Chapter 5 details the existing and feasible on-street bicycle and pedestrian facilities throughout the study area. Roadway width, traffic volume and speed, roadway intersections and pedestrian and bicycle collision history were evaluated for on-street routes to determine the opportunities and constraints to closing the gap in the Stevens Creek Trail. The feasibility to implement bicycle and pedestrian facilities on the roadways was assessed by applying the established design guidelines and standards.

This study draws upon four guidelines as the primary sources of criteria for assessing the feasibility of developing bicycle and pedestrian facilities on roadways. Guidelines addressing on-street bicycle and pedestrian facilities were reviewed to determine if sufficient roadway right-of-way existed to accommodate potential trail connections. These local, state and federal guidelines establish minimum through optimal criteria for developing bicycle and pedestrian facilities within the roadway right-of-way. These four guidelines apply to various elements of the on-street facilities investigated during this study. The guidelines include *(See Chapter 2 for details)*:

- 2012 California Department of Transportation Highway Design Manual: Chapter 1000 Bicycle Transportation Design *(See Figure 15).*
- 2012 Santa Clara Valley Transportation Authority Bicycle Technical Guidelines
- 2012 American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities
- 2004 American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities

This feasibility study reviewed a wide range of on-street routes and identifies the types of bicycle and pedestrian facilities that are feasible on each street. In instances where a roadway could support bicyclists and pedestrians only through reallocation of street space, it is assumed that traffic studies would need to be conducted to fully evaluate the impacts of any roadway change.

Throughout the course of this trail feasibility investigation information was gathered from north to south and divided into four study segments to facilitate the presentation of the feasibility findings. Maps, charts and drawings are provided to illustrate the feasible on-street bicycle and pedestrian facilities. The study segment include:

- Study Segment 1: Dale Avenue/ Heatherstone Way to Fremont Avenue
- Study Segment 2: Fremont Avenue to Homestead Road
- Study Segment 3: Homestead Road to Stevens Creek Boulevard
- Study Segment 4: Trail Connections to Rancho San Antonio County Park via Stevens Creek Boulevard

FACILITY DEFINITIONS

This report uses the following terms to describe existing and feasible on-street bicycle and pedestrian facilities. These terms are used in Figures 29, 32, 33 and 34 which summarize the feasibility of studied roadways to support pedestrian and bicycle facilities for linking the Stevens Creek Trail.

Pedestrian/Bike Path is a trail or path separated from auto traffic. These facilities are proposed in open space lands and parallel to roadways. A pedestrian/bike path is considered to be 10-feet wide with 2-foot shoulders on each side of the facility. Pedestrian/Bike Paths are intended to serve a wide-range of trail users with varying skill levels *(See Chapter 4 for details of feasible pedestrian/bicycle paths).*

Bike Lanes are indicated on arterial and collector streets carrying average daily traffic of more than 4,000 vehicles per day. Bike lanes provide a striped lane in either direction on the roadway and are intended for one-way bike travel. Bike lanes are assumed to be 6-feet wide unless otherwise noted in this report.

Signed Bike Routes are indicated on streets having low traffic volume as measured by average daily traffic of less than 2,000 vehicles per day and speeds less than 25 mph. Bike route signs and optional pavement markings are used to designate a street as a signed bike route. Bike routes are placed on streets with and without parallel parking.

Neighborhood Greenway is a signed bike route that includes neighborhood enhancements to manage vehicle speed and volume and prioritize bicycle traffic. Neighborhood greenways are identified on streets where the addition of roadway markings, corner curb bulb-outs with landscaping and other amenities are feasible within the roadway right-of-way.

Sidewalks are designated walking spaces along roadways. Sidewalks may be directly adjacent to the roadway curb or may include a planting strip that provides buffer to the roadway and an opportunity for street trees and landscaping.

Stevens Creek Boulevard looking west past the Oaks Shopping Center.

STUDY SEGMENT 1: DALE AVENUE/ HEATHERSTONE WAY TO FREMONT AVE.

Study Segment 1 extends from the Dale/Heatherstone Overpass to Fremont Avenue and from Grant Road to Mary Avenue. State Route 85 bisects the communities and limits pedestrian and bicycle movement east to west. The Dale/Heatherstone pedestrian overcrossing is the only structure that provides passage across State Route 85 for walkers or bicyclists between El Camino Real and Fremont Avenue. The potential on-street routes for extending the trail south are located to the east in Sunnyvale and to the west in Mountain View and Los Altos on either side of the state highway. These communities have developed pedestrian and bicycle facilities on many of the local collector streets in these areas. These facilities serve the city limits and connect students to several schools located within the study area *(See Figure 8 – Summary of parks, schools and attractions in the study area).*

EXISTING FACILITIES

On the Sunnyvale side of the highway bike lanes exist on Knickerbocker Drive, West Remington Drive and Bernardo from Heatherstone to West Remington Drive. Bike lanes also extend along Fremont Avenue and passing through the interchange and under State Route 85. In Mountain View bike lanes exist on a short segment of Bryant between Shady Springs Lane and Truman Avenue. This route facilitates access to Mountain View High School.

Mountain View has studied the streets around Mountain View High School on several occasions. These investigations have attempted to balance the needs of pedestrians, bicyclists, area homeowners and students and faculty who commute to the school. These efforts have implemented a range of pedestrian and bicycle facilities and programs and parking restrictions in the neighborhood.

FEASIBLE FACILITIES

On the Mountain View/Los Altos side of the highway neighborhood greenways could be extended from existing Sleeper Avenue trailhead along residential streets including Franklin, Diericx, Levin, St. Giles, Shady Springs, Brower to Mountain View High School *(See Figure 29 – Dale/Heatherstone to Fremont Avenue existing and feasible on-street bicycle facilities*). These routes are circuitous and connect to a narrow segment of Truman Avenue that borders Mountain View High School. Los Altos has plans to add bike lanes to Truman south of Oak to Fremont Avenue within city limits to facilitate travel to the school *(See Map 9 – Study Segment 1: Dale/Heatherstone to Fremont Avenue Alignments Map).*

In Sunnyvale neighborhood greenways could be extended along residential streets including Heatherstone Way, Mockingbird Lane and Robin Way. Bike lanes could be extended south on Bernardo from West Remington Drive to Fremont Avenue, but would require removal of the parking from one side of the street south of Remington.

Evaluated Roadway	Existing Bicycle Facilities	Feasible Bicycle Facilities
Heatherstone Way (Dale to Bernardo)	Undesignated	Neighborhood Greenway OR Proposed as a Bike Boulevard in the 2008 Mountain View Bicycle Transportation Plan
Knickerbocker Drive (Heatherstone to Mango)	Existing Bike Lanes	
Mockingbird Lane (Stevens Creek to Knickerbocker)	Undesignated	Neighborhood Greenway
Remington Drive (Bernardo to Mary)	Existing Bike Lanes	
Bernardo Avenue (Heatherstone to Remington)	Existing Bike Lanes	
Bernardo Avenue (Remington to Fremont)		Bike Lanes require removal of one side of on-street parking south of Remington
Mary Avenue (Heatherstone to Fremont)	Undesignated	Bike Lanes approved with the Mary Avenue Street Space Allocation Project by eliminating one lane of auto travel in each direction and creating a single left hand turn lane
Diericx Drive (Franklin to Lubich)	Undesignated	Neighborhood Greenway
Franklin Avenue (Sleeper to Levin)	Undesignated	Neighborhood Greenway
Bryant Avenue (Grant to Truman)	Existing Bike Lanes	
Truman Avenue (Bryant to Fremont)	Undesignated	Bike Lanes require removal of one side of on-street parking south of Oak Bike Lanes from Oak to Fremont proposed in 2012 Los Altos Bicycle Transportation Plan
Fremont Avenue (State Route 85 N/B Off-ramp to Fallen Leaf)	Existing Bike Lanes Retain 4' Bike Lane on south side	
Fremont Avenue (Fallen Leaf to Grant Road)	Existing Bike Lanes	Pedestrian/Bike Path proposed along north side as identified in 2008 Los Altos Stevens Creek Trail Feasibility Study and 2012 Los Altos Bicycle Transportation Plan

Figure 29 – Dale/Heatherstone to Fremont Avenue existing and feasible on-street bicycle facilities.

STUDY SEGMENT 2: FREMONT AVENUE TO HOMESTEAD ROAD

Study Segment 2 extends from Fremont Avenue to Homestead Road and from Grant Road to Mary Avenue. State Route 85 bisects Sunnyvale and Los Altos in this study segment. The Dalles pedestrian overcrossing is the only structure that provides passage across State Route 85 for walkers or bicyclists between Fremont Avenue and Homestead Road. It serves students accessing local elementary, middle and high schools. The potential on-street routes for extending the trail south are located to the east in Sunnyvale and to the west in Los Altos on either side of the state highway.

EXISTING FACILITIES

Existing bicycle facilities in this study segment are limited to the collector and arterial roadways including Fremont Avenue, Grant Road, Mary Avenue and Homestead Road. These roadways support high traffic volumes and higher speed limits than the undesignated residential streets in the study segment. Most of the intersections on these streets are controlled with signal lights. Cross traffic also includes unsignalized residential side streets, single-family residences and business establishments.

FEASIBLE FACILITIES

In Sunnyvale, neighborhood greenways are suitable between Mary Avenue and Bernardo Avenue on The Dalles Avenue, Helena Drive and Samedra Street. A neighborhood greenway or a pedestrian/ bike path is feasible on Bernardo Avenue *(See Chapter 4 for discussion of Bernardo Avenue Path).* No changes to the allocation of street space on Bernardo would be needed to support a neighborhood greenway *(See Figure 30 – Fremont Avenue to Homestead Road existing and feasible on-street bicycle facilities).* A neighborhood greenway could also extend along Bedford Avenue. Belleville Way could support bike lanes, but this would require removal of parking from one side of the street. Removal of parking was a concern expressed by Cupertino Union School District representatives. West Valley Elementary School is located on Belleville and the through roadway is very busy during school drop-off and pickup *(See Map 10 – Study Segment 2: Fremont Avenue to Homestead Road Alignments Map).*

In Los Altos, Fallen Leaf Lane has adequate right-of-way to support many types of bicycle and pedestrian improvements. The public right-of way is 60 feet wide. However, the developed pavement section is only 42 feet wide. The remaining 18 feet of the public right-of-way is currently undeveloped and integrated into the front yards of the homes along the roadway. Bike lanes or a pedestrian/bike path would each require use of the majority of the 60-foot right-of-way.

A bike route or neighborhood greenway is feasible within the existing 42-foot paved roadway. The *2012 Los Altos Bicycle Transportation Plan* proposes a signed bike routes on both Fallen Leaf Lane and on Newcastle Drive (Los Altos, 2012, pp. 5-5 and 5-11). On Fallen Leaf Lane there is adequate paved roadway width to develop a neighborhood greenway with or without a 6-foot walking space on the east side of the street *(Illustration 4 – Fallen Leaf Lane as a signed bike route and Illustration 5 – Fallen Leaf Lane as a neighborhood greenway with walking space).*

The *2012 Los Altos Bicycle Transportation Plan* proposes bike lanes on Grant Road along the Foothill Expressway frontage to Homestead Road (Los Altos, 2012, p. 2-10). A pedestrian/bike path along the north side of Fremont Avenue is identified in the *2012 Los Altos Bicycle Transportation Plan (See Chapter 4 for discussion of Fremont Avenue/Grant Road Path).* The plan notes that the "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)."

Evaluated Roadway	Existing Designated Bicycle Facilities	Feasible Bicycle Facilities
Bernardo Avenue (Fremont to Homestead)	Undesignated	Pedestrian/Bike Path along Soundwall - Requires either a 1-way street or loss of parking OR Neighborhood Greenway
Belleville Way (Fremont to Homestead)	Undesignated	Bike Lanes - Requires removal of one side of on-street parking
Bedford Avenue (Belleville to Ecola) Ecola Lane (Bedford to Barton)	Undesignated	Neighborhood Greenway
Fallen Leaf Lane (Fremont to Louise)	Undesignated	Pedestrian/Bike Path along east side or Bike Lanes Require use of entire city-owned right-of-way OR Neighborhood Greenway using existing pavement only OR Signed Bike Route using existing pavement only as identified in 2002 Los Altos General Plan and 2012 Los Altos Bicycle Transportation Plan
Louise Lane (Fallen Leaf to Homestead)	Undesignated	Neighborhood Greenway using existing pavement only OR Signed Bike Route using existing pavement only
Newcastle Drive (Fremont to Grant)	Undesignated	Bike Route proposed in 2012 Los Altos Bicycle Transportation Plan
Mary Avenue (Fremont to Homestead)	Existing Bike Lanes	
Homestead Road (Belleville to Grant)	Existing Bike Lanes and Existing Pedestrian/Bike Path along north side	

Figure 30 – Fremont Avenue to Homestead Road existing and feasible on-street bicycle facilities.

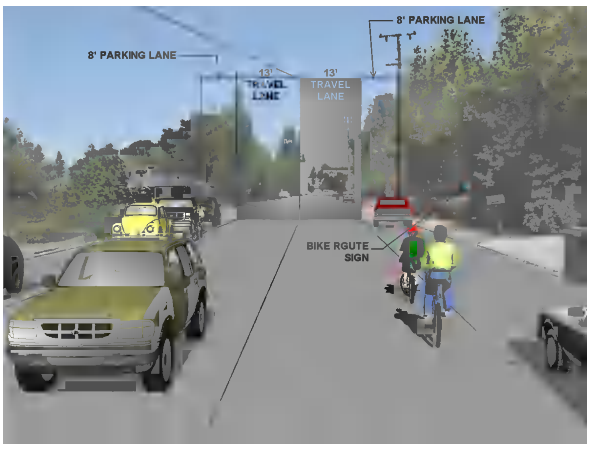

Illustration 4 – Fallen Leaf Lane as a signed bike route.

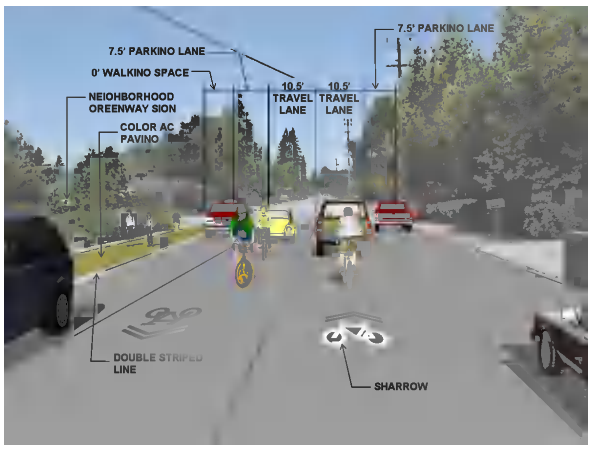

Illustration 5 – Fallen Leaf Lane as a neighborhood greenway with walking space.

STUDY SEGMENT 3: HOMESTEAD ROAD TO STEVENS CREEK BOULEVARD

Study Segment 3 extends from Homestead Road to Stevens Creek Boulevard and from Grant Road to Mary Avenue. This study segment is bisected east-west by State Route 85 and north-south by Interstate 280. The Don Burnett Bicycle-Pedestrian Bridge at Mary Avenue spans Interstate 280 and Foothill Expressway passes beneath this freeway providing access for pedestrians and bicyclists. Stevens Creek Boulevard and Foothill Expressway serve as interchanges to these highways. The potential on-street routes for extending the trail south are located to the east in Sunnyvale and Cupertino and to the west in Los Altos and Cupertino.

EXISTING FACILITIES

Existing bicycle facilities in this study segment are limited to the collector and arterial roadways including Homestead Road, Grant Road, Mary Avenue, Foothill Boulevard and Stevens Creek Boulevard. Los Altos recently completed a pedestrian/bicycle path along the north side of Homestead Road from Stevens Creek to Grant Road. Foothill Expressway is a well-used bicycle facility. The road shoulder is delineated but not designated for bicycle use *(See Map 11 – Study Segment 3: Homestead Road to Stevens Creek Boulevard Alignments Map).*

These collector and arterial roadways support high traffic volumes and higher speed limits than the undesignated residential streets in the study segment. Foothill Expressway, Foothill Boulevard and Stevens Creek Boulevard serve as truck routes, which also provide access to the quarry operations in the Santa Cruz Mountains above Cupertino. Most of the intersections on these streets are controlled with signal lights. Free right-hand turns exist at the Foothill/I-280 interchange. Cross traffic also includes unsignalized residential side streets, single-family residences and business establishments *(See Figure 31 – Homestead Road to Stevens Creek Boulevard existing and feasible on-street bicycle facilities on collector and arterial streets).*

FEASIBLE FACILITIES

In Cupertino, neighborhood greenways are feasible on Maxine Avenue, Caroline Drive, Peninsular Avenue, Barranca, Madera, Phar Lap, Mann, Stokes, Dempster and Peninsula *(See Figure 32 – Homestead Road to Stevens Creek Boulevard existing and feasible on-street bicycle facilities on residential streets).* These residential streets provide access to the two potentially feasible Interstate 280 pedestrian overcrossing locations *(See Map 10 – Study Segment 2: Fremont Avenue to Homestead Road Alignments Map).*

Evaluated Roadway	Existing Designated Bicycle Facilities	Feasible Bicycle Facilities
Grant Road **(Fremont to Foothill Expressway)**	Existing Bike Lanes	Pedestrian/Bike Path proposed along east side in 2008 Los Altos Stevens Creek Trail Feasibility Study
Grant Road **(Foothill Expressway to Homestead)**	Existing Bike Route	Bike Lanes proposed in 2012 Los Altos Bicycle Transportation Plan OR Pedestrian/Bike Path proposed along north side in 2008 Los Altos Stevens Creek Trail Feasibility Study
Foothill Expressway **(Grant Road to Foothill Boulevard)**	2-foot "Delineate but not Designate" shoulder on the Expressway	Pedestrian/Bike Path with an optimal 8-foot "Delineate but not Designate" shoulder on the Expressway – May not be sufficient room to create optimal shoulder conditions
Foothill Boulevard **(Cristo Rey to Stevens Creek Blvd.)**	Existing Bike Lanes	
Mary Avenue **(Don Burnett Bicycle-Pedestrian Bridge to Stevens Creek Blvd.)**	Existing Bicycle Lanes	
Stevens Creek Boulevard **(Stonebridge to Foothill Blvd. to Stevens Creek Trail to Mary Avenue)**	Existing Bicycle Lanes	

Figure 31 – Homestead Road to Stevens Creek Boulevard existing and feasible on-street bicycle facilities on collector and arterial streets.

Evaluated Roadway	Existing Designated Bicycle Facilities	Feasible Bicycle Facilities
Barranca Drive (Homestead to Peninsular)	Undesignated	5-foot Bike Lanes Requires removal of one side of on-street parking OR Neighborhood Greenway
Peninsular Avenue (Barranca to Caroline)	Undesignated	4-foot Bike Lanes Requires removal of one side of on-street parking OR Neighborhood Greenway
Caroline Drive (Peninsular to Maxine)	Undesignated	Bike Lanes Requires removal of one side of on-street parking OR Neighborhood Greenway
Maxine Avenue (Caroline to Homestead)	Undesignated	5-foot Bike Lanes Requires removal of one side of on-street parking OR Neighborhood Greenway
Stokes Avenue (Somerset Park to Dempster)	Undesignated	5-foot Bike Lanes Requires removal of one side of on-street parking OR Neighborhood Greenway
Dempster Avenue (Stokes to Peninsula)	Undesignated	5-foot Bike Lanes Requires removal of one side of on-street parking OR Neighborhood Greenway
Peninsula Avenue (Dempster to Stevens Creek Blvd.)	Undesignated	5-foot Bike Lanes Requires removal of one side of on-street parking OR Neighborhood Greenway
Phar Lap (Madera to Stevens Creek Blvd.)	Undesignated	Neighborhood Greenway
Madera Drive (UPRR to Dos Palos Ct.)	Undesignated	Neighborhood Greenway
Mann Drive (Dos Palos Court to Stevens Creek Blvd.)	Undesignated	Neighborhood Greenway

Figure 32 – Homestead Road to Stevens Creek Boulevard existing and feasible on-street bicycle facilities on residential streets.

STUDY SEGMENT 4: TRAIL CONNECTIONS TO RANCHO SAN ANTONIO COUNTY PARK STEVENS CREEK BOULEVARD

Study Segment 4 encompasses Stevens Creek Boulevard west of Foothill Boulevard and the open space lands west of Stonebridge, the last residential development along the roadway. This study segment is bisected east-west by State Route 85 and north-south by Interstate 280. Stevens Creek Boulevard west of Foothill Boulevard serves residences and Lehigh Quarry and Cement Plant.

EXISTING FACILITIES

Bike lanes extend on Foothill Boulevard from Cristo Rey Drive to Stevens Creek Boulevard. Bike lanes extend along Stevens Creek Boulevard from the Stevens Creek Trail at Blackberry Farm Golf Course to Stonebridge.

FEASIBLE FACILITIES

A trail connection and staging area off Stevens Creek Boulevard to Rancho San Antonio County Park is proposed to provide additional access and parking to the second most heavily visited regional park and open space preserve *(See Chapter 4 for a discussion of the path to Rancho San Antonio County Park).* A pedestrian/bicycle path is feasible within the roadway right-of-way on the north side of Stevens Creek Boulevard. The pedestrian/bicycle path would extend from Stonebridge to the proposed staging area located near the Hammond-Snyder Home *(See Map 12 – Study Segment 4: Stevens Creek Boulevard Connection to Rancho San Antonio County Park Alignments Map).*