

## FEASIBILITY CRITERIA

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This chapter describes the methodology and criteria used to evaluate the feasibility of developing trails throughout the study areas. Land availability, habitat sensitivity, roadway crossings and on-street connector routes were reviewed to determine the opportunities and constraints to trail development. The results of this site analysis was then used to develop the trail alignments described in Chapter 4.

Land availability explored property ownership and land use and compared this information to the land needed to construct a trail. The amount of land necessary to develop a trail was based upon various trail design guidelines and the operations and maintenance requirements of the Santa Clara Valley Water District. The guidelines used to determine adequate trail width included the California Department of Transportation - Highway Design Manual (Caltrans, 1997) and the 1995 Santa Clara Countywide Trails Master Plan - Design and Management Guidelines (Santa Clara County, 1995).

The habitat sensitivity of the creek corridors was evaluated through field surveys and a review of the Federal and State listed species that have the potential to occur in the area. The type and quality of the habitats along the creek corridor are summarized in this chapter and fully detailed in Appendix B: Biological Assessment Report.

The potential to construct in-channel underpasses at McClellan Road and Stevens Creek Boulevard was assessed. In-channel underpasses allow the trail alignment to be grade-separated from roadway automobile traffic. The crossing alternatives evaluated at these two roadways are summarized in this chapter and detailed in Appendix C- Geotechnical Feasibility Evaluation. An underpass at McClellan Road was retained for further evaluation. The grade-separated crossing at Stevens Creek Boulevard was eliminated due to environmental impacts, limited land availability and neighborhood opposition.

In areas where the trail could not be aligned along the creek due to lack of land availability, sensitive habitat, constrained roadway crossings or other factors, an on-street alignment is proposed to connect segments of the trail. The criteria for evaluating on-street routes are explained in the chapter.

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## LAND AVAILABILITY

The intent of this study was to evaluate the feasibility of developing the Stevens Creek Trail on existing public lands or on lands that are subject to discretionary development approvals. The land along Stevens Creek is primarily owned by the City of Cupertino. Other public or quasi-public agencies control additional parcels of land along the creek corridor. These agencies include Santa Clara Valley Water District, Santa Clara County Parks and Recreation Department, Santa Clara County Roads and Airports Department, San Jose Water Company and Union Pacific Railroad. In general, the trail alignments are proposed within these public and quasi-public lands. In Study Area A trails are proposed on private property that was subject to development agreement. This agreement required the dedication of land for open space preservation and public trail access. These lands are soon to transfer ownership to the Santa Clara County Parks and Recreation Department. In Study Area B and C trails are proposed on private property subject to future development approvals. Trails through this property have been included in the Cupertino General Plan since 1993.

Trail design guidelines were reviewed to determine if sufficient public land existed to accommodate construction of the trails. Guidelines established by the California Department of Transportation and the County of Santa Clara were used to determine the land availability requirement. Caltrans defines three types of trail facilities each with specific trail dimensions. Class I Bike Paths are located off-street and Class II Bike Lanes and Class III Bike Routes are located within the roadway right of way. A Class I Bicycle Pathway serves the exclusive use of pedestrians and bicyclists and is defined as a right-of-way completely separated from motor vehicle street and highway traffic (Caltrans, Highway Design Manual: Chapter 1000, 1997). The minimum trail width for a Class I Bicycle Pathway is 8 feet with minimum 2-foot shoulders on each side of the trail.

The Stevens Creek Trail is included in the 1995 Santa Clara Countywide Trails Master Plan. This plan also includes three definitions of trail types. They include regional, sub-regional and connector trails. These definitions specify the purposes served by the various trail types. The Stevens Creek Trail (Route S-2) is considered a sub-regional trail that will serve shared uses. The streamside setting can accommodate walking, bicycling, in-line skating, wheeling and strolling (*See Figure 2*).

Santa Clara County's Trail Easement Dedication Policies and Practices usually require a 25-foot wide easement to accommodate trail development in the

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urban service areas (Santa Clara County, 1992). The 25-foot wide easement is intended to include the trail tread, shoulders, privacy setback and habitat enhancements or landscaping. This easement width would be necessary when designing for a multi-use path.

### SANTA CLARA COUNTY TRAIL DEFINITIONS

**Regional Trail Routes** are those trails of National, State or regional recreation significance. In all cases, Regional trail routes extend beyond the borders of Santa Clara County. Regional Trails are generally envisioned as shared-use trail routes in that they would accommodate a variety of trail users. In some instances, where topography and other physical constraints dictate, separate trails along the same general trail route may be needed to accommodate different users.

**Sub-Regional Trail Routes** are those that in some way:

- ◆ Provide regional recreation and transportation benefits such as providing key links for accessing rail stations, bus routes or park-and-ride facilities;
- ◆ Provide for continuity between cities; generally crossing a city or passing through more than one city; or
- ◆ Provide convenient long-distance trail loop opportunities by directly linking two or more Regional Trail to create an urban trail network.

**Connector Trail Routes** are those that:

- ◆ Form convenient means of access and linkages from urban areas, developed areas, and public lands within the county to the primary trail network of Regional and Sub-Regional Trails.

*Figure 2 - 1995 Santa Clara Countywide Trails Master Plan Definitions*

Trail Design Guidelines are included as an appendix to the 1995 Santa Clara Countywide Trails Master Plan. These guidelines suggest that "trail tread widths should be determined by the amount and intensity of trail use and field conditions such as topography, vegetation and sensitivity of environmental resources." Several of the Trail Design Guidelines have application for evaluating the feasibility of the Stevens Creek Trail in

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Cupertino. Trail Design Guidelines G-2 through G-5 were used to evaluate trail conditions.

Countywide Trails Master Plan Guideline G-2 – Shared Use Trail – Paved Tread Double Track recommends that a trail serving multiple uses meet an optimum width of 12 feet and provide a hard paved surface to accommodate this multi-use. In situations where uses are limited tread width is narrowed. Countywide Trails Master Plan Guideline G-3 – Shared Use Trail – Natural Tread Double Track recommends that a soft-surface trails serving multiple uses meet an optimum width of 12 feet. In situations where uses are limited tread width is narrowed. Guidelines G-2 and G-3 are intended for multi-use paths, which could include horseback riding, bicycling, walking, in-line skating, jogging and other uses on a single trail.

Countywide Trails Master Plan Guideline G-4 – Single Track Trail – Natural Tread recommends a trail surface of native material with a 6-foot trail width. Finally, Countywide Trails Master Plan Guideline G-5 – Single-Use Trails – Natural Tread for Hikers recommends a trail surface of native material with a 3-foot trail width for single use trails. In all instances, these recommendations are simply guidelines for trail development. They have been applied throughout this study as a screen for evaluating trail feasibility in Study Areas A through D. Although these guidelines establish very specific tread width and surfacing types, they do not set a standard for Cupertino trails. They are simply one gage for evaluating the feasibility of trail development. Ultimately, Cupertino's trails must be designed to accommodate the intended trail use and intensity planned for each study area.

In addition Caltrans and Santa Clara County design recommendations, the Santa Clara Valley Water District maintains guidelines for maintenance access through the creek corridors. These guidelines recommend a minimum 20 to 22 foot clearance for maintenance vehicle movement along the creek channel. These guidelines are important because in many areas both trail users and maintenance vehicles would likely travel the same pathway.

### HABITAT SENSITIVITY

A biological assessment was conducted in the spring of 2000 and 2001 to evaluate the habitat sensitivity and the presence of species of concern throughout the study areas. This biological assessment identified biological constraints to trail development and highlighted potential ecological restoration opportunities early on in the planning process. The bioassessment included the evaluation of existing environmental reports and biological

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information already collected in the study areas, as well as, the field surveys conducted specifically for this trail feasibility investigation. The field surveys were conducted to determine the location of sensitive habitats and the presence of species of concern.

Nine distinct habitat types were found in the four study areas (*See Map 4 - Study Area Habitat Map*). They include riparian vegetation, freshwater wetlands, in-stream habitat, oak woodland/grassland, oak woodland/chaparral, open grassland, orchard, golf course and parks and suburban development. Of these habitat types, riparian vegetation, freshwater wetlands, in-stream habitat and oak woodland systems are considered sensitive habitats by the resource agencies, either because they support rare species or because the habitats are protected by law (*See Appendix C - Assessment of Biological Opportunities and Constraints*).

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See Map 4 - Study Area Habitat Map

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Rare species documented or expected to occur in the project area include the western pond turtle, red-legged frog, steelhead trout, birds of prey, valley oak and blue oak. The most important biological constraints to the trail alignment revolve around these rare species and habitats. The recommendations provided in the biological assessment report are designed to avoid impacts to natural resources and minimize the need for environmental permits.

## ROADWAY AND CREEK CROSSINGS

McClellan Road and Stevens Creek Boulevard roadway bridges span Stevens Creek in the project area. Each bridge was individually investigated to determine the feasibility of providing a grade-separated crossing that maintained an uninterrupted trail alignment adjacent to the stream corridor. An underpass at McClellan Road was retained for further evaluation. The grade-separated crossing at Stevens Creek Boulevard was eliminated due to environmental impacts, limited land availability and neighborhood opposition.

In addition, five pedestrian/bicycle bridges were evaluated in the Blackberry Farm area. These bridges were proposed to span the creek as part of the east and west bank trail alignment alternatives under consideration. The five locations were investigated for feasibility and conceptual designs were proposed. Only one of these bridges is retained for further consideration. This bridge links Blackberry Farm to the Stocklmeir property.

The grade-separated crossing alternatives evaluated at the two roadways and the pedestrian/bicycle bridge sites are detailed in Appendix D - Geotechnical Feasibility Evaluation. The crossings retained for further consideration are described in Chapter 4 - Trail Alignment.

## ON-STREET CONNECTORS

An assessment of on-street alignments was conducted to evaluate the feasibility of linking isolated segments of the trail via city streets. These on-street connectors offer a continuous linear transportation route. This feasibility study reviewed several on-street alternatives and recommended specific city streets to close the gaps between segments of the trail. Several criteria were applied to evaluate the on-street connectors.

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The ability to provide a continuous and reasonably direct route between the segments of the trail was of utmost importance. The number of directional movements and turns required to navigate the on-street alignment were kept to a minimum to make the route simple to follow. Ease in returning to the creek corridor and open space lands from city streets was viewed as an important criteria for encouraging the public to find and use the on-street facilities. The varying level of bicycle riding ability of those individuals attracted to trail facilities was considered in the route recommendations. Streets that accommodate beginner bicyclists were preferred.

Finally, convenience and safety were evaluated at all intersections. Roads with right of way that minimized the need to stop were selected over those routes that were frequently interrupted by stop signs. Major intersections were evaluated for signal lights or the probability of installing new lights which might be required to accommodate the additional pedestrian and bicycle use.