



TO: Parks and Leisure Services Commission

September 12, 2018

SUBJECT: Status Update on Diablo Road Trail (CIP C-055)

DESCRIPTION

One of the duties of the Parks and Leisure Services Commission (the “Commission”) involves planning for improvements and additions to the Town’s trails system. A key takeaway from the 2017 Parks, Recreation and Arts Strategic Plan Update was the desire of the community to expand the trails network and particularly to close gaps in that system. This report is intended to provide the Commission with an update on the Diablo Road trail (CIP Project C-055), which would provide a safe non-vehicular connection between the neighborhoods in northeast Danville and the services and public facilities (schools and transit) located farther to the west.

BACKGROUND

The Town’s vision to develop a continuous pedestrian and bicycle trail along the Diablo Road corridor is reflected in each of Danville’s key planning documents over the past three decades, tracing back to the Danville 2005 General Plan, adopted in 1987 (Attachment A). In each of these policy documents, the objective of developing a multi-use trail along the corridor is clear while the exact alignment remained undetermined. Potential alignment options ranged from on-road bicycle lanes to a grade-separated off-road trail. Given right-of-way constraints in the corridor, all options necessitate a dedication of land from the Magee property located on the south side of Diablo Road.

Proposed Development of the Magee Property

In 2010, the Town received an application to develop the 410-acre Magee property on Diablo Road. A 69-unit subdivision was ultimately approved by the Town Council in 2013. Among other public benefits, the approval contained elements that would have allowed the development of the Diablo Road Trail to move forward.

As shown on Figure 1, the developer would have been required to build a paved trail segment from the intersection of Jillian Way, along Green Valley Creek back to Diablo Road near Avenida Nueva (shown in yellow; approximately 3,085 linear feet). The

developer also agreed to dedicate a public easement that would allow the Town to construct the remainder of the paved trail, separated from the road itself (shown in orange; estimated at 3,600 linear feet). The segment would then connect to the existing asphalt trail on the north side Diablo Road (shown in red). In total, the two trail segments (shown in orange and yellow) would have added approximately 6,685 linear feet of paved bicycle and pedestrian facility (minimum 8-foot wide) to the Town’s trail network.

Figure 1. Proposed new trail segments (orange and yellow) as part of Magee Ranch project



Source: SumerHill Magee Ranches presentation to the Danville Planning Commission, May 2013

DISCUSSION

Subsequent litigation on the approved project resulted in a court ruling which found that the Magee Ranch project’s Environmental Impact Report (EIR), certified by the Town, inadequately studied potential bicycle safety issues. As a result, the project approval was rescinded by the Town Council. A new developer, Davidon Homes, is now the project applicant and seeks approval of the Revised Draft EIR and re-approval of the development application. The Revised DEIR has recently been released for public review and its consideration, along with the project itself, will occur in the coming months.

Feasibility Analysis A: Road & Grade Separated Multi-Purpose Trail

To ensure that construction of the trail segment within the proposed public easement is feasible given the topography and need to safely cross Diablo Road, the Town retained Alta Planning + Design to study the feasibility of constructing the segment of trail that would be dedicated to the Town. Specifically, Alta was asked to identify viable road and creek crossing locations, trail alignment routes and associated costs (“Alta Study”).

The Alta Study (Attachment B) indicates that the Town-constructed portion of the Diablo Road Trail would be longer than originally anticipated, ranging from 5,450-6,450 linear feet. Depending on the alternative selected, it is estimated to cost **\$1.57 - \$2.60 million**.

Figure 2. Diablo Road Trail – Hill Alignment and Crossing Options (excerpt from Alta Study, page 22)

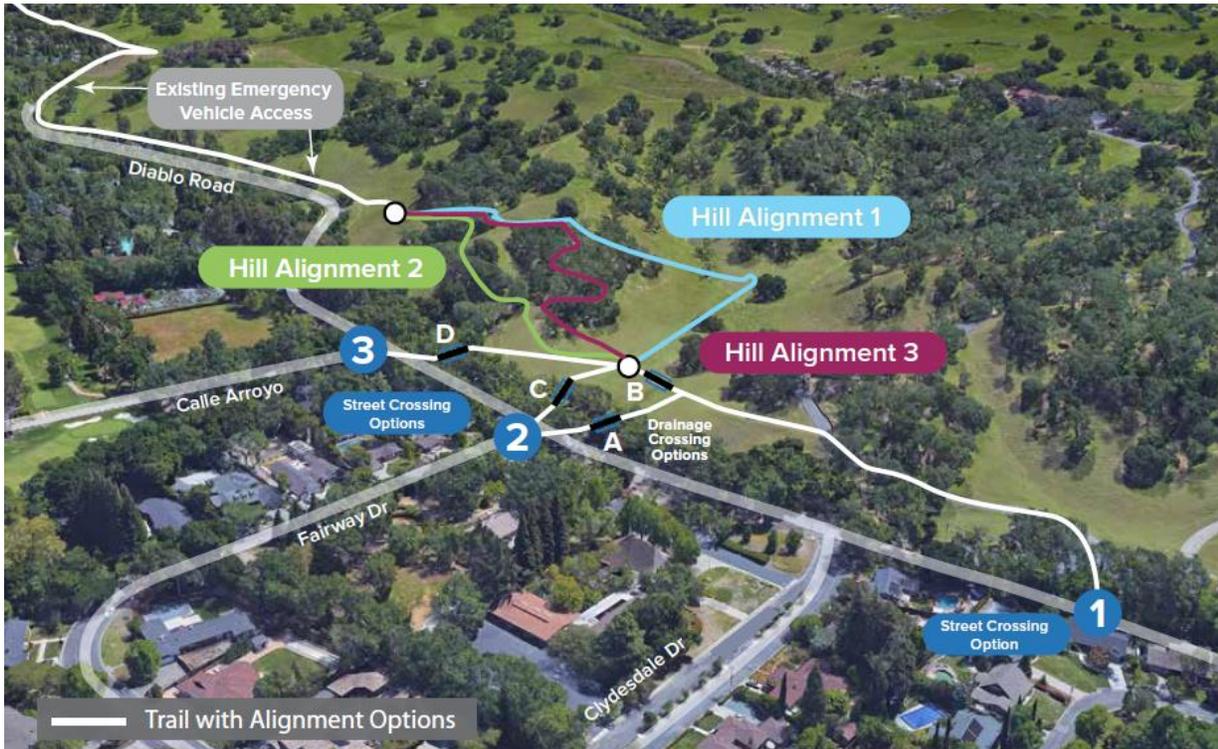


Figure 3. Diablo Road Trail (CIP C-055) – Estimated Range of Costs (excerpt from Alta Study, page 26)

Road Crossing Pages 16-19	Drainage Crossing Pages 20-23	Hill Alignment Pages 24-27	Emergency Vehicle Access	Cost Estimate
1	B	1		\$1,570,000 - \$1,940,000
Private Driveway	B	2	<input checked="" type="checkbox"/>	\$1,320,000 - \$1,690,000
	B	3		\$1,320,000 - \$1,690,000
2	A + B	1		\$2,030,000 - \$2,600,000
	A + B	2		\$1,780,000 - \$2,350,000
Fairway Drive	A + B	3	<input checked="" type="checkbox"/>	\$1,780,000 - \$2,350,000
	C	1		\$1,880,000 - \$2,350,000
	C	2		\$1,630,000 - \$2,100,000
	C	3		\$1,630,000 - \$2,100,000
3	D	1		\$1,890,000 - \$2,360,000
Calle Arroyo	D	2	<input checked="" type="checkbox"/>	\$1,640,000 - \$2,110,000
	D	3		\$1,640,000 - \$2,110,000

The Alta Study shows that all alternatives are feasible if the right-of-way is dedicated to the Town as part of the development of the Magee property. Should the development occur, the Town would undertake a more detailed evaluation of the preferred alternative.

Feasibility Analysis B: Class II Bike Lanes on Diablo Road

Some members of the public have called for the Town to construct bike lanes along Diablo Road. To study this potential option, the Town utilized its in-house engineering staff to conduct a feasibility analysis of constructing Class II bike lanes on Diablo Road, extending from Green Valley Road to Mt. Diablo Scenic (approximately 1.35 miles). This effort analyzes both potential environmental impacts (tree removal, grading, retaining walls, etc.) and the estimated cost of this project option.

This feasibility analysis is based on the need to widen Diablo Road to current geometric design standards published by the American Association of State Highway and Transportation Officials (AASHTO), which would consist of a 42-foot wide roadway cross section (illustrated below).

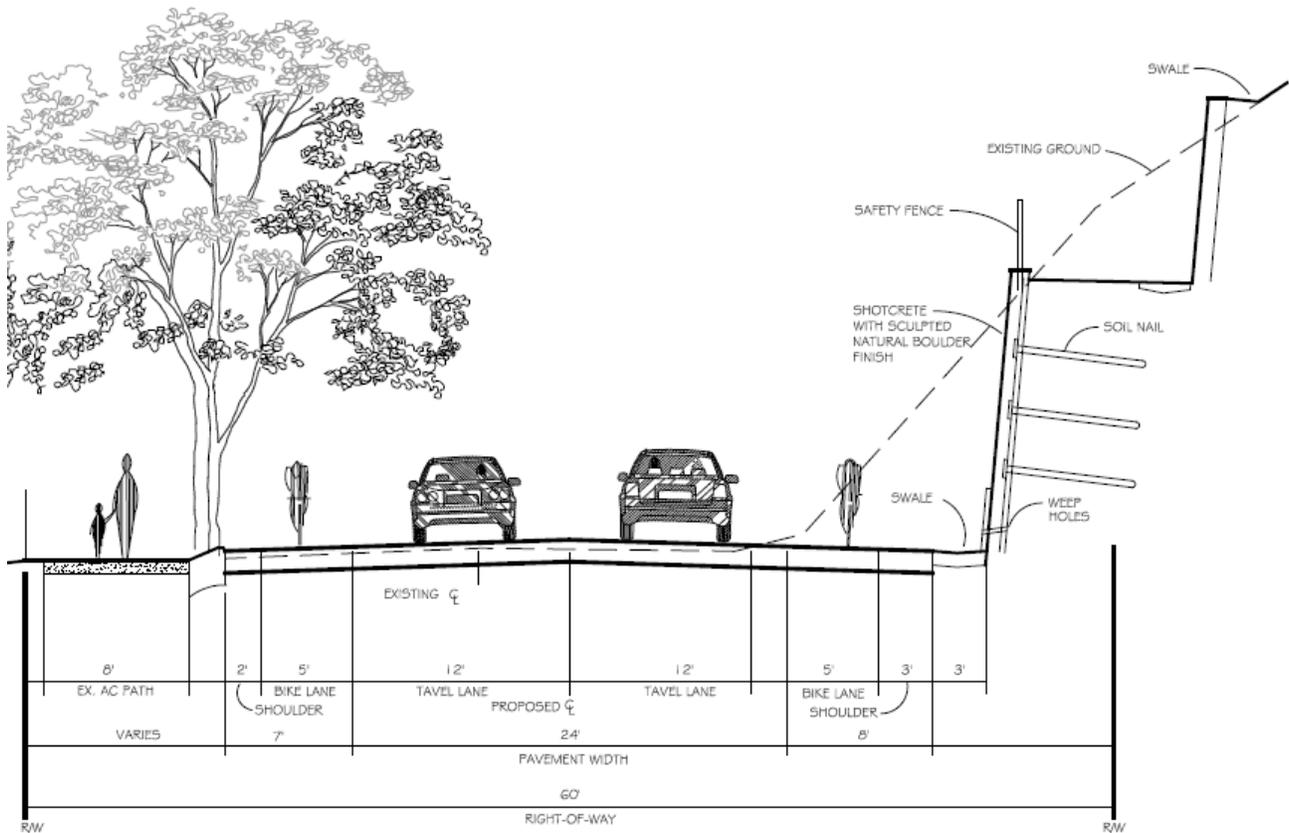


Figure 4. Cross section of Diablo Road (east of Green Valley Road), with lane and shoulder widths consistent with current AASHTO standards.

Due to the topography and natural setting of the corridor, the project would necessitate:

- Removing approximately 341 oak trees
- Grading 61,000+ cubic yards of soil
- Constructing ~5,450 linear feet of retaining walls, ranging from 3-17 feet in height
- Realigning Green Valley Creek, near the entrance to the Diablo Country Club
- Relocating 47 utility poles as well as all EBMUD fire hydrants
- Temporary one-lane travel on Diablo Road during an approximate 18-24 month construction period

As illustrated in Figure 5 below, the cost to construct this new roadway cross section is estimated at **\$54.75 million**, or approximately \$7,681 per linear foot. As a comparison, the cost to construct auxiliary lanes on I-680 between the Sycamore Valley Road and Crow Canyon Road interchanges was approximately \$34 million.

Figure 5. Cost summary of Diablo Road widening to accommodate bike lanes

Project Component	Estimated Subtotals	Estimated Total Cost
1. Project Design Engineering, surveys, geotechnical services, environmental permits		\$8,100,000
2. Site Preparation		\$23,758,000
• Site mobilization and traffic control	\$7,000,000	
• Tree removal (341 trees)	\$1,705,000	
• Removal of fences, road rail, retaining walls, drainage systems, etc.	\$1,863,000	
• Clearing and grubbing	\$3,500,000	
• Utility relocation (47 power poles, EBMUD fire hydrants)	\$6,500,000	
• Culvert crossing and creek realignment	\$2,950,000	
• Miscellaneous administrative	\$240,000	
3. Construction		\$15,751,074
4. Contingency (15%)		\$7,141,361
Project Total (Design & Construction):		\$54,750,435

Source: 2017 Contract Cost Data, California Department of Transportation

Other major considerations - such as the traffic delays during an extended construction period, federal requirements and timing limitations associated with creek alignment, construction season limitations - have not been factored into this cost estimate.

Policy & Environment Impacts

As a gateway to Mount Diablo State Park, this segment of Diablo Road has historically been identified in the Town’s General Plans as an “important scenic corridor” and that

“[D]espite the considerable volumes of traffic carried by the two-lane roadway, it retains the character of a country road.” Since 1999, the Danville General Plan has contained policy direction which “strongly supports retention of this [roadway’s] character...” Widening of Diablo Road would permanently alter its country road character and be inconsistent with the General Plan.

Furthermore, the environmental impacts associated with the removal of over 300 trees, grading over 60,000 cubic yards of soil, constructing about 5,450 linear feet of retaining walls that can reach 17-feet in height and re-aligning Green Valley Creek would be subject to a detailed environmental analysis for potentially significant impacts.

Lastly, the Town must weigh the cost (environmental and fiscal) of widening Diablo Road against its ability to serve just one (bicyclists) of the two targeted non-vehicular travel modes (bicyclists and pedestrians).

RECOMMENDATION

It is recommended that the Commission accept this report and provide feedback to Town staff regarding the proposed Diablo Road Trail.

PUBLIC CONTACT

Posting of the meeting agenda serves as notice to the general public.

Prepared by:

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Assistant Town Manager

Robert Ewing
City Attorney

Attachments: A – Chronology of Diablo Road Trail efforts

- Exhibit 1 – Excerpt from Danville 2005 General Plan
- Exhibit 2 – Excerpt from Townwide Trails Master Plan
- Exhibit 3 – Excerpt from Danville 2010 General Plan
- Exhibit 4 – Excerpt from Danville Strategic Plan
- Exhibit 5 – Excerpt from Danville 2030 General Plan
- Exhibit 6 – Excerpt from Danville Strategic Plan Update
- Exhibit 7 – Excerpt from Countywide Bicycle and Pedestrian Plan

B – Diablo Road Trail: Conceptual Alignment and Feasibility Analysis,
Final August 2018, prepared by Alta Planning + Design

https://townofdanville.sharepoint.com/sites/Transportation/Shared Documents/Capital & Development Projects/CIP Projects/CIP_C-055 Diablo Road Trail/ASRParksCommission20180912-X.doc

ATTACHMENT A

Chronology of the Town's efforts to develop a continuous bicycle and pedestrian trail along the Diablo Road corridor.

1987 **Danville 2005 General Plan** ("2005 Plan")

Adopted in 1987, the 2005 General Plan was the first comprehensive planning document prepared by the Town. With respect to trails, the 2005 Plan noted that while the Town had not yet developed a comprehensive trail study, trails would be for the use of hikers and bikers and could serve to "provide safe, off-street linkages between neighborhoods, parks, schools and other public facilities." The 2005 Plan also noted that the three major creeks running through Town (San Ramon, Sycamore and Green Valley) offered opportunities for trails but noted that "current development patterns may have precluded continuous public access..."

The 2005 Plan included two diagrams, illustrating the Town's lack of a comprehensive plan for trails at that time (Exhibit 1). Figure 14 of the Plan, labeled "Parks, Recreation and Open Space," did not show any proposed trails through the Diablo Road corridor. Figure 17, labeled "Circulation Plan," showed both the then existing path on the north side of Diablo Road from Green Valley Road to approximately Fairway Drive as well as a "bicycle lane" on the south side of El Cerro/Diablo Road from Danville Boulevard to approximately Avenida Nueva.

1989 **Townwide Trails Master Plan** ("Trails Master Plan")

Adopted in 1989, the Trails Master Plan envisioned use of the existing path on the north side of Diablo Road, with a future roadway crossing near Clydesdale Drive, and continuing east with future trail segments along the south side of Diablo Road. The Trails Master Plan noted that the last 1000 feet before reaching Mount Diablo Scenic would be difficult to construct "due to the narrow road and adjacent properties." This conceptual plan is illustrated on Maps 18, 20 and 21 of the Trails Master Plan (Exhibit 2).

1990 **Northeast Roadway Improvement Assessment District** ("NERIAD")

In 1990, NERIAD assessed the developers of the original Magee Ranch development and other subdivisions in that area of the Town to pay for a list of infrastructure improvements. That list of improvements included a "separate bike/walkway path" to run from Green Valley Road to Mt. Diablo Scenic. According to staff involved in development of NERIAD and the scope of work, the assumption was that this path could not occur without acquiring easements

across private property and no money was included for such acquisitions in the assessment district

1999 **Danville 2010 General Plan** (“2010 Plan”)

Adopted in 1999, the 2010 Plan continued to reflect the Town’s goal to develop bike and pedestrian access through this corridor and contained two maps illustrating the ongoing desire for some sort of bike and pedestrian access through this corridor. Figure 13 (Parks, Recreation and Open Space) shows a “Proposed Trail” through the corridor with at least a portion of it appearing on the Magee property on the south side of the road. Figure 18 (Circulation Plan) shows “Potential Bike Lanes” the entire length of Diablo Road from Green Valley Road to Camino Tassajara (Exhibit 3). The 2010 Plan policies called for the Town to continue to add trails, off-road bicycle trails and bicycle lanes.

2006 **Danville Parks, Recreation and Arts Strategic Plan** (“Strategic Plan”)

In 2006, the Town adopted its first Parks, Recreation and Arts Strategic Plan which included goals for the community’s trail system and recommended priorities. One of those priorities was listed as the Diablo Road Trail, with the following observed development constraints: “steep terrain and a narrow right-of-way will make any trail development difficult. It is doubtful that the trail will be extended until the area develops.” Exhibit 4.

2013 **Danville 2030 General Plan** (“2030 Plan”)

In 2013, the Town adopted its third (and current) General Plan, the 2030 Plan. On the subject of trails, the 2030 Plan continues policies identified in the 2010 Plan to close gaps in the existing bicycle and pedestrian trail network, promote safety, etc. The 2030 Plan also references back to the 2006 Parks, Recreation and Arts Strategic Plan in identifying “a bike/walkway path from Green Valley Rd. to Mt. Diablo Scenic” as a Town priority in this area. Both documents note that construction of the project will be deferred until right-of-way can be obtained (Exhibit 5).

2017 **Danville Parks, Recreation and Arts Strategic Plan Update 2017-2027** (“2017 Update”)

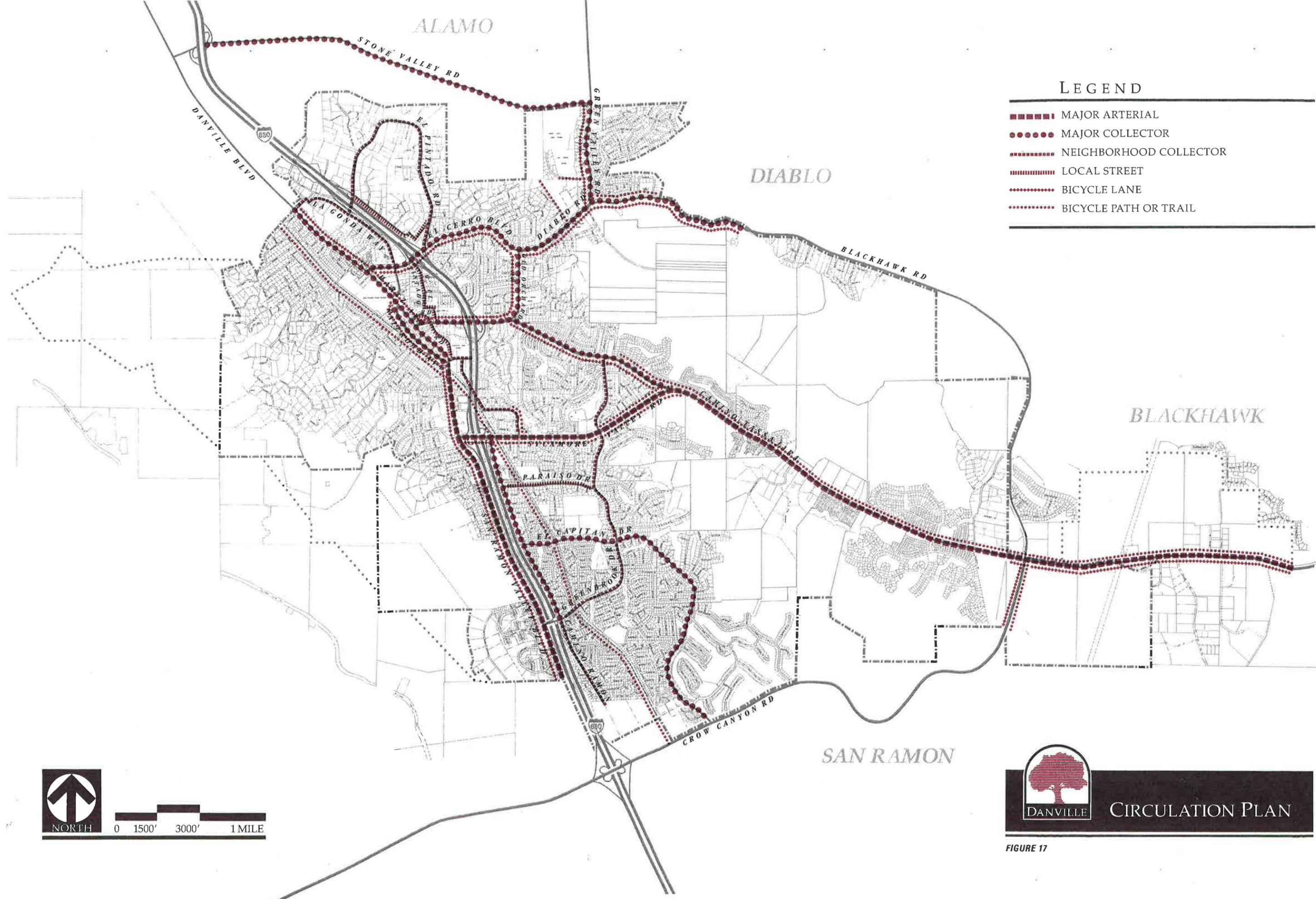
In 2017, the Town updated its first Parks, Recreation and Arts Strategic Plan which continues to emphasize the importance of trails and, in particular, the desire for trail segments that close existing gaps in the network. Map B.1 of the 2017 Update shows a proposed trail through this corridor (Exhibit 6).

2018 **Contra Costa Countywide Bicycle and Pedestrian Plan (“2018 CBPP”)**

In 2018, the Contra Costa Transportation Authority adopted its third update of its CBPP which reflects the increased regional interest in – and support for – walking and bicycling. Development of the Diablo Road Trail is consistent with an implementation strategy of the 2018 CBPP to develop a multi-use facility for both pedestrians and bicyclists along this corridor of the region (Exhibit 7).

Exhibit 1

Danville 2005 General Plan



LEGEND

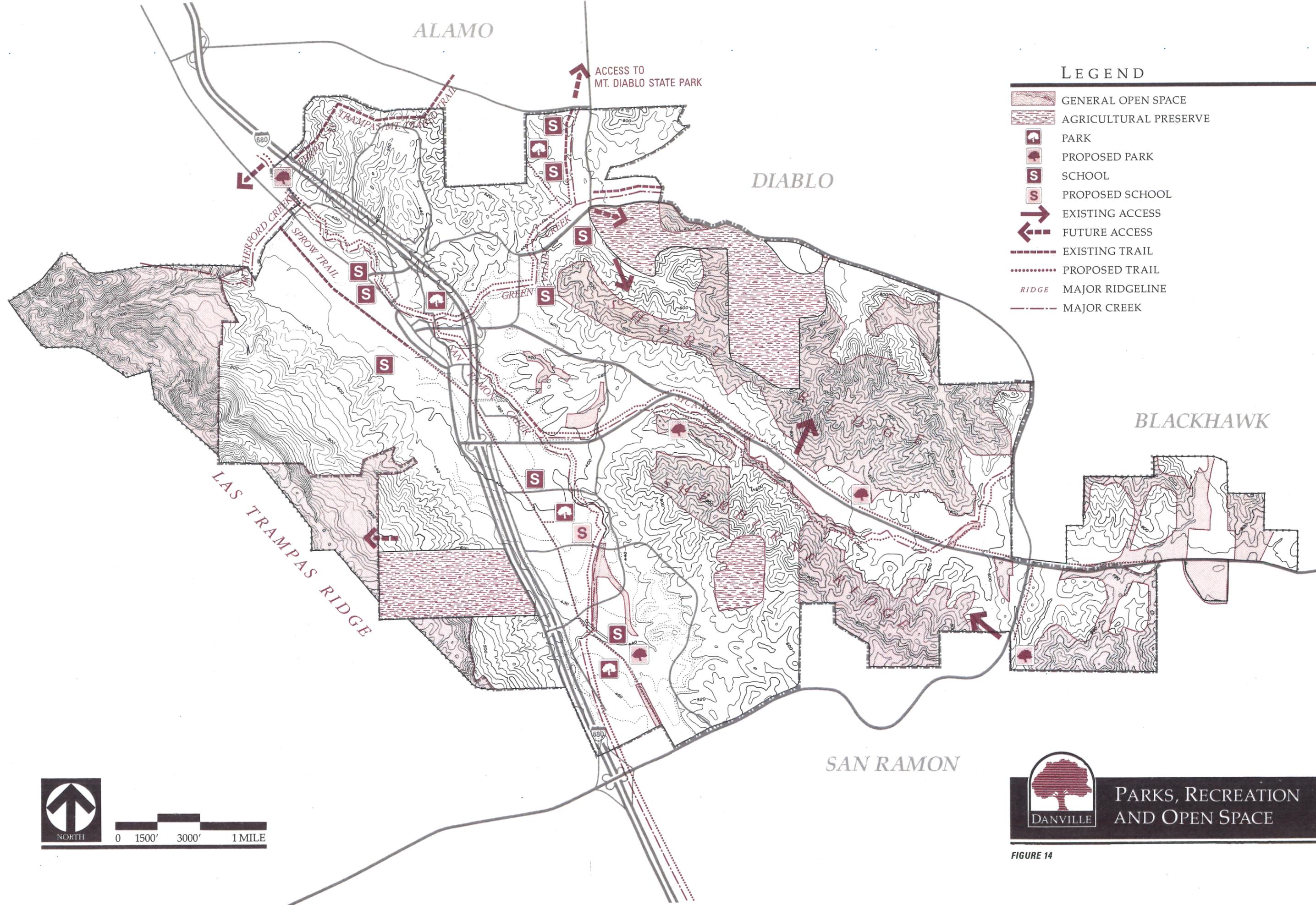
- MAJOR ARTERIAL
- MAJOR COLLECTOR
- NEIGHBORHOOD COLLECTOR
- LOCAL STREET
- BICYCLE LANE
- BICYCLE PATH OR TRAIL



 NORTH
 

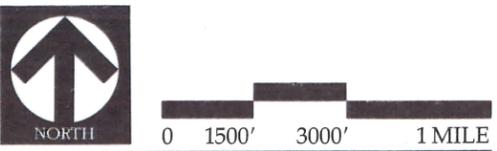

 DANVILLE
 CIRCULATION PLAN

FIGURE 17



LEGEND

- GENERAL OPEN SPACE
- AGRICULTURAL PRESERVE
- PARK
- PROPOSED PARK
- SCHOOL
- PROPOSED SCHOOL
- EXISTING ACCESS
- FUTURE ACCESS
- EXISTING TRAIL
- PROPOSED TRAIL
- MAJOR RIDGELINE
- MAJOR CREEK



DANVILLE
PARKS, RECREATION
AND OPEN SPACE

FIGURE 14

Exhibit 2

Townwide Trails Master Plan

route is available on Diablo Road.

2. Diablo Road (north crossing) to Green Valley Road

Site Description:

North of Diablo Road, the creek winds through a narrow channel with some steep slopes adjacent to the creek and property fences encroaching on the channel. West of Matadera Way there are some particularly steep slopes on the north bank.

Trail Description:

It is unsafe to cross Diablo Road at Green Valley Creek. Trail users must be directed west to the crosswalk at the intersection and then back to the creek trail. North of Diablo Road is a difficult section to construct a trail. Steep banks, a narrow channel, and a house extending out over the south bank could prevent a reasonable solution in this section. An alternative on-street route will follow Diablo Road to Green Valley Road to meet the existing path. To reach the North Fork trail, a left turn off Diablo Road at Matadera Way returns the route to Green Valley Creek where the creek trail would resume. For continuation to Stone Valley Road, see the description for the North Fork.

3. Green Valley Road to Mt. Diablo Scenic Blvd.

Site Description:

West of the junction of Green Valley Road and Diablo Road, the creek splits with a north fork continuing north toward

Stone Valley Road. The main fork continues east, crosses under Green Valley Road and parallels Diablo Road. Between Green Valley Road and Fairway Drive, an existing path runs between the creek and Diablo Road. The creek crosses Diablo Road three times. North of Diablo Road are single family homes; to the south is rolling ranch land. Most of the creek in this section is in a natural condition shaded by adjacent oaks.

Trail Description:

The Trail utilizes the existing path that parallels the creek between Green Valley Road and Fairway Drive. The existing path can be improved with maintenance and signs. At Fairway Drive the route will cross Diablo Road with a crosswalk



Green Valley Creek along Diablo Road

and continue along the south bank of the creek until the creek crosses to the north side of Diablo Road. At this point the trail does not cross Diablo Road with the creek, but instead continues on the south side of the road, adjacent to the ranch land. Some grading may be necessary to construct the trail.

The trail can separate from the road in this section and follow the rolling terrain of the adjacent land. If the trail is con-

structed adjacent to the road, it is important to provide a barrier separating the trail from the road. This is particularly important for bicycles which are not allowed to travel in the wrong direction within the right-of-way. In the last 1000 feet before reaching Mt. Diablo Scenic Blvd., it will be difficult to construct a trail due to the narrow road and adjacent properties. An on-street connecting route can be a temporary solution until the road is widened. Any road widening project within this reach should include construction of a trail.

The California Department of Parks and Recreation and the East Bay Regional Park District are considering the Athenian School on Mt. Diablo Scenic Blvd. as a staging area for access to Mt. Diablo State Park. It would be desirable for the Danville trail system to connect to this staging area.

4. North Fork to Stone Valley Road

Site Description:

The north fork of Green Valley Creek is narrow and shaded with native vegetation. North of Blemer Road, the creek passes the Los Cerros School and Monte Vista High School. The creek is fenced along this section. Between Blemer Road and Stone Valley Road, an existing path runs parallel to the creek on the school property.

Trail Description:

Between Matadera Way and Blemer Road, the trail will follow the top of the north (west) bank. North of Blemer Road, the route joins the existing path on



Existing Trail at Los Cerros School

the school property. Access to this path needs to be improved. At Blemer Road, a ramp and barrier that permits passage by bicycles needs to be constructed. Between Los Cerros School and Monte Vista High School, a trail providing access to Oak Hill Park should be added. The existing path continues north to Stone Valley Road.

Reaches of Sycamore Creek Trail:

1. San Ramon Creek to Park Hill Road

Site Description:

In this reach, Sycamore Creek has been altered by flood control projects and road construction. The channel has been widened and straightened and the native vegetation removed. In addition to the existing path at Freitas Road, a narrow path runs along the top of the creek bank between Old Orchard Drive and Park Hill Road.

Trail Description:

This portion of the trail system will be important to connect the downtown with

Danville Townwide Trail Plan



LEGEND

- ○ ○ ○ EXISTING TRAILS
- ● ● ● PROPOSED TRAILS
- ◆ ◆ ◆ ◆ PROPOSED ON-STREET CONNECTING ROUTES
- — — — EXISTING OPEN SPACE TRAILS
- - - - PROPOSED OPEN SPACE TRAILS
- ★ PROPOSED STAGING AREAS
- ▬▬▬▬ PROPOSED CROSSWALKS
- ■ ■ ■ IRON HORSE TRAIL
- ~~~~~ MAJOR CREEKS

GREEN VALLEY CREEK

MAP 18

Danville Townwide Trail Plan

LEGEND

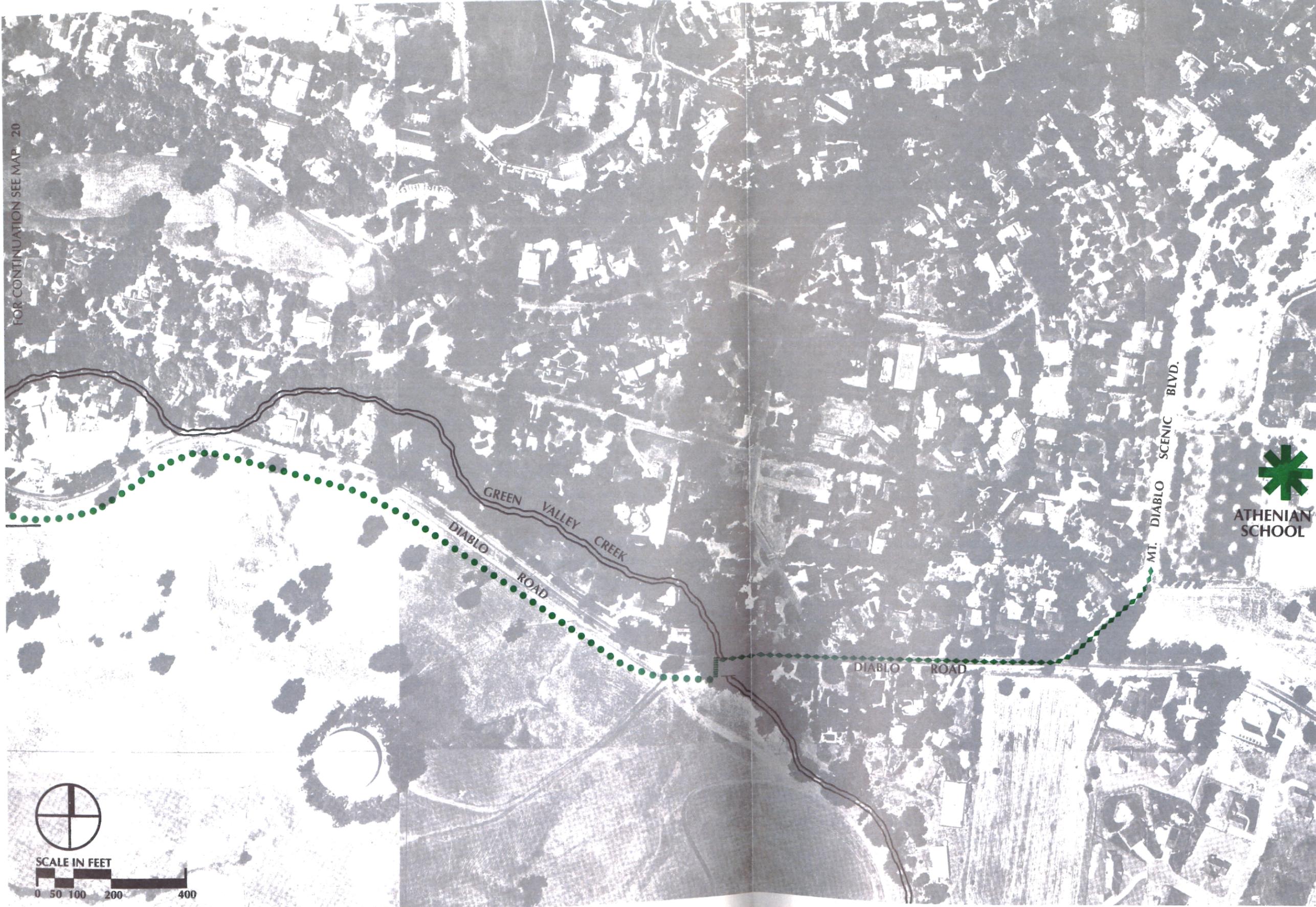
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- ✱ PROPOSED STAGING AREAS
- ▬ ▬ ▬ ▬ PROPOSED CROSSWALKS
- ▬ ▬ ▬ ▬ IRON HORSE TRAIL
- 〰 〰 〰 〰 MAJOR CREEKS



GREEN VALLEY CREEK

MAP 20

Danville Townwide Trail Plan



FOR CONTINUATION SEE MAP 20

LEGEND

- ○ ○ ○ EXISTING TRAILS
- ● ● ● PROPOSED TRAILS
- ◆ ◆ ◆ ◆ PROPOSED ON-STREET CONNECTING ROUTES
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ATHENIAN SCHOOL

GREEN VALLEY CREEK

MAP **21**

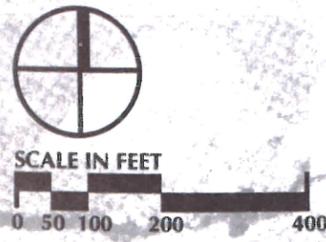
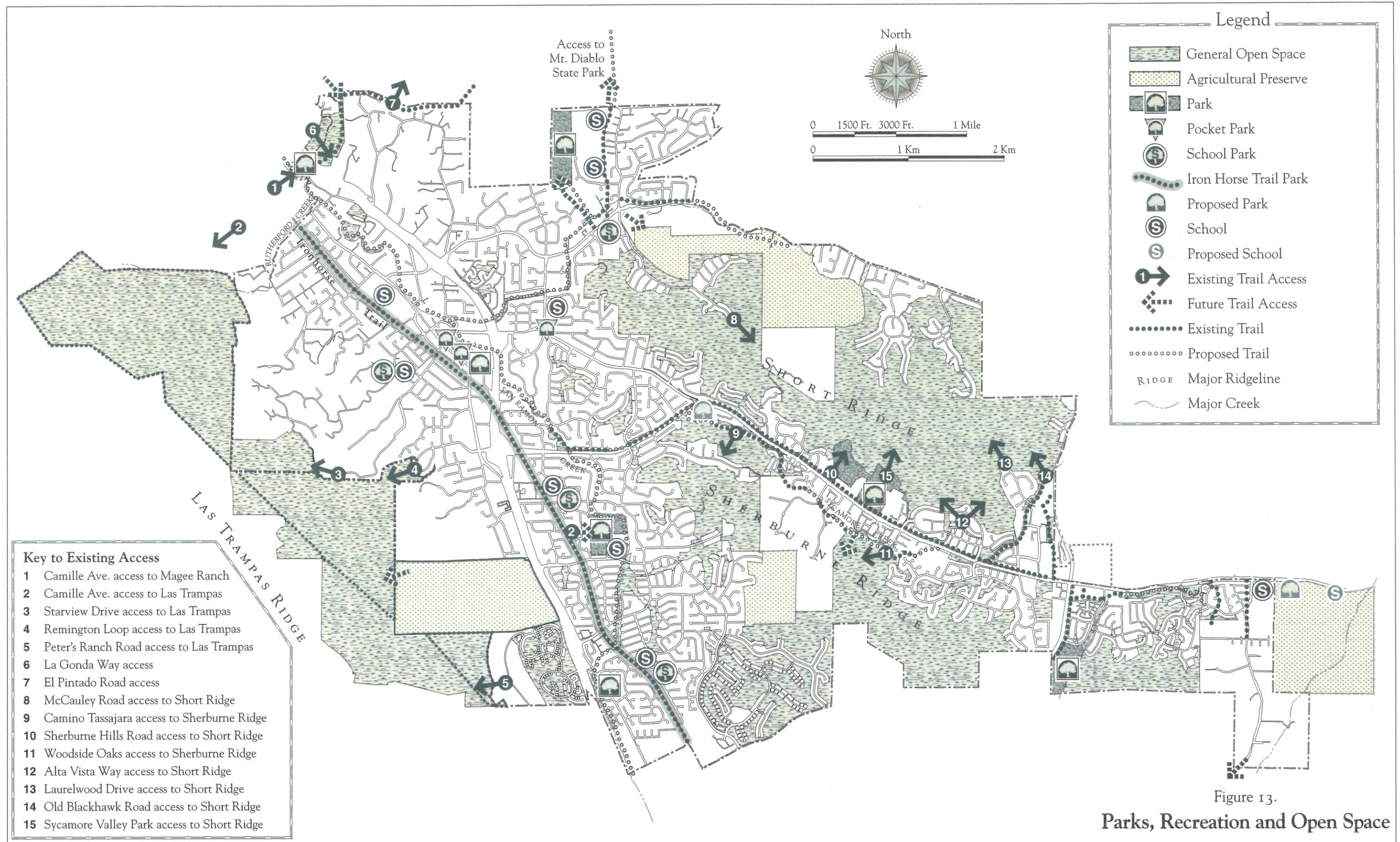


Exhibit 3

Danville 2010 General Plan



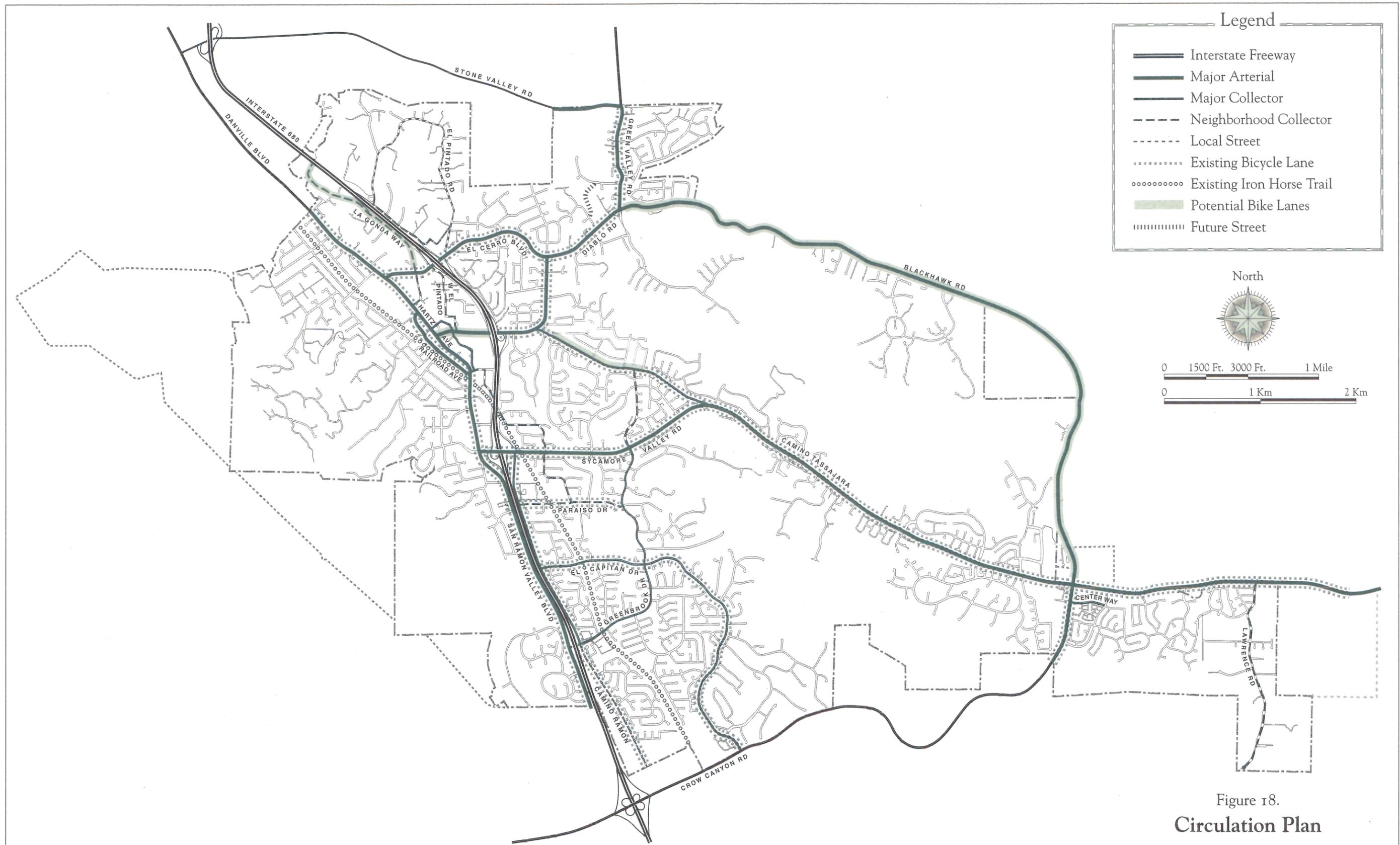


Figure 18.
Circulation Plan

Exhibit 4

Danville Parks, Recreation and Arts Strategic Plan



PARKS, RECREATION AND ARTS STRATEGIC PLAN

Adopted February 7, 2006



Town of Danville
Community Services Department
510 La Gonda Way, Danville, CA 94526
www.ci.danville.ca.us

TOWN-WIDE TRAILS

Danville has long recognized the importance of trails to the community and pro-actively pursued planning of trails as development has occurred. Danville’s trails offer many opportunities to enhance the quality of life to residents. Trails town-wide are heavily used by young and old alike, whether it be joggers, bicyclists, skate boarders, in-line skaters, walkers or families and friends just enjoying being together in the outdoors. The goals for trail development include:

- Provide logical, comprehensive and user-friendly trail connections throughout Danville.
- Develop a network of trails that provide a variety of trail experiences to meet user needs.
- Preserve and protect natural and cultural resources.
- Coordinate regional trail planning.

In addition, Danville’s trails should offer:

Connectivity – a way for people to get from one place to another without needing motorized vehicles. This includes connecting population centers, schools, parks, and open spaces with downtown Danville.

Exercise – somewhere to burn calories with various physical activities in a safe, friendly environment, separated from traffic and other hazards.

Nature – many trails offer shade, creeks, safe encounters with local wildlife, and splendid views of the surrounding hills.

Social opportunities – places where friends and families can spend time together in a relaxing environment.

An extensive on-site evaluation of the existing trail system, conducted by a sub-committee of Parks and Leisure Services Commissioners and Town staff, identified current conditions, physical constraints, trail destination points, and connection opportunities. This information was then mapped using an AutoCAD database so that trail routes could be adjusted accordingly. If gap analysis mapping indicated potential desired trail alignments, field checks were then conducted to identify solutions for closing the gaps. In May 2004, the Parks and Leisure Services Commission recommended to the Town Council that the highest priority trail sections be included into the Town’s 2004/05–2008/09 Capital Improvement Program.

Appendix H summarizes existing trail-related documents, regional trail systems, major community trails in Danville, and trail design standards. A summary table of the missing link analysis and recommendations for each missing link on the Green Valley, Diablo Creek and Sycamore Creek trails, are described and illustrated in Appendix I.



Priority-setting guidelines were also established. These included focusing on two major trails radiating easterly from downtown. The first, Sycamore Creek Trail, will eventually connect all housing developments along Sycamore/Tassajara Roads from the eastern edge of Town to downtown, and will be accessible to Sycamore School, Sycamore Valley Park, the Short Ridge and Sherburne Ridge open space areas, and the Castenada trailhead area. The second is the Green Valley Creek Trail that will connect access points to Mt. Diablo State Park (behind

the Athenian School on Stone Valley Road) with Monte Vista High School, Oak Hill Park, Los Cerros Middle School, Green Valley and Vista Grande schools, and on to downtown. Other priorities include: creating/facilitating downtown connections; moving forward on individual gaps that, although they may be lower on the priority list, represent current opportunities due to potential development, changes in ownership, and/or changes in public attitudes; and pursuing gap closures that keep the trails off-street before other alternatives.



MAJOR COMMUNITY TRAILS IN DANVILLE

In addition to the Iron Horse Trail there are three major community-wide trail systems in Danville. These trails include:

Sycamore Creek Trail

Surfacing: Paved
Length: 4.67 miles
Development Status:
Partially completed

This trail begins at the intersection of Iron Horse Trail and Sycamore Valley Road and generally follows Sycamore Creek to Wood Ranch Drive where it crosses Camino Tassajara. It then extends northerly into the Blackhawk area. An existing branch of this trail begins where San Ramon Creek crosses Sycamore Valley Road and extends northerly to Laurel Drive. This is a 1.87 mile segment of trail.

This is the major east-west pedestrian connection that links Blackhawk and San Ramon to the regional Iron Horse Trail. It also forms the backbone linkages to the Sherburne Ridge Open Space System to the south and Short Ridge Open Space to the north.

Green Valley Creek Trail

Surfacing: Paved
Length: 2.2 miles
Development Status:
Partially completed

This trail generally follows Green Valley Creek beginning in downtown Danville and extends northerly to Stone Valley Road. This is the only north-south trail that connects the downtown with the north portions of the community including Oak Hill Park, Los Cerro Middle School, Monte Vista High School and Mount Diablo State Park. This trail also provides close proximity linkage to Green Valley and Vista Grande schools. It also connects to a short portion of the Diablo Creek Trail which branches off to the east.

Diablo Road Trail

Surfacing: Paved
Length: .7 miles
Development Status:
Completed until development occurs beyond Green Valley Road

This trail begins at the intersections of Diablo Road and Green Valley Road and generally follows the east branch of the Green Valley Creek. When extended in the future, this trail will connect Green Valley Creek Trail with Blackhawk and other developments to the east. Diablo Road eventually becomes Blackhawk Road and in the undeveloped portion, steep terrain and a narrow right-of-way will make any trail development difficult. It is doubtful that the trail will be extended until the area develops.

DC-2

2. Missing Link: From Fairway Drive east to creek crossing on Diablo/Blackhawk Road

Problems: No width within street right-of-way; no access where Green Valley Creek leaves Diablo Road

- Options:
- 1. Obtain bicycle lane when street section is improved.
 - 2. Obtain access easements where trail is located along creek.

Recommendations: Implement both 1 and 2

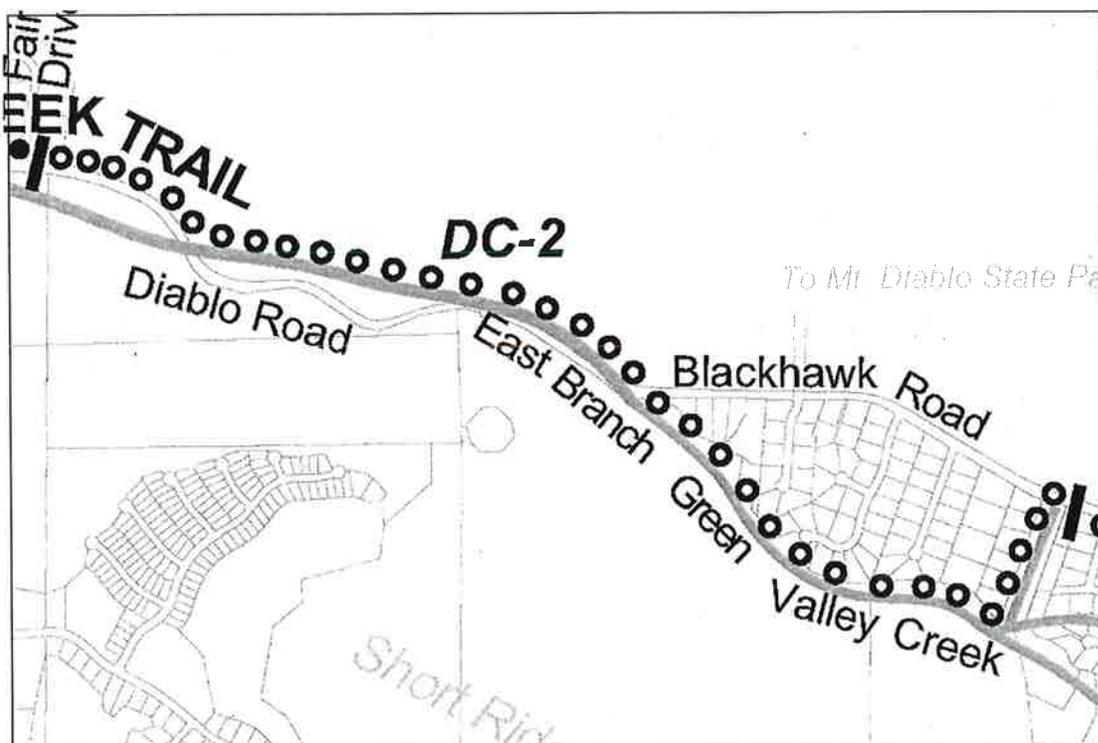


Exhibit 5

Danville 2030 General Plan

In addition, the Contra Costa Transportation Authority (CCTA) has established LOS standards for “Routes of Regional Significance.” Routes of Regional Significance include two corridors within Danville and one corridor on the edge of Danville. These are:

- Danville Boulevard/ San Ramon Valley Boulevard south of Sycamore Valley (a single corridor with a missing segment through Downtown Danville in the center).
- Sycamore Valley Road and Camino Tassajara (a single corridor comprised of two roads).
- Crow Canyon Road (south of Camino Tassajara).

Intersections on the first two of these corridors are subject to an LOS “D” standard, but with a slightly higher V/C threshold (0.90). The Crow Canyon corridor is subject to a V/C threshold of 0.91.¹

Existing (2010) Level of Service at seven major intersections along Danville’s Routes of Regional Significance is shown in **Figure 13**. Traffic data for these intersections is tracked through a Transportation Services Objectives (TSO) Monitoring Report.

All of the intersections listed in **Figure 13** operated at LOS D or better during the AM and PM peak hours in 2010. This indicates that the intersections currently have adequate turning and queuing lanes to provide good traffic operations despite high traffic volumes. Between 1999 and 2009, the number of signalized intersections in the Town grew by eight, to a total count of 51 signals that are either fully or partially operated by the Town.²

Bicycle Facilities In Danville

Bicycling is a healthy, environmentally sustainable mode of travel. While cycling has traditionally been regarded as a form of recreation in Danville, it can also be a viable means of traveling to school,

² Excludes underground ramp metering signal equipment partially installed by Caltrans at the time of General Plan adoption.

³ Includes 7.6 miles of Class I paths, 30.0 miles of Class II lanes, and 11.8 miles of Class III routes.

shopping, work, and other destinations. Facilities such as the Iron Horse Trail are particularly important, as they connect Danville to two BART stations, major employment centers, and the surrounding region. The Iron Horse Trail also connects residential neighborhoods to one another, to Downtown, to local schools and parks, and to cities along the I-680 corridor from Dublin to Concord.

Expanding Danville’s bicycle network has been a priority for more than two decades, resulting in a highly functional, well-connected system today. Nearly 50 miles of officially designated bicycle trails, paths, and routes have been developed.³

REDEFINING “LEVEL OF SERVICE” FOR NON-REGIONAL ROUTES

Danville is developing new metrics for evaluating the performance of its transportation system. This will enable the Town to consider the context of each roadway and the character of adjacent uses, rather than simply the volume to capacity ratio.

Other factors, such as bicycle and pedestrian safety and the availability of transit also are being taken into consideration. For example, the priority in Downtown Danville is not simply to move cars as quickly as possible along local streets; it is also to ensure the safety of pedestrians, retain the area’s historic ambiance, and create an attractive and comfortable environment for shopping and dining.



Downtown Danville. Photo courtesy of Paige Green.

The Town adopted a Trails Master Plan in 1989. Provisions for trails were updated in the Parks, Recreation, and Arts Strategic Plan in 2006. The 2006 Plan also incorporated recommendations from a Countywide Bicycle and Pedestrian Plan prepared in 2003, including specific proposals for closing gaps in the Town's trail system. In 2009, the County adopted an updated version of the Bicycle and Pedestrian Plan. The update reflects new funding sources for bicycle improvements, new data on bicycle use and safety, and revised goals and priorities.

The Countywide Plan has the following goals:

- Expand, improve, and maintain facilities for walking and bicycling.
- Improve safety for pedestrians and bicycles.
- Encourage more people to walk and bicycle.
- Support local efforts to improve conditions for walking and bicycling.
- Consider and plan for the needs of pedestrians and bicycles.

All of these goals are relevant to Danville.

Figure 14 indicates Class I, II, and III bicycle routes within the Town of Danville (see text box for an explanation of Class I, II, and III routes). The location of these facilities is consistent with the Countywide Bicycle and Pedestrian Plan. Bicycle traffic is considered in the design of all new traffic signals installed by the Town, and local transit buses are equipped with bicycle racks.

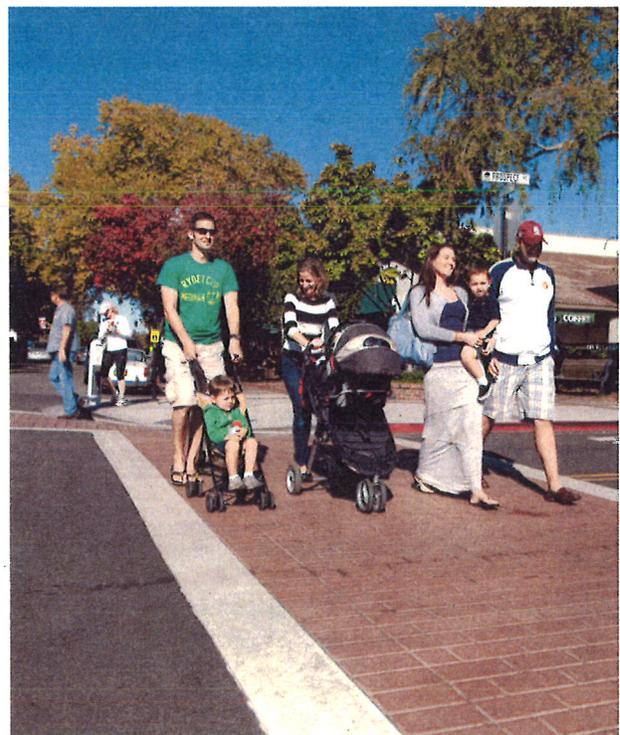
Pedestrian Facilities in Danville

Pedestrian facilities include sidewalks, crosswalks, and off-road paths and trails. Over the past decade, the Town has made substantial investment in these facilities, along with associated improvements such as curb cuts, street lights, kiosks, signage, and other infrastructure. These facilities make walking safer and more pleasant. They are an important part of the public realm in Danville and help define the identity of the town's neighborhoods and business districts. For example, Old Town Danville is highly

regarded for its walkable streets and high volume of pedestrian traffic. In addition, roadways built by the Town – such as Camino Tassajara – feature multiple pedestrian pathways in a linear park setting, connecting neighborhoods to local parks and shopping destinations.

Elsewhere in Danville, the Town has actively pursued pedestrian safety improvements by closing gaps in the sidewalk system, constructing pedestrian bridges and trail linkages between neighborhoods, and making walking a more viable mode of travel in all parts of Town. The goal is to complete the continuous pedestrian network envisioned in the Town's first General Plan, making walking a practical alternative to driving for short distance trips.

Creating a more walkable community provides a number of benefits. Walking is one of the most popular leisure activities in the United States and is an important form of recreation in Danville. Walking contributes to public health and wellness. It provides an opportunity to interact with neighbors, thereby fostering a sense of community. It connects people to nature. As an alternative to driving, walking can also help reduce traffic congestion and air pollution.



Textured crosswalk at Hartz/East Prospect Avenues. Photo courtesy of Paige Green.

DANVILLE'S BIKE ROUTES

Danville recognizes three different classes of bicycle routes:

Class I routes operate within a completely separate right-of-way and are exclusively used by bicycles and pedestrians. The Iron Horse Trail is probably the best known Class I route in Danville.



Iron Horse Regional Trail. Photo courtesy of Paige Green.

Class II routes, commonly called bike lanes, operate in a striped, restricted lane within the right-of-way of a street. Motor vehicles are prohibited from using this lane, although cross-flows in and out of parking spaces and onto cross-streets are permitted. An example is the bike lane along Camino Tassajara.



Camino Tassajara Bike Lane. Photo courtesy of Alex Lopez.

Class III routes, or bike routes, operate within moving traffic lanes and are distinguished only by signs or pavement markings. Bicycles share the right-of-way with vehicles. An example is El Capitan Drive.



Greenbrook Bike Route. Photo courtesy of Alex Lopez.

northbound ramps (AM peak). General Plan policies strive to reduce congestion by encouraging alternate modes of travel and supporting land use patterns which reduce the number and length of vehicle trips.

Future Level Of Service Objectives

Level of Service (LOS) “D” (and in some cases LOS “E” on Routes of Regional Significance) will remain Danville’s operational standard for reviewing traffic impacts and determining necessary roadway/intersection improvements.

However, the Town may modify this standard on particular road segments and at particular intersections to account for the impacts of traffic generated in other communities (such as San Ramon) on Danville roadways.

Even where LOS D remains the standard, the Town will consider service to bicyclists, pedestrians, and transit users when new development is evaluated and when measures to mitigate impacts on travel are developed. Mitigation of identified problems may vary depending on street classification, land use, density, and/or the types of activities in the area.

Bicycle And Pedestrian Circulation

Improvements to Danville’s bicycle and pedestrian trail system will continue to be an important part of the Town’s Capital Improvement Program. The need for such improvements has been clearly identified in the 2009 Countywide Bicycle and Pedestrian Plan (Countywide Plan) and the Town’s 2006 Parks, Recreation, and Arts Strategic Plan.

The Countywide Plan identifies “pedestrian districts,” including Downtown Danville, where additional investment in sidewalks, crosswalks, curb ramps, streetscape improvements, trails, and bicycle facilities will be prioritized. The Plan also includes a map of the future countywide bike network. While no new routes are shown in Danville, the Plan indicates extensions of existing routes into nearby areas such as Dougherty Valley.

The Countywide Plan also emphasizes ways bicycling can be better integrated into the

transportation system. This includes improving bicycle access to public transit, increasing the supply of secure bicycle parking, providing more bicycle support facilities (such as changing rooms and showers in workplaces), promoting bicycle travel, and improving bicycle safety. The Countywide Plan also suggests that local governments adopt guidelines and standards (such as zoning regulations) which ensure that new development and renovation projects support walking and bicycling.

The Town is encouraged to support projects consistent with the Countywide Plan. These include:

- A bike/ walkway along Diablo Road from Green Valley Road to Mt. Diablo Scenic Boulevard (requires additional right-of-way dedication and construction by private parties).
- Camino Tassajara improvements from Sycamore Valley Road to the eastern Town limit and Crow Canyon Road improvements from Camino Tassajara to the southern Town limit, including sidewalks and bicycle facilities.
- Extension of the Camino Tassajara bike lane from the eastern Town limit toward Dublin (a County project).

Improving connectivity between the Sycamore Valley Park and Ride Lot and Downtown Danville is another priority, although this is not explicitly stated in the Countywide Plan. Likewise, the Town supports grant funding for a bicycle/pedestrian bridge on the Iron Horse Trail at Sycamore Valley Road. In addition to investing in these major improvements, the Town should continue to provide for improvements such as signalized crossings, bike lockers, and bike racks in its capital improvement programming. The private sector should be strongly encouraged to participate in these efforts through partnerships and new publicly-accessible bicycle parking facilities.

Additional recommendations are included in the Town of Danville’s 2006 Parks, Recreation, and Arts Strategic Plan. The two major priorities identified in that Plan are:

- Closing gaps on the Sycamore Creek Trail, thereby linking housing developments along Sycamore Valley Road and Camino Tassajara to Downtown Danville, while also improving access to schools and parks in this corridor.
- Improving the Green Valley Creek Trail, connecting Mt. Diablo State Park to Monte Vista High School, Los Cerros Middle School, Green Valley and Vista Grande Elementary Schools, Oak Hill Park, and Downtown Danville.

Some of the gaps in the existing trail system may be completed pro-actively through capital improvements. Other gaps may be closed through project mitigation requirements when development occurs on nearby sites. Other bicycle and pedestrian priorities include facilitating Downtown connections, including a “river walk” in the vicinity of the Danville Library. Improved directional signage and a continued emphasis on bicycle and pedestrian safety are also high priorities.

Transit Service in Danville/ Transportation System Management

Danville will continue to pursue transit service improvements, with a focus on three primary user groups:

- Commuters, including residents commuting out of Danville to work and those commuting into Downtown Danville for work.
- Persons without access to a motor vehicle, including students and lower income households.
- Those with special transportation needs such as the elderly and disabled.

Because funding for transit is very limited, it is important that solutions are practical and respond to the land uses and demographics of the community. County Connection service has decreased in recent years while the rate of auto ownership in Danville has increased. Reversing

these trends will require creative approaches that redefine what we conventionally think of as “public transportation”.

New types of service should be explored to supplement the traditional fixed route services along Danville Boulevard/ Railroad Avenue/ San Ramon Valley Boulevard and I-680. These could include demand-responsive dial-a-ride services, car-sharing programs, and potentially a circulator bus that loops from the Sycamore Valley Road Park and Ride Lot through Downtown Danville.

Demographic projections suggest that a majority of Danville residents will continue to commute to jobs in other cities in the future. Thus, increases in express bus service from Danville to the BART stations and nearby employment centers will be needed. As these services increase, the adequacy of the Sycamore Valley Park Road and Ride Lot will need to be evaluated. The lot already is used as an informal pick up spot for corporate vans and shuttles, and could see higher demand and use in the future.

The Park and Ride Lot is also the point of arrival for persons taking express buses from the BART stations into Danville, either to go to work (in Downtown Danville) or to shop and patronize local businesses. Pedestrian connections from the Park and Ride Lot to Downtown should be improved. As noted above, a circulator bus or van could provide a connection from the lot into Old Town and other nearby destinations.

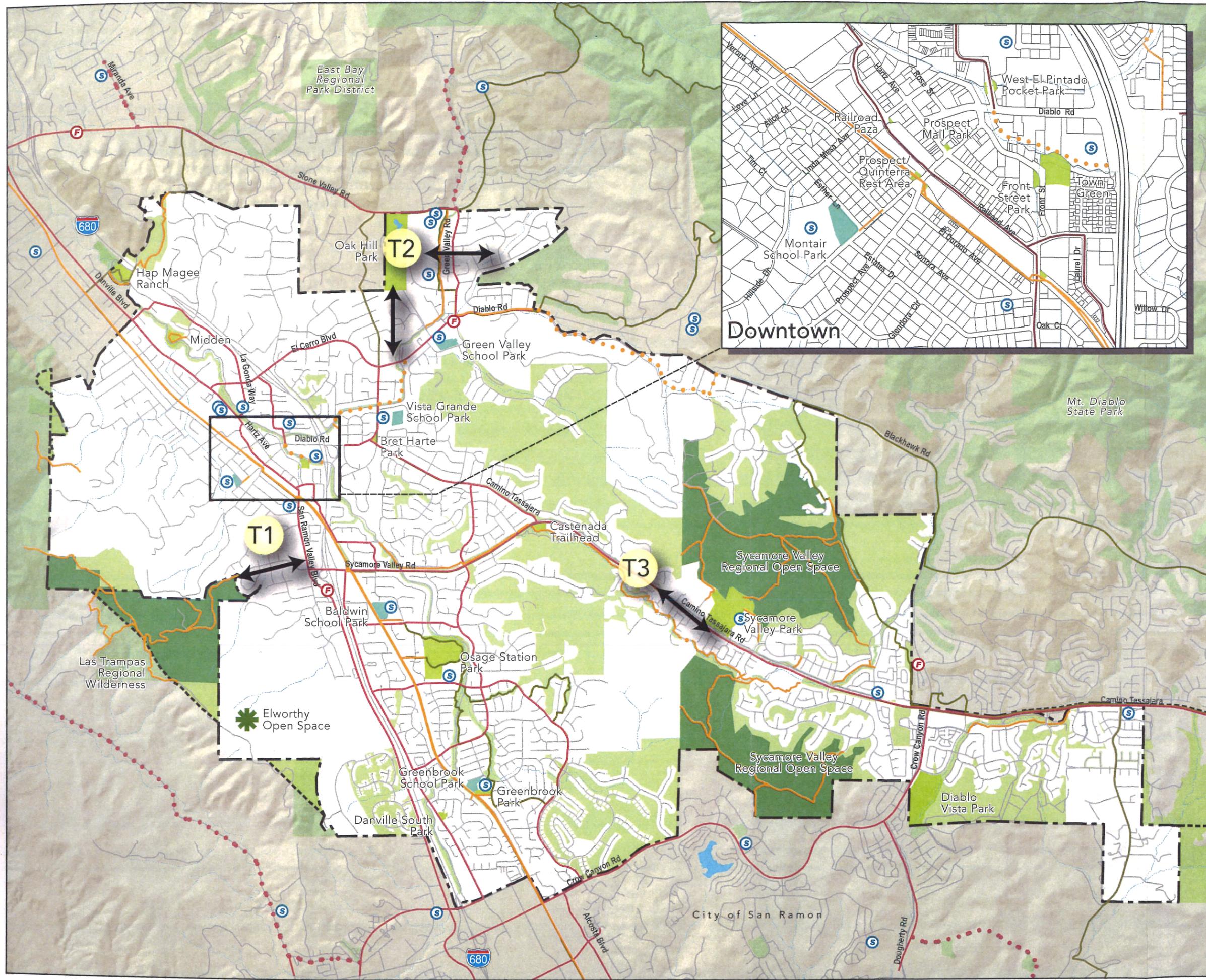
Transit can become a more attractive option if bus waiting areas are well designed and located, and the buses themselves are comfortable and reliable. Bus service can also be improved if the number of transfers to reach destinations is reduced, and if service is coordinated with other modes of travel, such as BART.

The availability of funding continues to be the most challenging issue facing transit operations. The Town of Danville will continue to advocate for the maintenance of existing transit services and stable sources of funding for future services. The Town should also ensure that any funds invested in transit are reinforced by land use decisions which make the most of these investments. The broadest

Exhibit 6

**Danville Parks, Recreation and Arts Strategic Plan
Update 2017-2027**

Map B.1: Biking, Hiking, and Walking Trails



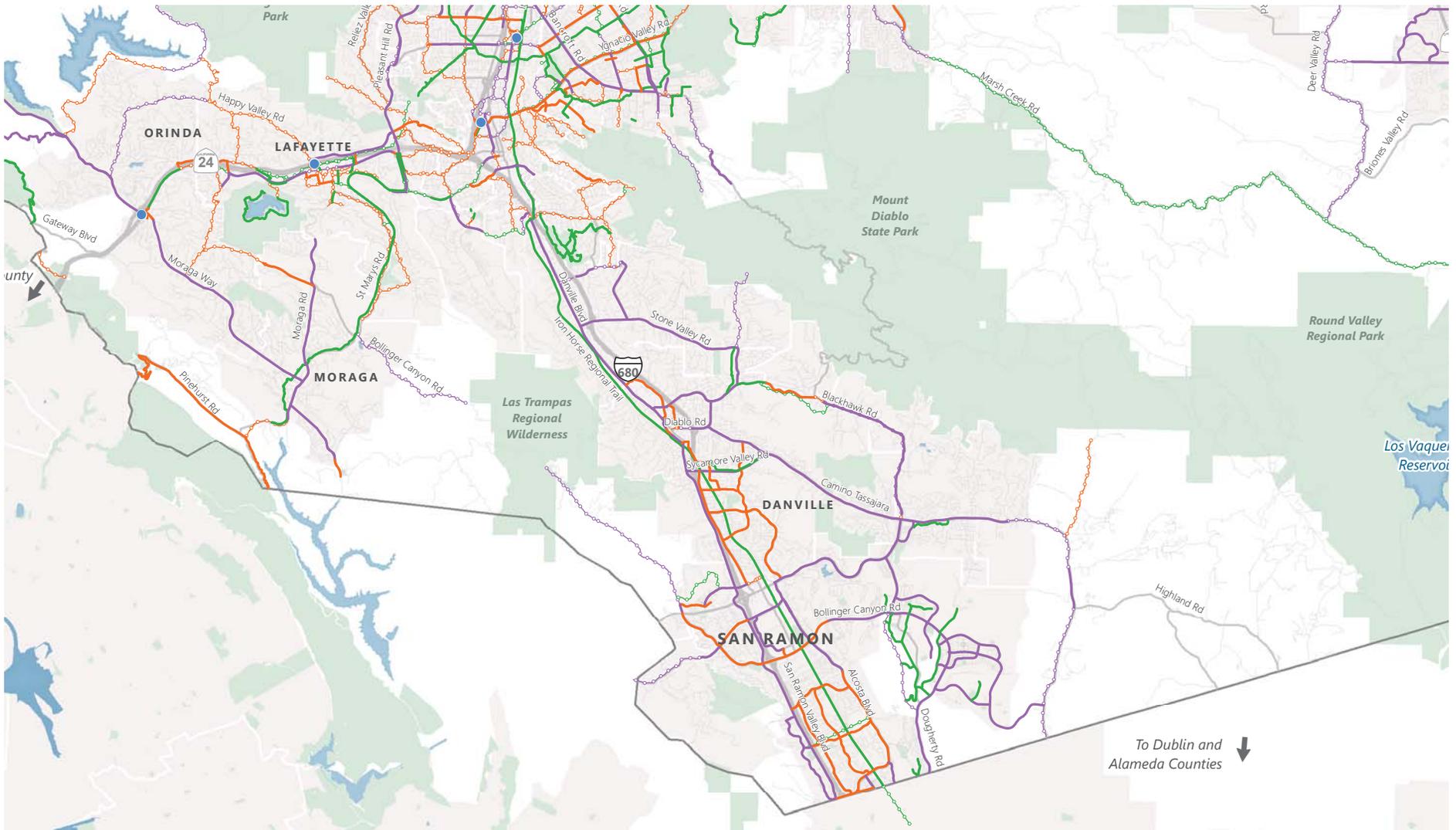
- Town of Danville Parks**
- Regional Park
 - Town Park
 - School Park
 - General Open Space
- Trails and Bike Paths**
- Existing Trail
 - Proposed Trail
 - Existing Bikeway
 - Proposed Bikeway
- Base Map Features**
- Town of Danville Boundary
 - Town of Danville Sphere of Influence
 - Other Parks and Recreation
 - Other Open Spaces
 - Waterbodies
 - Creeks and Drainages
 - Streets
 - F Fire Stations
 - S Schools

Date: October 6, 2016
Sources: Town of Danville and
Contra Costa County



Exhibit 7

2018 Contra Costa Countywide Bicycle and Pedestrian Plan



- Incorporated Area
- Existing Class I
- Existing Class II
- Existing Class III
- Existing Class IV
- Amtrak Station
- BART Station
- Proposed Class I
- Proposed Class II
- Proposed Class III
- Proposed Class IV
- Proposed Complete Streets Corridor Study

To Dublin and Alameda Counties ↓



Figure D - 4
Local Bicycle Networks



Town of Danville, California
CIP C-055

Diablo Road Trail

Conceptual Alignment and Feasibility Analysis

Final August 2018

PREPARED BY:



Table of Contents

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Introduction

Introduction

With just over 40,000 residents, Danville is well-regarded for its unique small-town feel. The Town's array of historic sites, scenic trails and recreational facilities, and charming downtown shopping area contribute to the vibrancy of Danville's atmosphere and outstanding quality of life. Danville is a popular destination for a variety of recreational activities including its network of hiking and bicycling trails that are enjoyed by a variety of groups including families, commuters, trail enthusiasts, and casual users. One such trail is the Diablo Road Trail, a paved, multi-use path that currently runs 0.5 miles from the intersection of Green Valley Road to Calle Arroyo. Continuing the trail along Diablo Road has been a priority for the Town since the late 1980s; however, lack of available public space has prevented the Town from moving forward. The Town is now in the process of reviewing a land development proposal that would require dedication of space for a publicly accessible trail.



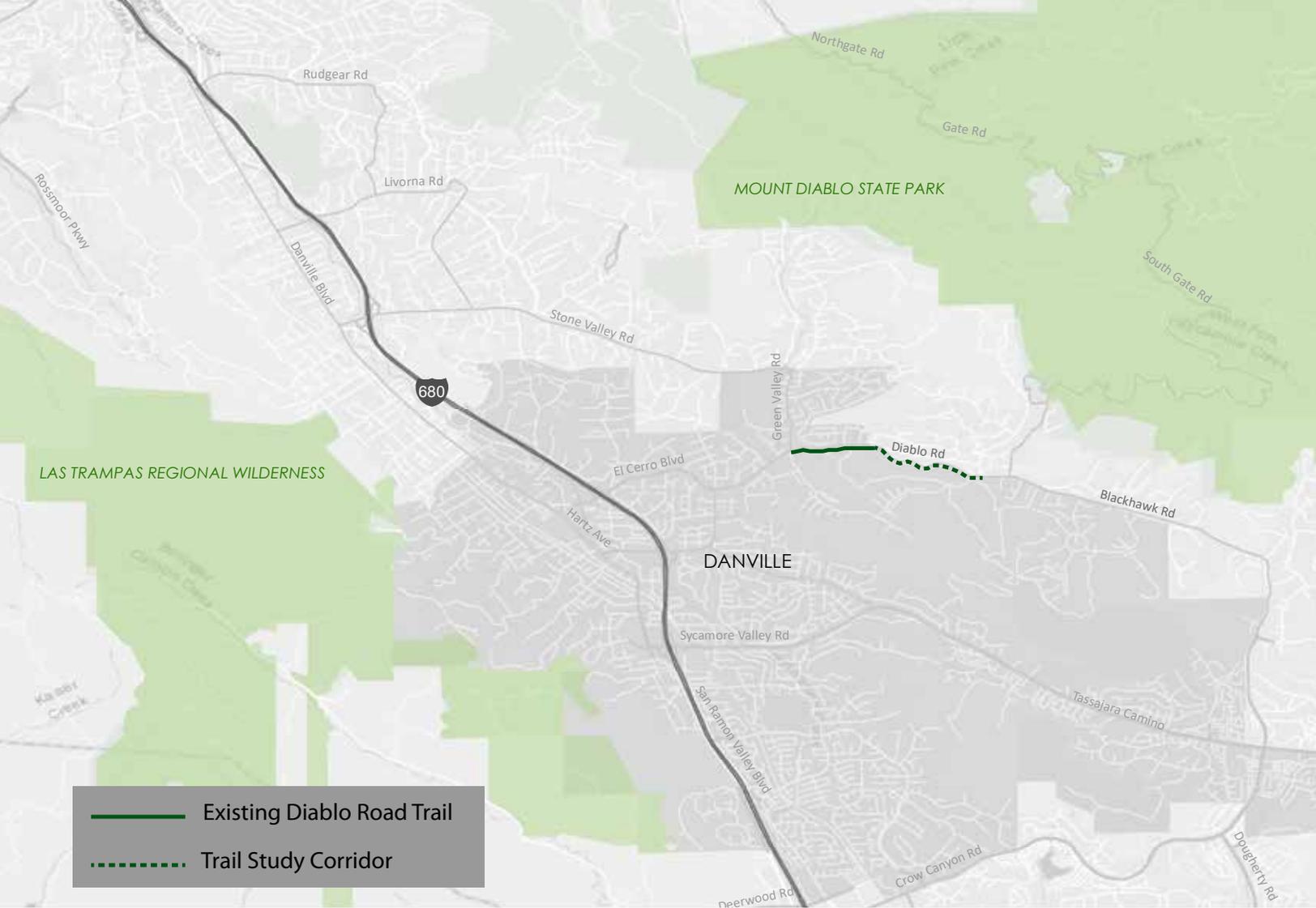


Figure 1: Vicinity Map

The purpose of this study is to explore potential alignments through this property for an off-street trail and complete this gap in the Town’s comprehensive trail network. The Diablo Road Trail project would ultimately provide a contiguous 8 to 10-foot wide, off-street, paved multi-use trail facility for all user groups including pedestrians and bicyclists, and would link the Diablo Road/Green Valley Road corridor to the west to Blackhawk Road/

Mt. Diablo Park south access to the east. The Diablo Road corridor is a preferred route to Mt. Diablo State Park, a popular recreational bicyclist destination well-known throughout the Bay Area. At just 4 miles from Downtown Danville, residents and visitors can enjoy traveling along bicycle lanes and off-road trails on a nearly continuous path between Mount Diablo and Danville’s shops and restaurants, Iron Horse Trail, and Las Trampas Regional

1989 when Danville adopted its *Townwide Trails Master Plan*. The Plan proposed a trail alongside Green Valley Creek and Diablo Road from Clydsedale Drive to 400 feet west of Ave Nueva.

This project was further refined in the 2006 *Danville Parks, Recreation & Arts Strategic Plan*. The Diablo Road Trail was elevated as a “major community trail” in Danville and the project’s boundaries, opportunities, and constraints were described in more detail.³

In April 2017, Danville updated the *Danville Parks, Recreation & Arts Strategic Plan*. One of the five strategic directions in the update is to develop active transportation trails and pathways. The Plan cited that:

while many residents frequently drive to parks, community members expressed their desire to use active transportation modes to get there. One of the identified barriers to walking and biking to nearby community amenities is the lack of a connected trail system. Through the online questionnaire, over half of participants noted that an expanded trail network

³ Town of Danville, CA, *Danville Parks, Recreation and Arts Strategic Plan*, Appendix H, 54.

Figure 3: Trail alignment included in the 2006 *Danville Parks, Recreation & Arts Strategic Plan*



*would be a priority project for them.*⁴

Since the trail was first conceived in 1989, lack of available width has kept the project from moving forward. The Town deferred pursuing this project until trail development constraints could be addressed.

In October 2010, SummerHill Homes submitted an application to allow for development of 85 residential lots on the Magee Ranch Property. The property is bounded by Diablo Road and Blackhawk Road to the north and McCauley Road to the west. The property is comprised of 10 legal parcels totaling approximately 410 acres,

⁴ Town of Danville, CA, *Danville Parks, Recreation and Arts Strategic Update*, Chapter 2, 19.

Figure 4: Proposed Magee Ranch Property Residential Development



and is generally characterized by open grass-covered hills with scattered trees. The elevation of the property ranges from approximately 425 feet along the property's frontage at Diablo Road near McCauley Road to about 860 feet at its highest point. The site is currently used for beef cattle operations. The original proposal was challenged in court and in February 2017, Davidon Homes became the project applicant.

Davidon Homes has filed an application with the Town to rezone and subdivide the Magee Ranch Property into 69 single-family lots,

with approximately 380 acres of open space. Right-of-way dedication (transferring land to the Town) for the Diablo Trail is a condition of the Davidon Homes development.

A study of the trail segment was included in the Town's 2016-2017 Capital Improvement Program (CIP) - a comprehensive document of upcoming and planned capital improvement projects. The Diablo Road Trail was modified and adopted again in the 2017-2018 CIP.⁵

⁵ Town of Danville, CA, The 2017/18 Capital Improvement Program for the Town of Danville, C-055, CIP 92

Project Benefits

In addition to implementing adopted goals, policies, and recommendations in the *Danville 2030 General Plan*, *Danville Parks, Recreation & Arts Strategic Plan*, *Countywide Bicycle and Pedestrian Plan*, and *Townwide Trails Master Plan*, closing this gap will provide several key benefits to Danville residents and visitors.

CONNECTIVITY

The Danville Diablo Road Trail can become a viable transportation corridor by providing new access to recreation, schools, jobs, retail, and other services in the community.

HEALTH AND RECREATION

Trails create recreation opportunities that promote healthy activities such as, walking, running, bicycling, and skating. Benefits include reducing obesity, controlling cholesterol levels and diabetes, slowing bone loss in aging populations, and reducing the risk of certain cancers. Access to linear parks such as trails and paths can also provide mental health benefits that help to reduce anxiety and depression.

ECONOMIC IMPACTS

Creating a major recreational resource like the Danville Diablo Road Trail can provide access to businesses and jobs, and contribute to a sense of place for locals while also attracting tourists that support the local economy.

One of the minor drainages evaluated as part of the field visit



Planning Process

In June 2017, the Town hired a consultant to conduct a conceptual alignment and feasibility analysis. Town staff met with the consultant on site to analyze and refine feasible alignment options. Stakeholders in the bicycling community also provided feedback on potential trail alignments following a field visit.

The Town evaluated potential alignments for safety, user experience, environmental impacts, and cost. The options described in this study reflect feasible alignments for the Town to consider in the next phase of design development.

Project Considerations

SITE SETTING

Green Valley Creek splits west of Diablo Road and Green Valley Road. The north fork continues north to Stone Valley Road. The main fork continues east, crosses under Green Valley Road and parallels Diablo Road. From Green Valley Road to Fairway Drive the creek is north of the Diablo Road Trail and Diablo Road. From that point Diablo Road crosses the trail three times. Single family homes, Green Valley Pool, St. Timothy's Episcopal Church, and the Diablo Country Club are located north of Diablo Road. To the south is the Magee cattle ranch property.



Existing Diablo Road Trail

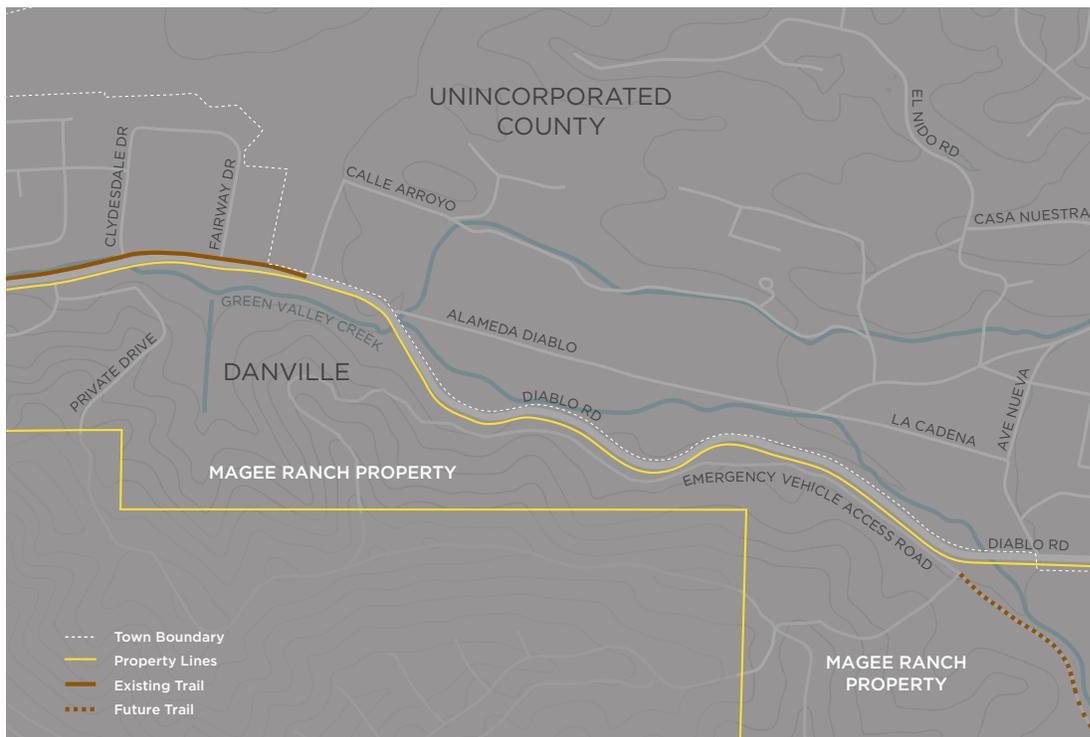
ACCESS/CIRCULATION

Diablo Road Trail

The Town has installed five feet wide bicycle lanes on El Cerro Boulevard and Diablo Road from Danville Boulevard to Green Valley Road/McCauley Road. The Diablo Lodge/Los Cerros Connector Trail is accessible off of Hill Road, 200 feet south of the Diablo Road and Green Valley intersection. Heading east from Green Valley Road, bicyclists and pedestrians can use the multi-use Diablo Road Trail on the north side of Diablo Road. This off-street paved asphalt trail varies in width from 8 to

10 feet and runs 0.5 miles to Calle Arroyo where the road is 24 feet wide. In some areas past Calle Arroyo, Diablo Road is as narrow as 20 feet. Accommodating separated bicycle facilities, sidewalks, or a multi-use path will require either private property acquisition on the north side of Diablo Road or environmental impacts to the creek and adjacent hillside. Previous studies have cited the need for a connection off-street.

Figure 5: Alignment Overview Map



Alignment Concepts

Alignment Concepts

Opportunities

A major opportunity for the trail is to co-align it with a graded and maintained emergency vehicle access road (EVA) on the Magee property that runs approximately two-thirds of the length of the corridor. This unpaved road appears able to support ADA-acceptable grades with little modification and overlooks Diablo Road. Construction cost to convert the EVA to a trail would not be extensive and the trail could continue to serve as emergency vehicle access. Utilizing the EVA would also offer trail users panoramic vistas of Mt. Diablo and the surrounding valleys.



Graded emergency vehicle access (EVA) on Magee property

Constraints

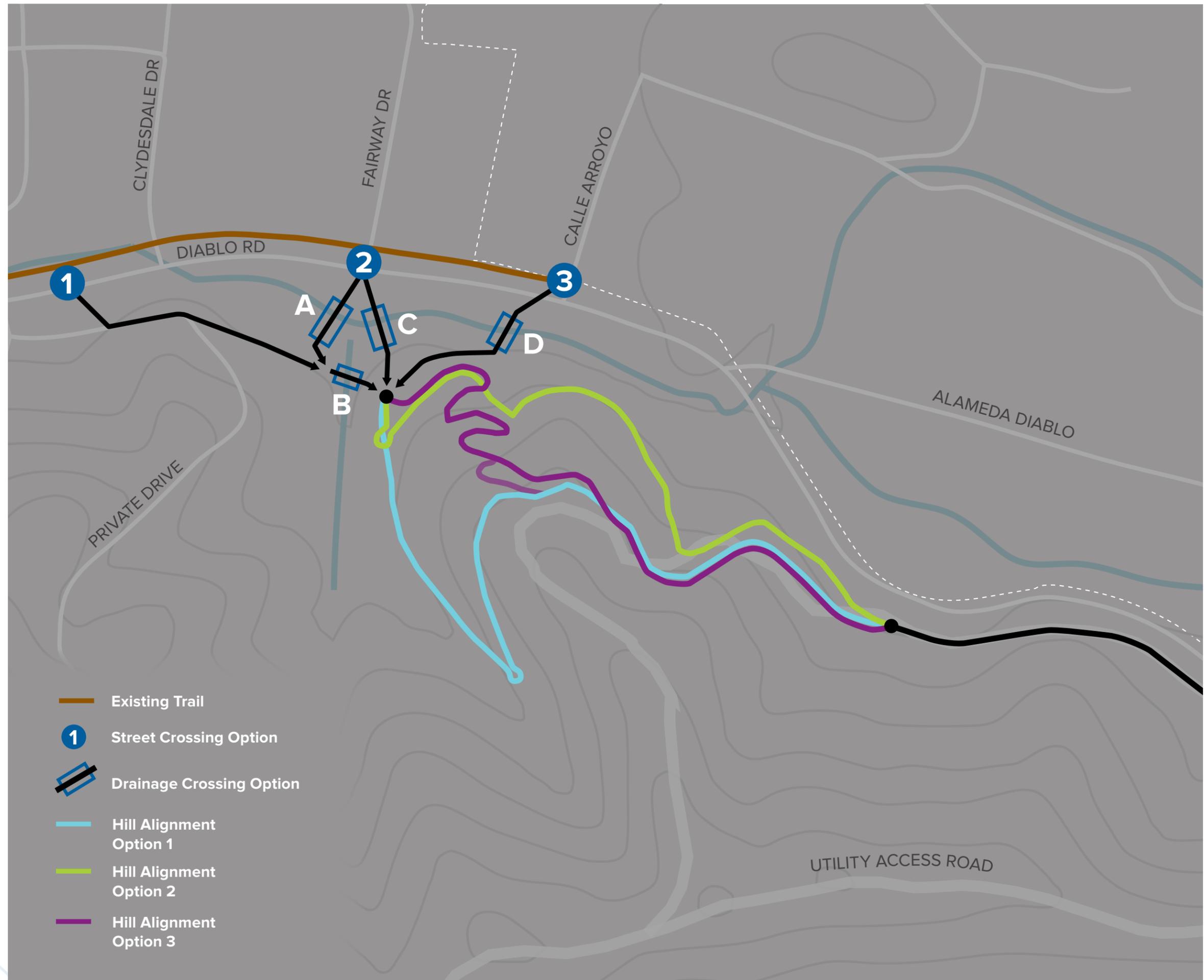
Constraints include finding an appropriate location to cross Diablo Road. Feasible options include south of Clydesdale Drive at the existing private driveway, Fairway Drive, or Calle Arroyo. Once on the south side of Diablo Road, the trail alignment must cross Green Valley Creek or its drainages because available width and steep slopes prevent the trail from running adjacent to Diablo Road. Finally, the trail must ascend a 650-foot hill to join the emergency vehicle access road. Three options have been developed that minimize both tree removal and switchbacks (which may require substantial grading). These options are described in more detail the sections below.

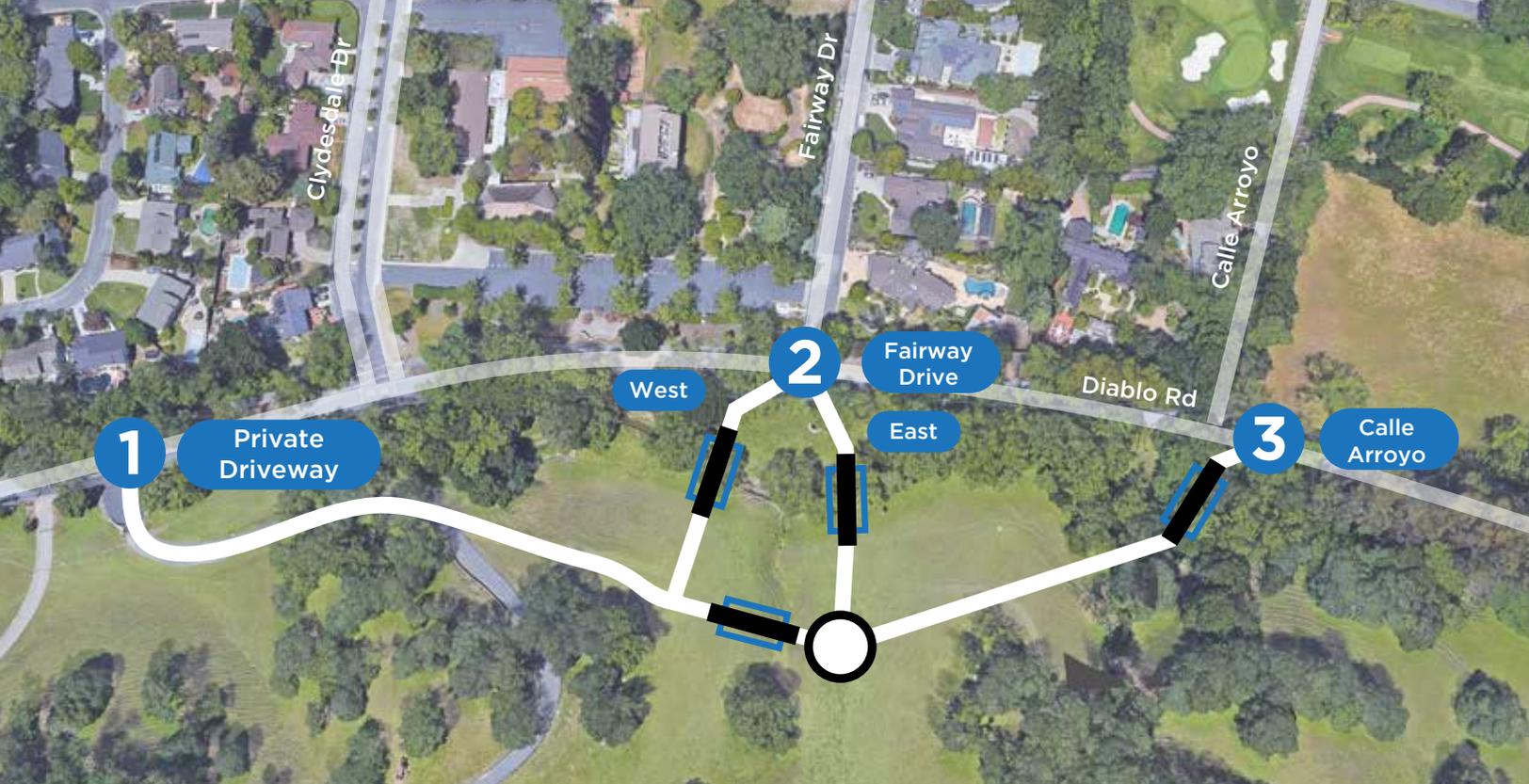
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Figure 6:

Detailed Alignment Options





Road Crossing Options

There are three different potential crossing locations along Diablo Road.

Road Option 1 is located west of Clydesdale Drive, **Road Option 2** is at Fairway Drive, and **Road Option 3** is at Calle Arroyo. Each crossing option has a different set of opportunities and constraints, summarized below and described in greater detail on the following pages.

ROAD CROSSING: SUMMARY			1 Private Driveway	2 Fairway Drive West Fairway Drive East	3 Calle Arroyo
	Length	Length of crossing & trail connection	900'	400'	450'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal	Minimal	Minimal
	Roadway Visibility	Level of visibility at street crossing	Good	Good	Adequate
	Trail Amenities	Space available for trailhead	Yes	Yes, limited	No
	Cost Estimate	Cost estimate of path construction only	\$120,000 – \$140,000	\$80,000 – \$100,000	\$90,000 – \$110,000

Potential impacts are rated minimal, moderate, or major based on the number of trees removed, permits needed, and mitigation required. Minimal impacts mean 1 or fewer permits, less than five trees removed, and no mitigation required. Roadway visibility is rated good, adequate, or inadequate based on the sight distance at the crossing locations. Good visibility is measured by having more than 500 feet of clear sight distance.

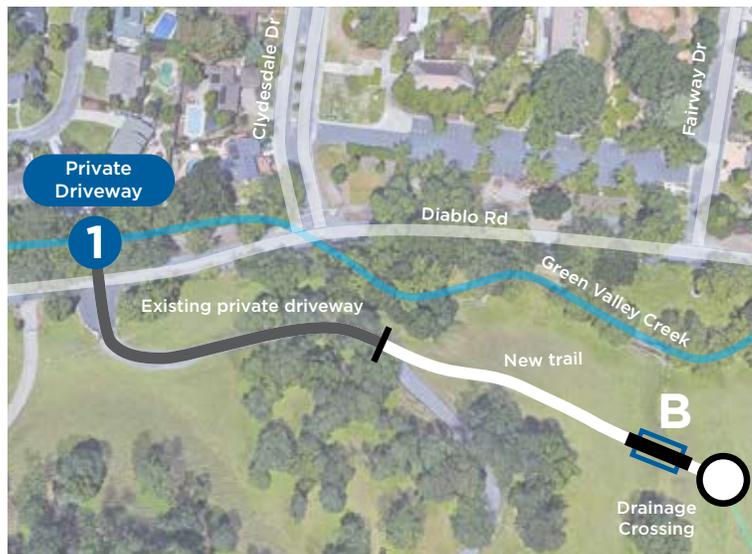
1 ROAD OPTION 1: PRIVATE DRIVEWAY WEST OF CLYDESDALE DRIVE

Option 1 would use an existing private driveway west of Clydesdale Drive. The driveway provides access to a private residence and ranching land. The ranch land owners preliminarily are supportive of this use of their property.

This location provides room for a large trailhead/staging area. For those that need to cross Diablo Road, this spot provides good sightlines for vehicles, pedestrians, and bicyclists. Using this location as the crossing point is constrained by the need to cross a drainage channel (Drainage Crossing B). Another potential constraint is opposition from the resident of the one house atop the hill (different party than the ranchers, who own the remaining land).

ROAD CROSSING: OPTION 1 - PRIVATE DRIVEWAY

	Length	Length of crossing & trail connection	900'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal
	Roadway Visibility	Level of visibility at street crossing	Good
	Trail Amenities	Space available for trailhead	Yes
	Cost Estimate	Cost estimate of path construction only	\$120,000 – \$140,000



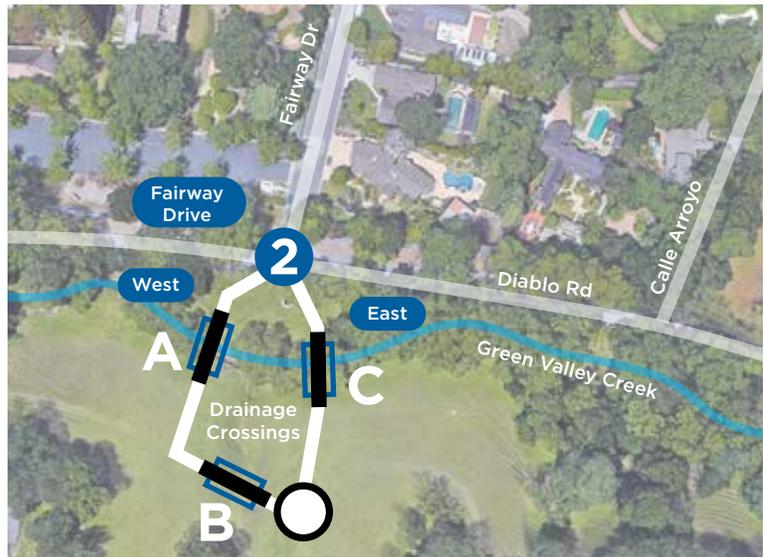
2 ROAD OPTION 2: FAIRWAY DRIVE

Option 2 is located at the Fairway Drive intersection of Diablo Road. Option 2 provides two access alignments to reach the hill alignment. Each of these two alignments crosses a different segment of the drainage channel. The first alignment uses Drainage Crossing A (western crossing) and Drainage Crossing B (southern crossing). The second alignment crosses Drainage Crossing C (eastern crossing).

The Fairway Drive crossing has some space for trailhead/staging area, but less than is available through Option 1. This location also provides crossing users and passing vehicles with good sightlines and visibility. The primary constraint for this site is that it also involves crossing drainage channels; if the western alignment is chosen, a second drainage crossing (Drainage Crossing B) would be required. If Crossing C is chosen, Drainage Crossing B would not be needed.

ROAD CROSSING: OPTION 2 - FAIRWAY DRIVE

			WEST	EAST
	Length	Length of crossing & trail connection	400'	300'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal	Minimal
	Roadway Visibility	Level of visibility at street crossing	Good	Good
	Trail Amenities	Space available for trailhead	Yes, limited	Yes, limited
	Cost Estimate	Cost estimate of path construction only	\$80,000 – \$100,000	\$80,000 – \$100,000



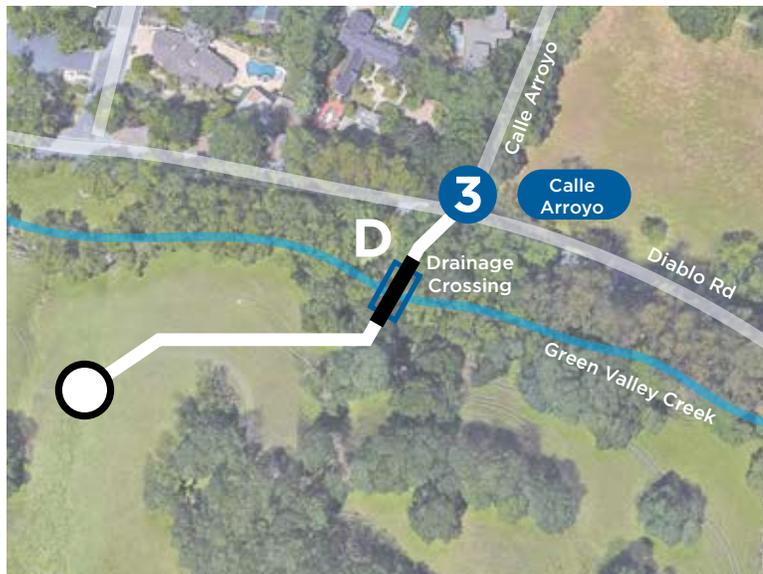
**3 ROAD OPTION 3:
CALLE ARROYO**

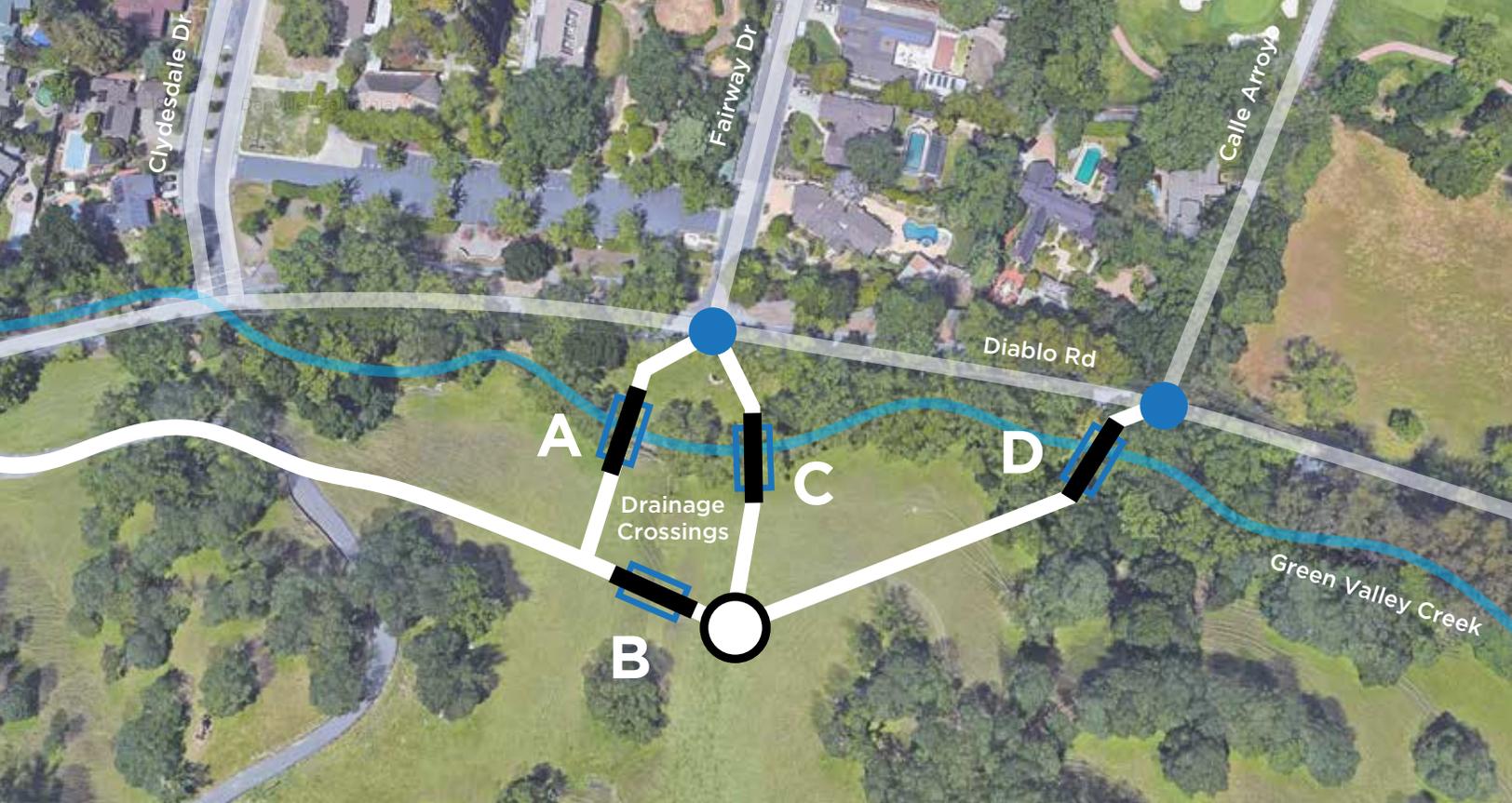
Option 3 is located at the Calle Arroyo intersection of Diablo Road. This site is the most geographically constrained of the three sites; there is not space for a trailhead/staging area. An additional constraint is that while the sightlines are adequate for safe pedestrian and bicycle crossings, it provides the shortest line of site of the three sites.

Option 3 would require one drainage channel crossing: Crossing D.

ROAD CROSSING: OPTION 3 - CALLE ARROYO

	Length	Length of crossing & trail connection	450'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal
	Roadway Visibility	Level of visibility at street crossing	Adequate
	Trail Amenities	Space available for trailhead	No
	Cost Estimate	Cost estimate of path construction only	\$90,000 – \$110,000





Drainage Crossing Options

As described in the previous section, a critical component of any trail alignment is the drainage channel crossing.

There are four potential drainage crossing locations. Crossing B would be required with Clydesdale/Driveway crossing, Crossings A and B would be required with the western alignment of the Fairway Drive crossing, Crossing C would be required with the eastern alignment Fairway crossing, and Crossing D would be required with the Calle

Arroyo crossing. There is only one alignment that would require two crossings: the western alignment of the Fairway Drive (2) crossing.

Generally speaking, each of these four potential crossings are relatively similar in terms of scope and scale, but there are differences in terms of necessary grading and tree removal around each crossing. A more detailed description of each drainage crossing is found below.

CROSSING A:

Crossing A is a part of the western alignment for the Fairway Drive option. This crossing would be over the east-west running drainage channel. This crossing is generally the same size as Crossing C and Crossing D. Minimal tree removal would be required at this site.

DRAINAGE CROSSING: OPTION A

	Bridge Length	Prefabricated 10' wide bridge	75'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal
	Street Access	Connection to street crossings	Fairway Dr (west)
	Cost Estimate	Cost estimate for drainage crossing only	\$500,000 – \$700,000

CROSSING B:

Crossing B is a part of the alignment for a trail that originates near Clydesdale Drive and the crossings for the western Fairway Drive alignment. Crossing B is the smallest/least invasive crossing. This is also the only crossing that crosses a north-south drainage channel. Minimal tree removal would be required at this site.

DRAINAGE CROSSING: OPTION B

	Bridge Length	Prefabricated 10' wide bridge	75'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal
	Street Access	Connection to street crossings	Clydesdale Dr & Fairway Dr (west)
	Cost Estimate	Cost estimate for drainage crossing only	\$250,000 – \$350,000



CROSSING C:

Crossing C is a part of the eastern alignment for the Fairway Drive option. This crossing is similar in size to Crossings A and D. This site would require some tree removal to accommodate the crossing.

DRAINAGE CROSSING: OPTION C

	Bridge Length	Prefabricated 10' wide bridge	75'
	Potential Impacts	Tree removal, stream & habitat intrusion	Moderate
	Street Access	Connection to street crossings	Fairway Dr (east)
	Cost Estimate	Cost estimate for drainage crossing only	\$600,000 – \$800,000

CROSSING D:

Crossing D is a part of the alignment for the Calle Arroyo option. This crossing is similar in size to Crossings A and C. This site would require some tree removal to accommodate the crossing.

DRAINAGE CROSSING: OPTION D

	Bridge Length	Prefabricated 10' wide bridge	85'
	Potential Impacts	Tree removal, stream & habitat intrusion	Moderate
	Street Access	Connection to street crossings	Calle Arroyo
	Cost Estimate	Cost estimate for drainage crossing only	\$600,000 – \$800,000

DRAINAGE CROSSING: SUMMARY

			A	B	C	D
	Bridge Length	Prefabricated 10' wide bridge	75'	75'	75'	85'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal	Minimal	Moderate	Moderate
	Street Access	Connection to street crossings	Fairway Dr (west)	Clydesdale Dr & Fairway Dr (west)	Fairway Dr (east)	Calle Arroyo
	Cost Estimate	Cost estimate for drainage crossing only	\$500,000 – \$700,000	\$250,000 – \$350,000	\$600,000 – \$800,000	\$600,000 – \$800,000





Hill Alignment Options

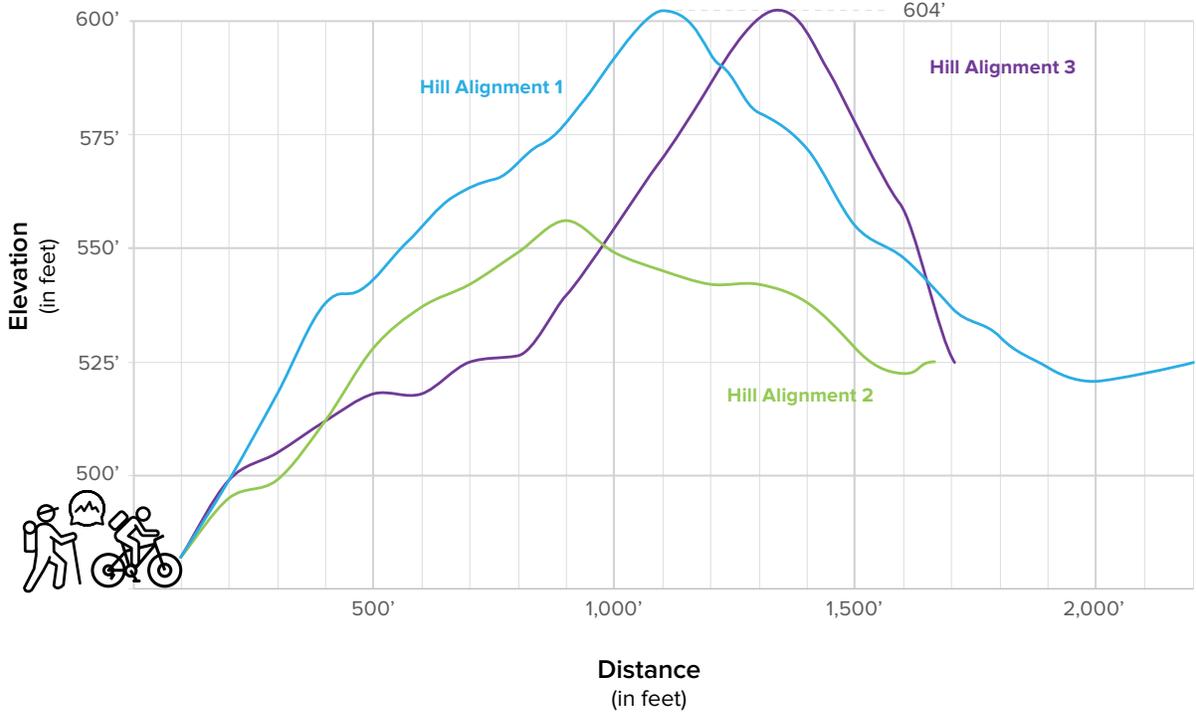
After crossing the drainages, the trail will climb a hill in order to avoid steep slopes and eventually run parallel to Diablo Road.

There are three potential hill alignments that the trail can follow. Each of these alignments follows a different route, but starts and ends at the same location. Where the hill alignments end, the trail connects to the existing Emergency Vehicle Access Road.

A detailed description of each alignment can be found on the following pages.

Each of these routes were designed to keep the incline of the routes as similar as possible. Thusly, there are minimal grading differences (in terms of trail steepness) between each of the three routes. This objective to minimize incline differences is one of the primary reasons for the design of these routes.

Figure 7: Trail - Hill Alignment Profiles



HILL ALIGNMENT 1

Hill Alignment 1 is the longest of the three potential alignments. The primary drawback of this design is that it is the most indirect route of the three alignments and involves more than 450 feet of out of direction travel. This alignment does, however, provide scenic vistas and minimizes necessary tree removal.

HILL ALIGNMENT 1

	Length	Length of hill alignment trail	2,200'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal
	Route Directness	Relative directness of overall route	Indirect
	Scenic Views	Access to scenic views	Yes
	Cost Estimate	Cost estimate based on construction	\$750,000 – \$1,000,000

HILL ALIGNMENT 2

Hill Alignment 2 is the most direct of the three potential alignments. However, this alignment would require both significant tree removal and would be the most difficult of the three alignments to construct.

HILL ALIGNMENT 2

	Length	Length of hill alignment trail	1,650'
	Potential Impacts	Tree removal, stream & habitat intrusion	Major
	Route Directness	Relative directness of overall route	Direct
	Scenic Views	Access to scenic views	No
	Cost Estimate	Cost estimate based on construction	\$500,000 – \$750,000

HILL ALIGNMENT 3

Hill Alignment 3 was designed to minimize elevation differences; this requires several switchbacks in the western segment of the alignment. This approach lengthens the route (2,000 feet longer than Hill Alignment 2), but does not require as much out of direction travel as Hill Alignment 1. This route’s alignment does, however, take advantage of the scenic vistas provided by the foothills.

HILL ALIGNMENT 3

	Length	Length of hill alignment trail	1,700'
	Potential Impacts	Tree removal, stream & habitat intrusion	Minimal
	Route Directness	Relative directness of overall route	Direct, switchbacks
	Scenic Views	Access to scenic views	Yes
	Cost Estimate	Cost estimate based on construction	\$500,000 – \$750,000

Cost estimates include improvements to the Emergency Vehicle Access road where all the hill alignments end.



Alignment Summary

This study summarizes various alternatives for closing the gap in the existing Diablo Road Trail. As shown in the maps and diagrams in this report, there are three road crossings, four drainage crossings, and three hill alignments that are feasible to pursue. Each alternative has both benefits and trade-offs and below is a summary of the potential combinations to help compare these options.

Alignment Summary Table

Road Crossing Pages 16-19	Drainage Crossing Pages 20-23	Hill Alignment Pages 24-27	Emergency Vehicle Access	Cost Estimate
1 Private Driveway	B	1	<input checked="" type="checkbox"/>	\$1,570,000 - \$1,940,000
	B	2		= \$1,320,000 - \$1,690,000
	B	3		\$1,320,000 - \$1,690,000
2 Fairway Drive	A + B	1	<input checked="" type="checkbox"/>	\$2,030,000 - \$2,600,000
	A + B	2		\$1,780,000 - \$2,350,000
	A + B	3		= \$1,780,000 - \$2,350,000
	C	1		\$1,880,000 - \$2,350,000
	C	2		\$1,630,000 - \$2,100,000
3 Calle Arroyo	C	3	\$1,630,000 - \$2,100,000	
	D	1	<input checked="" type="checkbox"/>	\$1,890,000 - \$2,360,000
	D	2		= \$1,640,000 - \$2,110,000
D	3	\$1,640,000 - \$2,110,000		

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Implementation

Implementation

Private Property Acquisition

The trail crossing of Diablo Road is within city right-of-way. The remaining trail alignment will stay within the Magee Ranch property. The proposed Davidon development project requires a bicycle and pedestrian trail as a condition of development.

Design & Permitting

The consideration of several factors (including presence of endangered species, existing site conditions, and regional setting) contribute to determining the appropriate level of environmental analysis for a particular project. Located within a suburban setting (adjacent to Diablo Country Club), the key environmental issues associated with this project are likely to focus on access/circulation, public safety, visual resources, and a number of temporary construction measures.

If federal funds are used for the project a joint CEQA/NEPA process will need to be completed. This includes biological surveys, field work and preparation of technical studies to comply with local, state, and federal environmental processing requirements.

Funding

CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program (CIP) is a comprehensive document of upcoming and planned capital improvement projects. It serves as a guide for identifying current and future fiscal requirements, and it becomes the basis for determining the annual capital budget. It includes major projects undertaken by the town such as the construction of new building, parks, or facilities including engineering, design, and other pre-construction measures.

GRANT FUNDING

Recreational Trails Program

The Recreational Trails Program (RTP) provides funding to states to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. The RTP is a Federal-aid assistance program of the U.S. Department of Transportation's Federal Highway Administration (FHWA) to help the States provide and maintain recreational trails.

Eligible projects include:

- Trail maintenance and restoration
- Trailside and trailhead facilities
- Equipment for construction and maintenance
- Construction of new recreational trails
- Acquisition of trail corridors
- Assessment of trail conditions
- Safety and environmental education
- Administration

Funding and Requirements:

- Applicants to the RTP are responsible for obtaining a match of at least 12% of the total project cost.
- Compliance with the National Environmental Policy Act (NEPA)
- Completion of the National historic Preservation Act
- Listing of the project on the State Transportation Improvement Plan (STIP) or a local Transportation Improvement Plan (TIP)
- Acquisition projects, applicants must obtain an appraisal that conforms to the Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA)

Active Transportation Program

In 2013, Governor Brown signed legislation creating the Active Transportation Program (ATP). This program is a consolidation of the federal Transportation Alternatives Program (TAP), California's Bicycle Transportation Account (BTA), and federal and California Safe Routes to School (SRTS) programs.

The ATP program goals include:

- Increase the proportion of trips accomplished by biking and walking
- Increase safety and mobility for non-motorized users
- Advance the active transportation efforts of regional agencies to achieve greenhouse gas reduction goals
- Enhance public health
- Ensure that disadvantaged communities fully share in the benefits of the program
- Provide a broad spectrum of projects to benefit many types of active transportation users

Eligible projects include:

- Infrastructure projects: Capital improvements that will further program goals. This category typically includes planning, design, and construction.
- Non-infrastructure projects: Education, encouragement, enforcement, and planning activities that further program goals. The focus of this category is on pilot and start-up projects that can demonstrate funding for ongoing efforts.
- Infrastructure projects with non-infrastructure components



Acknowledgments

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