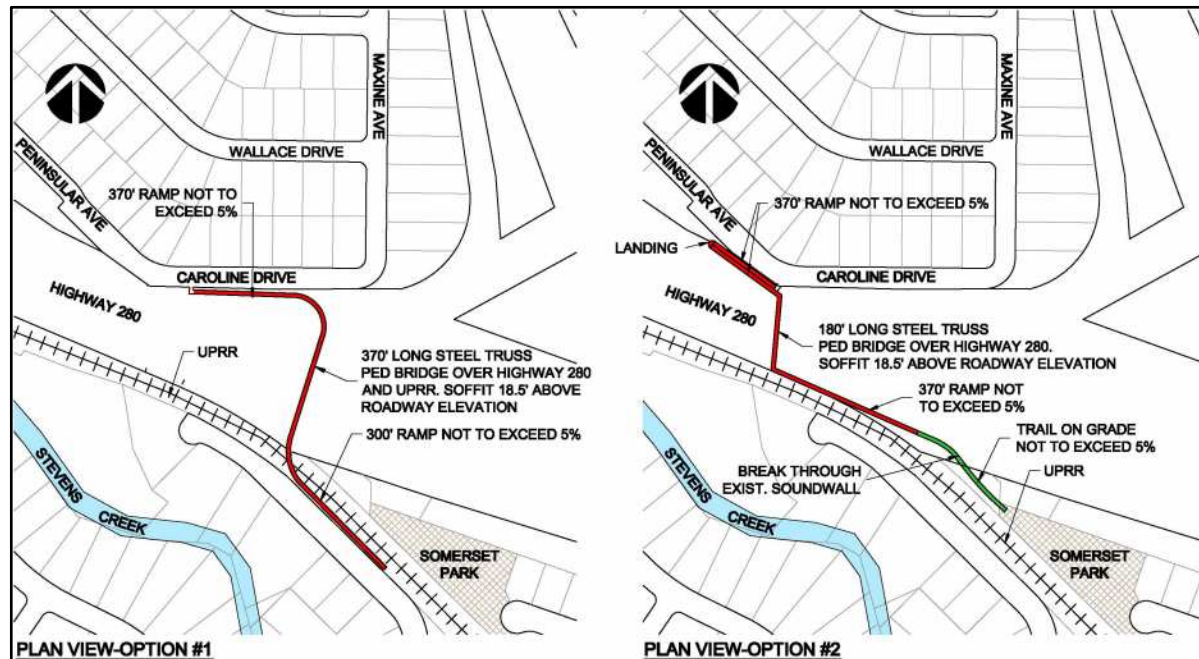


Figure 27 – Potentially feasible pedestrian overcrossings of Interstate 280.

Caltrans has indicated that at some point in the future the connector ramp from southbound State Route 85 to northbound Interstate 280 might be redesigned to improve geometrics. The northbound Interstate 280 off-ramp at Foothill Expressway may also be improved. These potential highway improvements make it difficult to fully evaluate the pedestrian overcrossing feasibility at these locations. These improvements are not currently identified in any transportation plans, but could be added in the future. A new pedestrian overcrossing of Interstate 280 would likely be the last element of the Stevens Creek Trail to be completed on the valley floor. This structure may never be warranted, but feasibility should continue to be assessed as Caltrans plans for the area develop.

#### GRADE SEPARATED CROSSING AT STEVENS CREEK BOULEVARD

The City of Cupertino acquired an additional parcel of land along the creek in 2014. This parcel fronts Stevens Creek Boulevard and is situated between the Blackberry Farm Golf Course parking area and Stevens Creek. A trail underpass

beneath Stevens Creek Boulevard is not feasible, but the recent land acquisition may provide an opportunity for a pedestrian tunnel beneath the roadway. There are two possible options to the east of the creek that take advantage of this new acquisition and one additional tunnel location to the west of the creek. The site to the west would require the acquisition of additional floodplain land on the northwest corner of the bridge that spans Stevens Creek (See Chapter 6 – Development Challenge). These three sites require additional study, but hold promise for providing a grade separated crossing of Stevens Creek Boulevard for pedestrians and bicyclists (See Appendix B – Summary of Studied Routes).

#### CONNECTION TO RANCHO SAN ANTONIO COUNTY PARK

A trail connection and staging area off Stevens Creek Boulevard to Rancho San Antonio County Park was first identified in Cupertino's 2002 Stevens Creek Trail Feasibility Study. This study identifies a location for a pedestrian and bicycle bridge spanning the UPRR line in the area off Stevens Creek Boulevard where the tracks

slice through the hillside. The trail and bridge location is down slope from the Hammond-Snyder home and would require access through undeveloped land along Stevens Creek Boulevard owned by Santa Clara County Roads & Airports Department and UPRR. The pedestrian and bicycle bridge would also require both ground and aerial rights along and over the UPRR line. The ramps to the bridge would be elevated approximately three feet above the existing grade to 485 feet to provide adequate clearance for train passage. The 485-foot elevation provides approximately 28 feet of clearance.

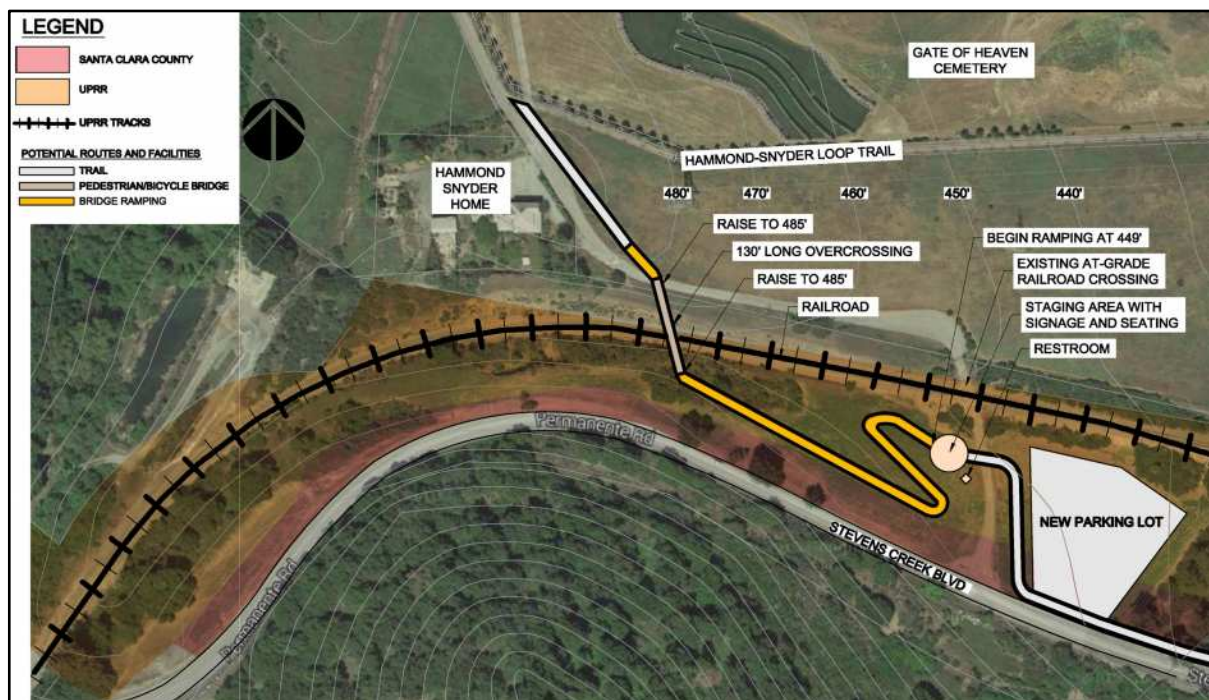
The staging area would require acquisition of undeveloped Santa Clara County Roads & Airports Department land that parallels both the UPRR line and Stevens Creek Boulevard west of Stonebridge. Acquisition of a portion of the UPRR lands adjacent to the rail corridor may also benefit the staging area (See Map 12 – Study Segment 4: Stevens Creek Boulevard Connection to Rancho San Antonio County Park Alignments Map).

Rancho San Antonio County Park is the second most heavily visited County Park



*The UPRR Rail line runs between Rancho San Antonio County Park and Stevens Creek Boulevard.*

and the parking areas are often full. A trail staging area would provide parking, restrooms, signage and a trail connection to the existing Hammond-Snyder Loop Trail in Rancho San Antonio County Park (See Figure 28 – Staging Area and Trail Connection Concept Plan). Rancho San Antonio County Park is operated under a management agreement with Midpeninsula Regional Open Space District (MROSD).



*Figure 28 – Staging Area and Trail Connection Concept Plan.*

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