HILLSDALE BOULEVARD HIGHWAY 101 PEDESTRIAN AND BICYCLE OVER CROSSING

FINAL REPORT

June 2007

Prepared for:
City of San Mateo
Public Works Department

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ACKNOWLEDGEMENTS

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TABLE OF CONTENTS

1. EXISTING CONDITIONS

2. NEEDS ANALYSIS

3. ALTERNATIVE ANALYSIS

4. PREFERRED ALTERNATIVE

5. DESIGN AND IMPLEMENTATION

APPENDIX

LIST OF FIGURES

LIST OF TABLES

1. EXISTING CONDITIONS

1.1. PROJECT OVERVIEW AND PURPOSE

Local bicyclists initially identified the Hillsdale Boulevard US 101 Bicycle and Pedestrian Over Crossing (Hillsdale 101 Over Crossing) project as an essential connection between the neighborhoods of San Mateo and destinations such as the Bay Trail, currently separated by US 101. The project area is located in southeastern San Mateo, at the Hillsdale Boulevard US 101 freeway interchange. Existing pedestrian facilities along Hillsdale Boulevard consist of five-foot sidewalks on both sides of the four-lane roadway, and crosswalks at the four on- and off-ramps. Hillsdale Boulevard is the only pedestrian accessible crossing of US 101 between 19th Avenue in San Mateo and Ralston Avenue in Belmont. Bicyclists and pedestrians in San Mateo have consistently indicated that this is one of the major barriers for walking and bicycling in this area.

The purpose of this project is to establish a preferred option for a bicycle and pedestrian bridge alignment and to identify potential environmental, engineering, operational and permit issues.

1.2. PROJECT SETTING AND STUDY AREA

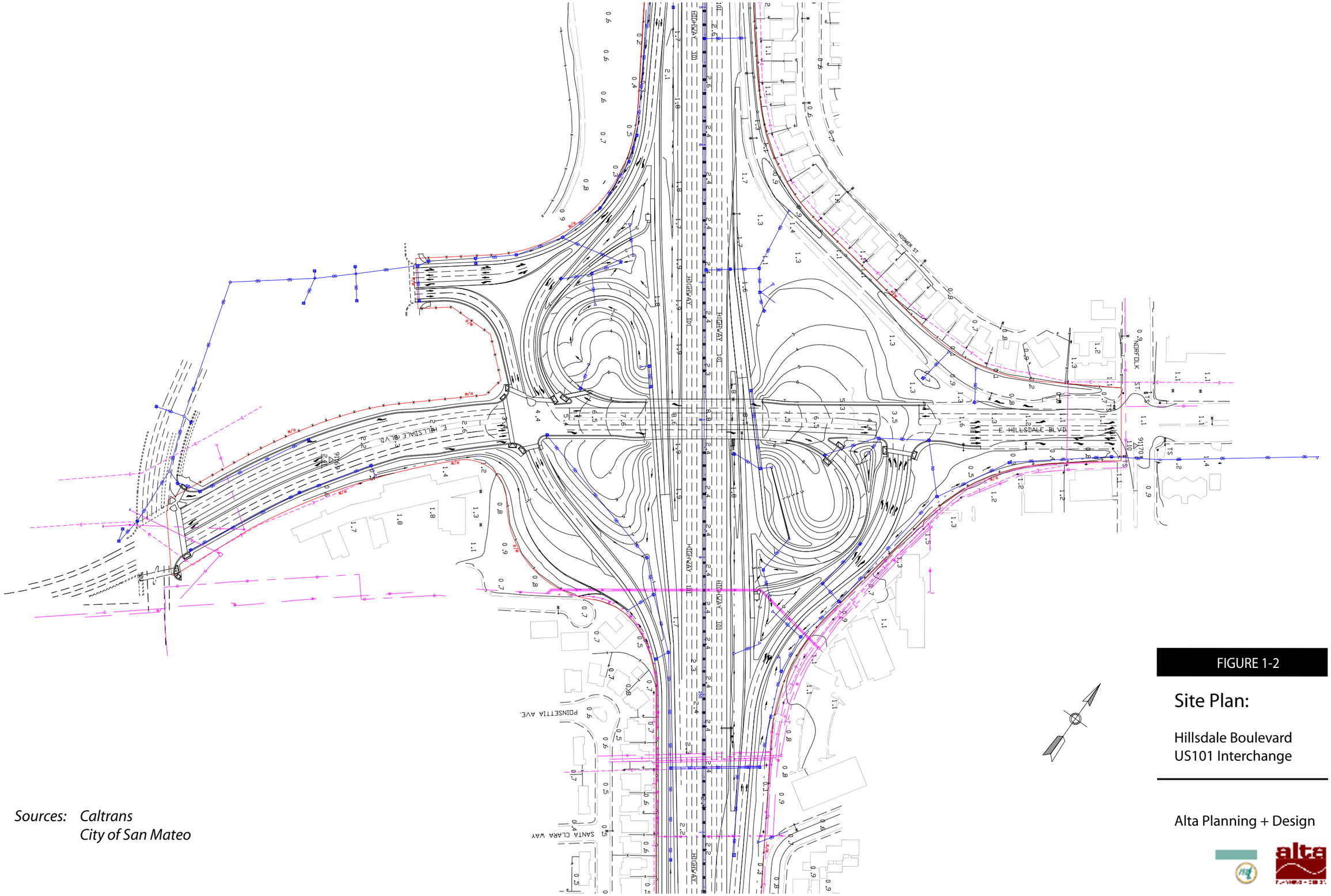
This chapter provides a description of existing conditions in the Study Area. Information is based on field visits, existing planning documents, aerial photographs, maps, and conversations with city, county and other agency staff.

Figure 1-1 shows the location of the project Study Area and a detailed view of the project corridor. Figure 1-2 shows a detailed site plan of the existing interchange.

The Study Area consists of the Hillsdale Boulevard corridor from Saratoga Drive to the west of U.S. 101 to Norfolk Street on the east, and is approximately one mile long. The existing bicycle and pedestrian facilities consist of five-foot wide sidewalks along the northern and southern sides of the over crossing and a Class III Bike Route designation of Hillsdale Boulevard. On each of the interchange's on- and off-ramps, crosswalks link the over crossing sidewalks to wider sidewalks connecting to the intersections of Saratoga Drive and Norfolk Street. Traffic speeds along Hillsdale Drive reach in excess of 35 miles per hour as cars approach the U.S. 101 on-ramps.

View of the Hillsdale US 101 Over Crossing from the northwest

Figure 1-1 – Existing Conditions



Sources: *Caltrans*
City of San Mateo

FIGURE 1-2

Site Plan:

Hillsdale Boulevard
US101 Interchange

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The Hillsdale Boulevard/U.S. 101 Interchange provides access to U.S. 101 for residents of southern San Mateo and Foster City. The interchange is a partial cloverleaf configuration, with two loop on-ramps in the northwestern and southeastern quadrants. Off-ramps are also located in the northwestern and southeastern quadrants. Additional on-ramps are located in the southwestern and northeastern quadrants. As Table 1-1 shows, the February 2004 Hillsdale Boulevard Traffic Monitoring Study identifies levels of service for the US 101 on and off-ramps.

Table 1-1
Hillsdale Boulevard/US 101 Levels of Service

Location	Level of Service	
	AM	PM
US 101 Southbound Ramps	A	B
US 101 Northbound Ramps	C	C

The Hillsdale Boulevard Over Crossing ramps up to a crossing elevation of 8.8 meters (28.86 feet) from a starting elevation of 4.4 meters (14.4 feet) at the intersection of the western on- and off-ramps, and a starting elevation of 3.5 meters (11.48 feet) at the intersection of the eastern on- and off-ramps. The distance from the U.S. 101 roadway to the Hillsdale Boulevard roadway is 6.4 meters (20.9 feet). There are two through lanes in each direction on the over crossing, and one turn lane in each direction that feeds into the north and southbound loop ramps. Each lane has a width of 12 feet. A five-foot median separates eastbound and westbound traffic. See Figure 2 for further information.

1.3. OVERVIEW OF CORRIDOR

The Hillsdale 101 Over Crossing project corridor extends from Saratoga Drive to the west to Norfolk Street to the east and extends north and south in roughly the area occupied by the Interchange. The project area is located within the City of San Mateo and the area east of Saratoga Drive and west of Norfolk Street is in the State's right-of-way . The key components of this project corridor are described below.

U.S. 101

U.S. 101 in San Mateo is a ten-lane freeway, carrying commuters to and from employment centers in San Francisco, Silicon Valley and elsewhere along the Peninsula. According to the City of San Mateo's General Plan Circulation Element, the Average Daily Traffic Volumes on US 101 north of Hillsdale Boulevard are 227,000 vehicles. Bicyclists and pedestrians are prohibited on US 101 in San Mateo, and no bicycle or pedestrian facilities are provided on the highway.

Looking south from the Hillsdale Boulevard Over Crossing at US 101

HILLSDALE BOULEVARD CORRIDOR

Hillsdale Boulevard extends from the College of San Mateo in the west to Foster City Boulevard in Foster City to the east, where it becomes Beach Park Boulevard. Hillsdale Boulevard is a six-lane roadway on either side of the U.S. 101 Over Crossing. Hillsdale Boulevard currently serves as a Class III Bicycle Route between Edison Street and the Foster City limit line. To the west of Edison Street, Hillsdale Boulevard features Class II Bike Lanes.

A pedestrian traveling east on Hillsdale Boulevard

Hillsdale Boulevard is a primary arterial roadway for the City of San Mateo with average daily traffic volumes of 50,135 at the freeway interchange. Hillsdale Boulevard provides access to numerous commercial centers such as the Hillsdale Shopping Center and Shoreview Shopping District. Hillsdale Boulevard provides an important connection between the cities of San Mateo and Foster City, and connects many residential collector streets with various community destinations, such as San Francisco Bay Trail segments in Foster City or the Hillsdale Caltrain Station.

1.4. GOALS AND OBJECTIVES

The overall goal of the Hillsdale 101 Over Crossing project is to improve bicycle and pedestrian access and connectivity in this corridor. The history of the project began shortly after the reconstruction of the Hillsdale Boulevard US 101 Interchange in 2001 as a mitigation measure for the Bay Meadows Redevelopment project. The bicycle community began to voice concern regarding the ability of pedestrians and bicyclists to use Hillsdale Boulevard as a safe crossing of U.S. 101. The San Mateo Bicycle and Pedestrian Advisory Committee identify the project as a high priority for the 2005-2006 TDA Article III grant cycle and received a grant of $100,000 for the alignment study and preliminary design.

The proposed Hillsdale 101 Over Crossing was also included in the Measure A Expenditure Plan, approved by the San Mateo City Council and funded by the reauthorization of Measure A Sales Tax for regional transportation improvements.

Local agencies and stakeholders have their own unique goals for this corridor. These include improving access, connectivity, and safety for bicyclists and pedestrians; developing walkable neighborhoods and reducing traffic congestion on local roads. More specific goals for pedestrians and bicyclists are contained in the City of San Mateo's various planning documents, including the General Plan, the San Mateo Rail Corridor Transit-Oriented Development Plan, and the Bay Meadows Specific Plan.

Drawing on these existing plans, the following goals and objectives have been developed to help guide the evaluation process in this feasibility study.

Goal 1: The project should improve east-west access for bicyclists and pedestrians at the Hillsdale Boulevard crossing of US 101.

Objective 1A: Connectivity. Provide links and improve access to destinations north, south, east and west of the Hillsdale Over Crossing.

Objective 1B: Recreation Amenity. Provide improved access to recreational amenities, especially the shoreline and public open spaces, such as the San Francisco Bay Trail.

Goal 2: Improve pedestrian and bicyclist safety in the Hillsdale Boulevard area.

Objective 2A: Safety. Provide adequate facilities that allow all pedestrians to travel safely through the project corridor.

Goal 3: The project should provide maximum benefits to the public.

Objective 3A: Range of User Groups. Maximize the range of potential users of any new facility or service, including users of all ages and abilities. Understand the needs, capabilities, and interests of each user group, and consider this in the design of any solution(s).

Objective 3B: Function. Maximize the functional aspects of any recommendation in terms of convenience, gradients, availability, directness, access, cost, and connectivity to major destinations.

Objective 3C: Cost Effectiveness. The project should offer the best combination of effectiveness with lowest capital and operating cost, and should be consistent with existing and future local and regional improvement projects wherever possible.

Objective 3D: Crossing. Develop a safe, accessible, and direct crossing of US 101.

Goal 4: The project should minimize negative impacts on the environment and local communities.

Objective 4A: Environment. Design the project so it does not result in significant negative environmental impacts in terms of direct construction impacts (water quality, historical and archaeological resources, etc.) and indirect impacts (increased demand on local resources that are already over capacity, traffic capacity, financial resources, etc.).

Objective 4B: Property Impacts. Avoid or minimize impacts on private property and residential neighborhoods, including the need to acquire right-of-way or easements.

Objective 4C: Visual Impacts. Design the project so it does not result in significant impacts on the visual resources of the corridor.

Goal 5: The project should be consistent with adopted policies, standards, and goals.

Objective 5A: Consistency: Design the project to be consistent with the local, regional, and State adopted standards, policies, and goals.

1.5. SUMMARY OF RELEVANT PLANS & POLICIES

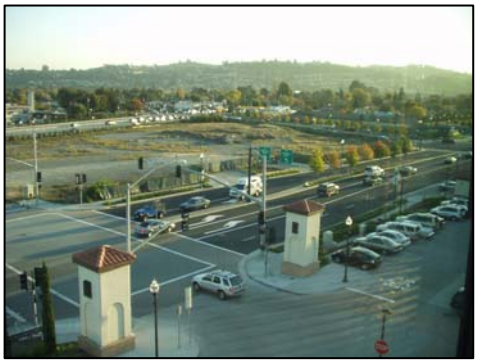
This section discusses the key public agencies involved in the Hillsdale 101 Over Crossing project, and relevant planning and policy documents prepared by each.

CITY OF SAN MATEO

The City of San Mateo has a population of 92,482 and a land area of 16 square miles. San Mateo is bordered to the west by the Town of Hillsborough and unincorporated San Mateo County, to the east by Foster City, to the north by the City of Burlingame and to the south by the City of Belmont. The project corridor is located in the eastern portion of San Mateo, near the border with Foster City.

City of San Mateo General Plan

The City of San Mateo is currently in the process of updating its 1997 General Plan. The General Plan is a comprehensive statement of San Mateo's development policies. The Circulation Element of the General Plan has been recently updated. The Circulation Element analyzes traffic conditions and needed improvements so that existing and projected circulation needs may be adequately met in the future. The Circulation Element is closely tied to the General Plan's Land Use Element, which is still undergoing the update process.



A view of western San Mateo from the Bay Meadows Redevelopment Area

The Circulation Element notes that the bicycle system relies heavily on Class III Bike Routes and lacks Class I and II facilities. The Circulation Element's goals and policies point to the need for improved east/west bicycle access, particularly at Hillsdale Boulevard (Policy C 4.1a) and the need for improved bicycle and pedestrian access to major office parks, train stations, schools and recreational facilities (Policy C 4.1d). The Circulation Element's goals and policies also outline the importance of pedestrian safety for the design of intersection and other roadway improvements (Policy C 4.6). It is noted in the Circulation Element that the City of San Mateo requires the installation of accessible sidewalks as a condition of all new development. The General Plan does not specifically address the lack of east/west connections for pedestrians.

City of San Mateo Bay Meadows Specific Plan Amendment

The 2005 Bay Meadows Specific Plan Amendment, adopted in November 2005, is an update to the 1997 Bay Meadows Specific Plan and outlines the vision for the redevelopment of the 83.5-acre main track area of Bay Meadows. The Specific Plan area abuts the Hillsdale Boulevard US

101 Interchange at the northwest corner of the interchange. The Specific Plan describes the distribution, location and extent of uses of the area covered by the Plan, presenting a "transit village" scheme for the site, with 1.25 million square feet of office space, 1,250 multi-family residential units, 150,000 square feet of retail and 15 acres of public parks and open space. The Specific Plan Amendment presents urban design principles for the development that include guidelines for the development of a "compact and inviting pedestrian environment." The Specific Plan Amendment includes discussion of the project goals, including the goal to "reduce reliance on the private automobile by enhancing opportunities for transit ridership, walking and biking" (3. Transportation).

City of San Mateo Rail Corridor Transit-Oriented Development Plan

The City of San Mateo Rail Corridor Transit-Oriented Development Plan is intended to guide development of the area surrounding the Hillsdale and Hayward Park Caltrain Stations. The Hillsdale Caltrain Station is a major transit link and destination in the vicinity of the Hillsdale 101 Over Crossing. The purpose of the Rail Corridor Transit-Oriented Development Plan would allow, encourage and provide guidance for the development of transit-oriented development within a half mile of the Hillsdale Caltrain Station. Among the goals of the Transit-Oriented Development Plan are to increase walking and reduce dependence on the automobile.

A bicycle and pedestrian bridge over US 101 at this point would allow pedestrians and bicyclists coming from eastern San Mateo and Foster City to access the Hillsdale Station. Good bicycle and pedestrian access to the Station would reduce parking demand and reduce vehicle trips on Hillsdale Boulevard, which has an existing vehicle Level of Service of "C" at the intersection of Hillsdale Boulevard and Saratoga Drive.

City of San Mateo Hillsdale Boulevard Traffic Monitoring Study

As a requirement of the Bay Meadows Development application, a traffic monitoring study was conducted in May of 2001 to determine the potential impact of the Bay Meadows Development on the Hillsdale Boulevard corridor. The traffic monitoring study monitors the incremental traffic impact on East Hillsdale Boulevard. Phase One was conducted prior to any substantial occupancy of the Bay Meadows development, to establish a baseline. Phase Two was conducted following the occupancy of the office campus and Phase Three was conducted following the occupancy of the majority of residential units. Phase Four was conducted in October 2003, following the occupancy of the commercial center at the intersection of Franklin Parkway and Saratoga Drive. The Hillsdale Traffic Monitoring Study revealed that the Bay Meadows project has had an impact on traffic, although the intersections that were the focus of the study retained an acceptable Level of Service.

COUNTY OF SAN MATEO

The County of San Mateo has a population of 707,161 persons, according to the 2000 U.S. Census. The County is approximately 449 square miles in size and borders San Francisco County to the north, Santa Clara and Santa Cruz Counties to the south, Alameda County and the San Francisco Bay to the east and the Pacific Ocean to the west. San Mateo County is home to significant employment centers and residential development along the US 101 corridor, as well more rural areas and remote beach communities along the Pacific Coast. San Mateo County is a

major transportation hub for the San Francisco Bay Area and is home to San Francisco International Airport. Redwood City is the county seat.

San Mateo County Comprehensive Bicycle Route Plan

In 2000, the County of San Mateo adopted the San Mateo County Comprehensive Bicycle Route Plan. The Plan outlines detailed policies, goals and objectives for the County and provides a list of prioritized projects intended for a 20-year timeframe following plan adoption. The priority projects list contains a variety of bicycle projects, including bicycle facilities along numerous freeway interchange projects and several Bay Trail segments. The plan is considered a resource and coordinating document for San Mateo County, and is not intended to supercede other locally adopted plans, such as citywide bicycle master plans.

San Mateo Countywide General Plan

The County of San Mateo's 1986 General Plan contains transportation goals and objectives that relate to bicyclists and pedestrians, including the following goals relevant to the Hillsdale 101 Over Crossing project:

12.3 Provide for a balanced and integrated transportation system in the County which allows for transportation by various modes and easy transfer between modes.

12.34 Bicycle Routes: Encourage the cities to develop local bikeway plans, obtain funding and construct and maintain a system of local bikeways that is consistent with the County Bikeways Plan.

12.39 Pedestrian Paths: Encourage the provision of safe and adequate pedestrian paths in new development connecting to activity centers, schools, transit stops and shopping centers.

12.40 Pedestrian Bridges: Encourage Caltrans to provide pedestrian bridges and connections in areas where State highways have divided communities.

The Countywide General Plan does not specifically identify any bicycle and pedestrian projects, instead deferring to local bicycle plans. However, the County General Plan does outline the role of the County Bikeways Coordinator and identify among their responsibilities the task of coordinating with individual cities to implement the County Bikeways Plan.

CITY OF FOSTER CITY

The City of Foster City has population of 28,803 with a land area of 19 square miles. The project location does not fall within the boundaries of the City of Foster City, however, the proposed project would provide essential connections for Foster City residents to commercial areas in San Mateo and to the Hillsdale Caltrain Station. The connection to Foster City will enable San Mateo residents to easily access portions of the San Francisco Bay Trail located in Foster City, via bicycle or on foot.

ASSOCIATION OF BAY AREA GOVERNMENTS BAY TRAIL PLAN

The Association of Bay Area Governments (ABAG) is a governmental agency comprised by the cities and counties of the San Francisco Bay Area. It was established in 1961 to protect local control, plan for the future, and promote cooperation on area-wide issues. The Bay Trail Plan

was adopted by ABAG in 1989 with the goal of developing a 400-mile loop trail around the Bay Area, encompassing spine trails, spur trails, and connector trails. The Plan was prepared pursuant to Senate Bill 100 which mandated that the Bay Trail (1) provide connections to existing parks and recreation facilities, (2) create links to existing and proposed transportation facilities, and (3) be planned in such a way as to avoid adverse effects on environmentally sensitive areas.

The Bay Trail is currently completed in the vicinity of the project area. The alignment follows the Foster City shoreline and provides direct access to the San Francisco Bay. The City of San Mateo's bayfront is located northeast of the project area, and several Bay Trail segments are yet to be completed at this location, near Coyote Point.

CALIFORNIA DEPARTMENT OF TRANSPORTATION

The State of California, Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state's boundaries. Caltrans has jurisdiction over the US 101 right-of-way and the Hillsdale Boulevard on- and off-ramps to be reviewed as part of this study. Caltrans' right-of-way extends to the intersection approaches of Norfolk Street and Saratoga Drive along Hillsdale Boulevard. At the time of the reconfiguration of the Hillsdale Boulevard 101 Interchange, Caltrans designed the over crossing to accommodate pedestrians with 5-foot sidewalks and unprotected crosswalks at each ramp. Hillsdale Boulevard is designated a bicycle route at this location, and no additional accommodations for bicyclists were implemented as part of the reconfiguration. Caltrans does not currently have any roadway improvement projects in the vicinity of the project area.

Pedestrian facilities at the Hillsdale Boulevard Over Crossing

1.6. OTHER RELEVANT AGENCIES

SAMTRANS

The San Mateo County Transit District (SamTrans) provides SamTrans bus service throughout San Mateo County and into parts of Palo Alto and San Francisco. SamTrans also offers Rediwheels Paratransit service for those unable to ride SamTrans buses. The Hillsdale Boulevard and US 101 Corridors are served by SamTrans bus lines 53, 55, 58, 250, 251, 262, 292, 294, 295, 297, 390, 391, 397, MX, and NX. The area is also served by the Campus Drive Area Caltrain shuttle, operated by the Peninsula Traffic Congestion Relief Alliance. Alameda Contra Costa Transit (AC Transit) also operates two bus routes M and MX in the area, providing trans-bay service across the San Mateo-Hayward Bridge.

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2. NEEDS ANALYSIS

This chapter provides an overview of the user needs for the Hillsdale 101 Over Crossing project. The City of San Mateo General Plan Circulation Element specifically identifies the need for an improved facility connecting eastern and western San Mateo. Local agencies and the bicycling community have identified the Hillsdale 101 Over Crossing as having the potential to serve as a viable transportation and recreation facility, and an essential pedestrian and bicycle facility for the community.

2.1. USER GROUPS

The project corridor is used regularly by a wide variety of bicyclists and pedestrians because of its close proximity to the residential areas in San Mateo and Foster City, several shopping centers, employment centers, recreational areas, and the Hillsdale Caltrain Station. Short distances to all these destinations are the most likely to generate trips on foot or bicycle. Typically, destinations less than three miles from residential areas are attractive for bicycle trips and destinations one-half-mile or less attracts pedestrian trips.

Each user group has specific needs that will directly affect the planning and design of the Hillsdale 101 Over Crossing project. For example, many less experienced bicycle riders prefer to use multi-use trails (also known as Class I bike paths) or lower-traffic side streets rather than busy arterials with no shoulders. Experienced bicyclists are often willing to trade more traffic and higher traffic speeds for a more direct route to their destination. This project should be designed for the greatest variety of user groups that will potentially use this corridor including shoppers running errands, recreational and commuting bicyclists, students going to school, pedestrians, hikers, dog walkers, in-line skaters, parents pushing strollers, seniors, children, and the disabled community.

COMMUTER NEEDS

Commuters in this case will consist of employed adults and students of all ages. Commute trips between work and home typically account for about one-third of all weekday person trips. This represents a substantial opportunity for bikeway and pedestrian usage, especially where links between commercial and residential areas exist. Common commute characteristics include:

- Commuter trips usually range from several blocks to ten miles.
- Commuters typically seek the most direct and fastest route available.
- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with vehicles.
- Places to safely store bicycles are of paramount importance to all bicycle commuters.

- Major commuter concerns include changes in weather (rain and heavy fog), riding in darkness, personal safety and security.
- In general, a primary concern to all bicycle commuters are intersections with no control signs (i.e., stop or yield signs) or signal controls.
- Commuters generally prefer routes where they are required to stop as few times as possible, thereby minimizing delay.

Commuters who currently drive to the Hillsdale Caltrain Station from nearby neighborhoods in San Mateo and Foster City may also face parking shortages and traffic delays at the station. Use of a dedicated facility may encourage some commuters who currently drive to walk or bicycle, thereby offering commuters saved resources, less traffic congestion, and reducing the demand for parking.

RECREATIONAL NEEDS

Recreational use generally falls into one of three categories: exercise, non-work destinations (such as shopping or libraries), and sightseeing. Recreational bicyclists can be a varied user group in and of themselves, since the term encompasses a broad range of skill and fitness levels, from a racer who does 100-mile rides each weekend, to a family with young children who occasionally want to ride a couple miles down a quiet trail. Regardless of the skill level of the recreational user, directness of route is typically less important than being in scenic surroundings, having amenities like restrooms and water fountains, and being on routes with few traffic conflicts. Visual interest, shade, protection from wind, moderate gradients, and artistic or informational features also have a much higher value to recreational users.

All recreational corridor users require some basic amenities to have a comfortable experience and to want to return. They include dedicated facilities (such as sidewalks or bike lanes), clear destination and intersection signage, and even surfaces. The aesthetic component of a facility is very important to most recreational users. In other words, most people prefer to walk or bicycle in pleasing surroundings.

While the Hillsdale 101 Over Crossing project itself is probably too short to serve as a major recreational destination, it will connect with numerous other facilities to form a bicycle and pedestrian network that connects to many local destinations. A summary of connecting pathways and bikeways is provided below.

2.2. CONNECTING FACILITIES

As a gap closure project, the connecting facilities to the Hillsdale 101 Over Crossing are very important. On the eastern and western sides of Hillsdale Boulevard, the proposed facility may connect with:

- Existing sidewalks along Hillsdale Boulevard (north and south) that connect with the other pedestrian facilities along Saratoga Drive, points further west, Norfolk Street and

points further east. The City of San Mateo generally requires five-foot sidewalks, and the sidewalk network in the vicinity of the Hillsdale Boulevard US 101 Interchange is generally in good repair.

- An existing Bike Route along Hillsdale Boulevard, running east-west and connecting with existing Bike Lanes along Hillsdale Boulevard and west of Saratoga Drive, and an existing bike route connecting Hillsdale Boulevard to Foster City over Marina Lagoon.

2.3. SURROUNDING LAND USES & DESTINATIONS

Surrounding land use directly impacts potential usage of any bicycle or pedestrian facility. The Hillsdale 101 Over Crossing corridor extends through business and commercial centers and borders several established residential neighborhoods, as well as newly developed residential areas. The various land use, adjacent or proximal to the trail, and any connectivity issues related to them, are summarized below.

RESIDENTIAL COMMUNITIES

Residential communities occupy the northeast and southwest quadrants of the interchange vicinity. The Lakeshore neighborhood borders the northeast quadrant of the interchange with homes along Hosmer Street sharing a property boundary with the Caltrans right-of-way. The neighborhood is primarily comprised of detached single-family residential development with some multi-story, multi-family development toward Marina Lagoon. The Lakeshore neighborhood features existing Class II bicycle facilities along Norfolk Street, providing a potential connection to the existing Class III facilities along Hillsdale Boulevard.

The Los Prados Park neighborhood is located to the southeast of the Hillsdale 101 interchange and is primarily comprised of detached single-family residential development, as well as the commercial center located on the southeastern corner of the Hillsdale 101 interchange. The Los Prados Park neighborhood is served by existing Class II facilities on Los Prados Street, connecting with Norfolk Street near Hillsdale Boulevard.

The Hillsdale neighborhood is located to the northwest of the Hillsdale 101 interchange and contains the Bay Meadows Redevelopment area. Development of the Bay Meadows area has included accommodations for bicyclists and pedestrians, including shared use paths, bicycle lanes and pedestrian-scaled streetscape design. Existing bicycle lanes on Saratoga Drive north of Franklin provide a connection to the commercial development at Franklin Drive near Hillsdale. However, neither Saratoga Drive nor Franklin provides bicycle facilities, making connections to Hillsdale Boulevard via bicycle difficult at this location.

The San Mateo Glendale Village neighborhood is located to the southwest of the Hillsdale 101 interchange. The neighborhood is dominated by detached single-family residential development in subdivisions surrounding George Hall Elementary School. The neighborhood is not currently served by bicycle and pedestrian facilities. However, Class III Bike Routes are planned for Saratoga Drive south of Hillsdale, Orinda Drive, Santa Clara Way, Pasadena Drive and San

Miguel Way, providing connections for residents of this neighborhood to the Hillsdale Boulevard corridor and beyond.

COMMERCIAL CENTERS

Located at the intersection of a major arterial and Interstate Highway, the Hillsdale Boulevard corridor features numerous commercial centers. The eastern side of the interchange is anchored by the Best Western Hotel and support businesses, including restaurants. The western side of the interchange is anchored by the Whole Foods Market complex at Franklin and Saratoga Drives. While this commercial center does not front directly onto Hillsdale Boulevard, it generates a good deal of foot traffic from surrounding neighborhoods and businesses. The southeastern quadrant of the interchange is home to several office buildings and restaurants.

2.4. TRAFFIC VOLUMES

The existing intersections in the study area – Saratoga Drive/Hillsdale Boulevard, Franklin Parkway/Hillsdale Boulevard and Norfolk Street/Hillsdale Boulevard have moderate traffic volumes. Table 3-1 illustrates traffic volumes at these three locations.

Table 2-1
2003 Project Intersection Traffic Volumes

Description	Peak Hr.
Saratoga Drive/Hillsdale Boulevard	4,079
Franklin Parkway/Hillsdale Boulevard	4,113
Norfolk Street/Hillsdale Boulevard	5,294

Peak Hr. = Peak one-hour traffic volume.
Source: *Hillsdale Boulevard Traffic Monitoring Study (Phase 4)* – City of Mateo

2.5. COLLISION DATA

Collision data was collected for the four intersections in the vicinity of the over crossing corridor, including the two sets of Highway 101 ramps to review the patterns of automotive and non-vehicular incidents. Table 3-2 reflects the automobile and bicycle and pedestrian collision history between July 1, 2002 and November 13, 2006.

Table 2-2
Vehicle and Bicycle/Pedestrian Collisions at Adjacent Intersections

Location	Total Collisions
Saratoga Drive and East Hillsdale Boulevard	3
Highway 101 Southbound Ramps and East Hillsdale Boulevard	2
Highway 101 Northbound Ramps and East Hillsdale Boulevard	3
South Norfolk Street and East Hillsdale Boulevard	7

EXISTING TRAVEL ROUTES

On the existing Hillsdale 101 Over Crossing, bicyclists and pedestrians have numerous points where they can potentially come into conflict with vehicles. This can lead to more collisions. Figure 2-1 shows conflict points with the existing over crossing that the preferred alternative will improve upon.

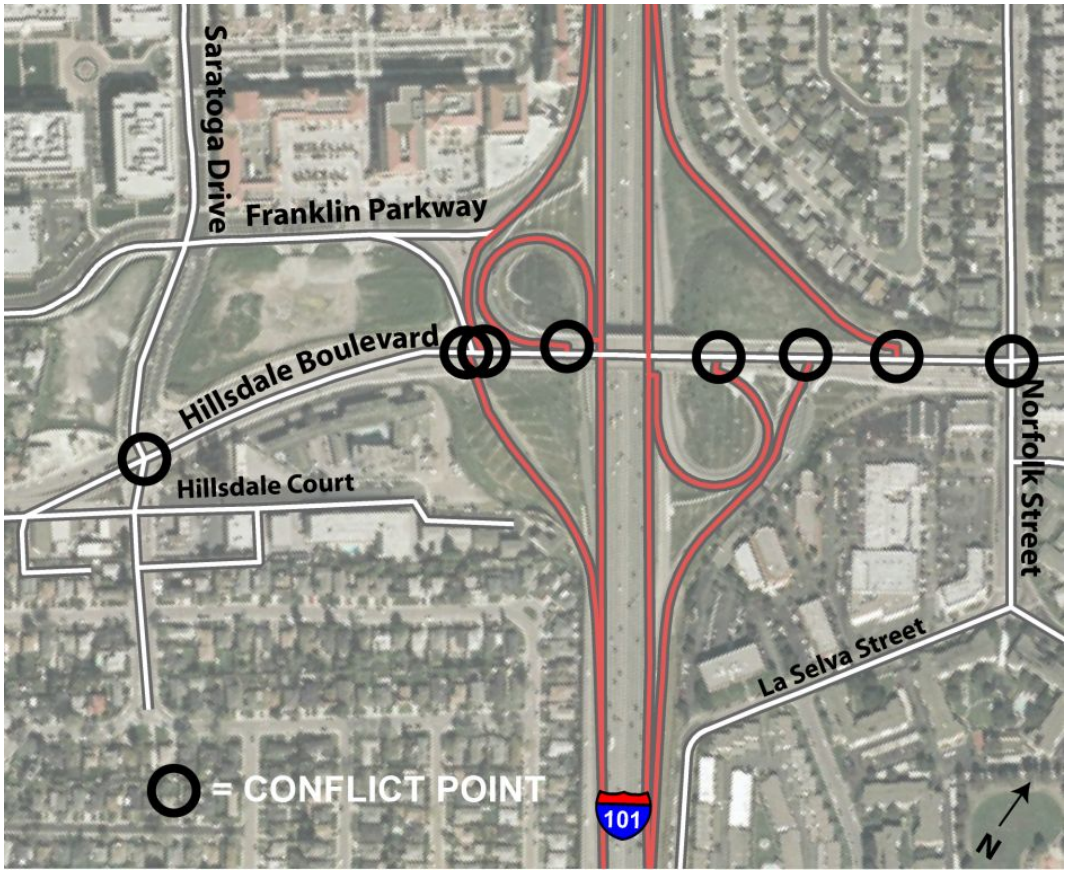

Figure 2-1 – Conflict Points for Bicyclists and Pedestrians on the Existing Hillsdale 101 Over Crossing

2.6. PROJECTED USAGE

One of the goals of the Hillsdale 101 Over Crossing project is to maximize the number and variety of user groups who will benefit from it, including recreational and commuting user groups. The selection of the preferred alternative will impact the number and diversity of users who will be attracted to the corridor.

The 2000 Census found that approximately 0.8% of work trips were made by bicycle in San Mateo County and 2.2% of work trips were made walking. Nationally these percentages were 1.2% and 2.9% respectively; statewide for California they were 1.9% and 2.9% respectively. This data shows that in comparison to the rest of the state and country, San Mateo County has low percentages of bicycling and walking to work. This implies there is a demand in the population that would use these modes more often if it was an option.

In addition, bicycling is one of the most popular forms of recreational activity in the United States. The Bureau of Transportation Statistics' October 2000 survey found that of the 41 million people riding bicycles, almost 15% of the 281,421,906 national population (Census 2000), 54 percent are bicycling for recreation and 35 percent are bicycling for exercise. The 2001 *American Sports Data Study* by the Sporting Goods Manufacturer's Association tallied 84,182,000 national recreational walkers (almost 30% of the national population). If nothing else, this indicates a latent demand for connected trails and user facilities.

PUBLIC WORKSHOP STATED NEEDS

There were two public workshops for the over crossing project. Approximately 16 individuals attended the July 13, 2006 public workshop and 10 individuals attended the November 9, 2006 public workshop. The Appendix includes a summary of the meetings' notes. The first public workshop focused on the project goals, existing conditions, five alternative bridge options and the planning criteria to narrow the alternatives to a proposed alignment. A summary of the participants' comments received at the first workshop are listed below:

- A **preference for an alignment on the south side** of the existing over crossing because it connects better with the school on the east side of the Highway 101
- The need for a **safe facility for children**.
- A desire for a new over crossing that will **connect with the existing bikeway network**.

At the second public workshop, there was a recap of the first public workshop, a discussion of planning criteria for determining the proposed alignment and the results of the alternative analysis. Summarized participants' comments are below:

- The **existing bikeway system does not connect across Hillsdale Boulevard**. A new bridge on the south side of the existing over crossing should address that connection.
- There is a need to **study the surrounding intersections to the over** crossing so they accommodate bicyclists and pedestrians.

3. ALTERNATIVE ANALYSIS

Alternative alignments and sub-alignments are developed and evaluated in this chapter, using specific evaluation criteria. With the evaluation results, a preferred alternative is identified. This chapter describes the evaluation criteria, over crossing alternatives, the evaluation process, and the preferred alternative.

3.1. EVALUATION CRITERIA

A decision matrix with clearly described criteria and scoring was used to evaluate each project alternative. The evaluation criteria were based on the overall project goals and were weighted to reflect the relative importance of each category. This criterion was then used to evaluate each of the alternative alignments.

The criteria used for the Hillsdale 101 Over Crossing alternatives were as follows:

VEHICLE CONFLICTS AND USER SAFETY

Conflicts with motor vehicles can be a major impediment to use of bicycle and pedestrian facilities by less experienced and capable users, especially recreational users, children, and the elderly. Several of the alternatives involve crossing existing intersections on Hillsdale Boulevard including the Highway 101 ramps. The alternatives that avoid or minimize conflicts at intersections rate higher than those that do not avoid these intersections and expose users to traffic elements. For personal safety rationale, users of the facility should also be visible to vehicles and others transportation users nearby.

FUNCTIONALITY / ACCESS

People using the project for transportation purposes will resist using a facility that does not provide a direct connection to the existing bikeway and pedestrian systems or other destinations, such as shopping centers and Los Prados Park. The Hillsdale 101 Over Crossing should appeal to the widest variety of users possible including bicyclists, walkers, joggers, dog walkers, in-line skaters, and others.

TRAFFIC IMPACTS

Maintaining traffic flow on the existing Hillsdale 101 Over Crossing is a criterion for the alternative analysis. This area of San Mateo has relatively high traffic volumes and the chosen alternative should not negatively impact these existing flows. Changing stop-controls, signal timing or design at the Highway 101 ramps could potentially impact traffic the most. All of the

alternatives could have potential minor impacts on the Hillsdale Boulevard/Saratoga Drive and Hillsdale Boulevard/Norfolk Street intersections.

PROPERTY IMPACTS

A new Hillsdale 101 Over Crossing will be visible to nearby residents and businesses. The actual structure will impact nearby properties but also the general appearance of characteristics of the Over Crossing, such as the fencing or barriers on the bridge, grading of the Over Crossing to reach necessary heights over Highway 101 and landscaping near or on the Over Crossing. Alternatives with less negative property impacts score higher in the alternative analysis.

COST

Cost of the alternative is always a critical component, especially where crossing improvements, fencing, signals, and other infrastructure improvements are being considered. Alternatives with lower capital and operating costs, with costs that are more certain, and qualify more easily for available funds will score higher than the other alternatives.

3.2. OVER CROSSING ALTERNATIVES

Three basic alternatives for a bicycle and pedestrian bridge over Highway 101 at Hillsdale Boulevard were identified. Figure 3-1 shows the location of all three alternatives. Alternative 1, located south of the existing over crossing, has two sub-options, Alternatives 1A and 1B. Alternative 2 is also south of the existing over crossing but is located directly adjacent to the existing structure. Alternative 3 would be a new facility north of the existing over crossing, which also includes a new bridge over the northbound on-ramp. All Alternatives include 12-foot wide Class I multi-use path that connects the structure to existing sidewalks on the west and east sides of the highway.

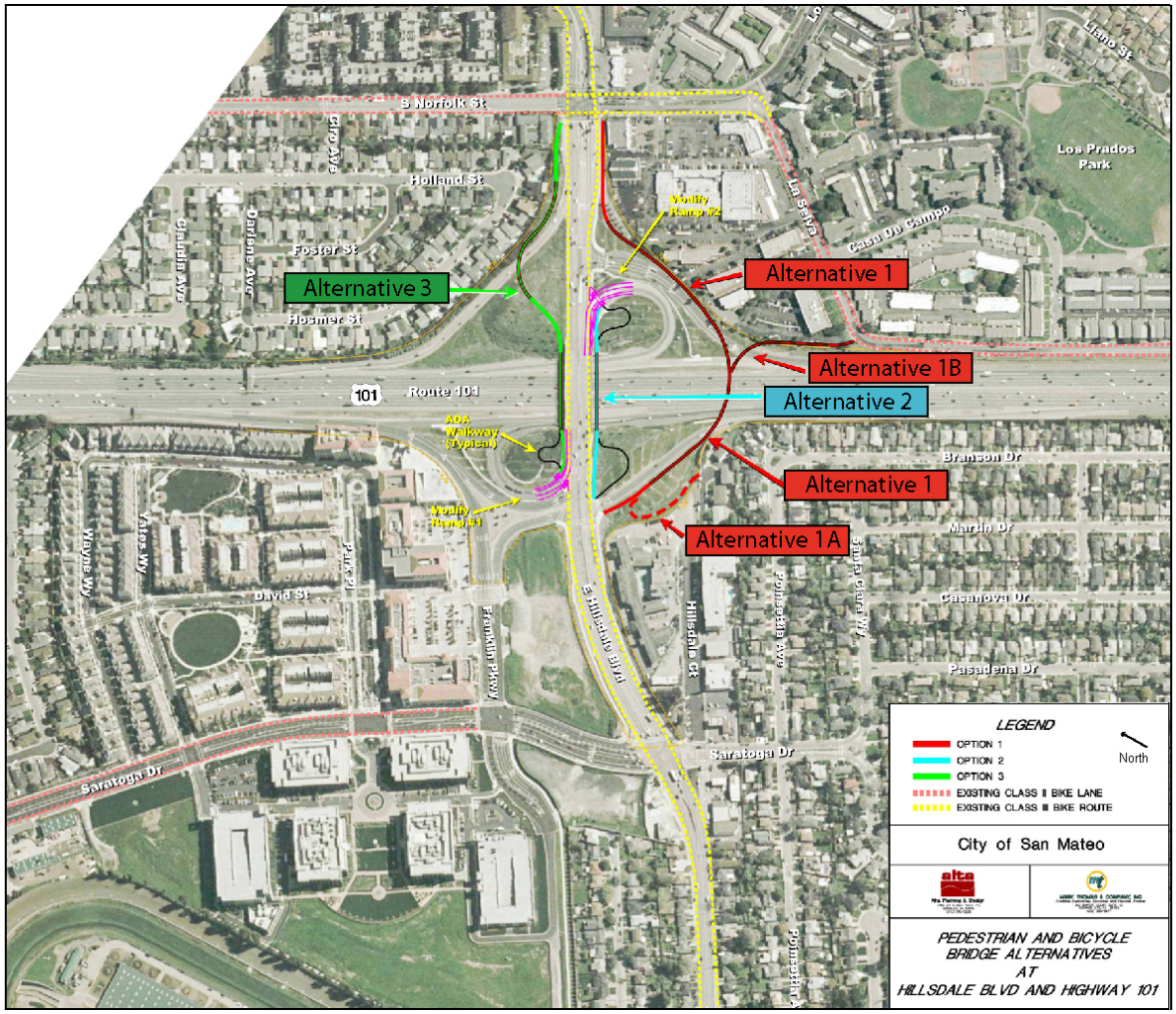

Figure 3-1 – Three Hillsdale 101 Over Crossing Alternatives with Various Options

ALTERNATIVE 1 – Locate a new, multi-use over crossing on the south side of the existing Hillsdale 101 Over Crossing starting at Hillsdale Court on the west side of Highway 101 and landing on the east side of the Highway 101 off-ramp, with a connecting pathway to the Norfolk/Hillsdale intersection (see Figure 3-1).

- A new 12-foot Class I multi-use over crossing would connect the west and east sides of Highway 101 bypassing all of the Highway 101 ramps.
- Landings on both sides of the Over Crossing would meet ADA Guidelines.

Advantages

- All of the structure and pathway connectors would be located on public property.

- The gentle curve of the structure would allow for maximum visibility for both pedestrians and bicyclists.

Disadvantages

- Users coming from the Caltrain station and/or the Bay Meadows complex would need to cross Hillsdale Blvd., as would all west bound bicyclists.

- Additional bicyclists and pedestrians would be drawn to the southbound on-ramp intersection, which has extremely high volumes. This could result in traffic and safety impacts.

- A new pathway/widened sidewalk would need to be constructed on the south side of Hillsdale between the southbound on-ramps and Saratoga to accommodate westbound bicyclists.

Alternative 1A – *Bicycle Ramp to Hillsdale Court*

In order to mitigate the negative aspects of Alternative 1 described above, a sub-alternative was developed. Alternative 1A consists of a new ramp connecting directly to Hillsdale Court on a ramp with an 8% gradient ramp. Hillsdale Court is a low volume residential and commercial street that allows bicyclists (and pedestrians) to avoid the busy Hillsdale/US 101 On-ramps, and allows them to cross at the Hillsdale/Saratoga intersection. The original 5% gradient ramp from Alternative 1 would be retained to allow ADA access. Key features of this alternative include:

- A ramp with a slope greater than eight-percent would touchdown on the west side of Highway 101 at the Hillsdale Court cul-de-sac.
- The ramps could be used by bicyclists and pedestrians.
- The new ramp would be located near a few residences on Hillsdale Court, but is buffered by an existing sound wall and the street itself.
- The ramp would feature a traffic control device at the bottom of the ramp to prevent bicyclists from entering Hillsdale Court at high speeds.
- Hillsdale Court would provide a low traffic access and egress point for over crossing users.
- Alternative 1A would require the purchase of an easement or right-of-way to connect to Hillsdale Court.

Alternative 1B – *Ramp to La Selva Street*

Comments from Public Workshop #1 indicated some interest in providing a more direct connection to the school and park off La Selva Street, south of the shopping center. There was also some thought that a connection to La Selva Street might be preferable to leading users directly to the Norfolk/Hillsdale intersection. An analysis of this alternative concluded with:

- Due to the limited right-of-way and distance, a series of scissor ramps leading off of the structure to La Selva Street would be needed.
- The ramp would terminate directly onto La Selva Street at a blind corner, resulting in some safety issues.
- For bicyclists and others headed east/west or north of Hillsdale, this route would add considerable distance to their trip.

ALTERNATIVE 2 – Locate a widened sidewalk or multi-use path on the southern side of the existing vehicle over crossing. Alternative Two would require all users to cross all three ramps on the south side of the interchange, including an uncontrolled speed ramp (see Figure 3-1).

Consideration was given to re-designing the northbound speed ramp to more of a standard 90-degree intersection, so that bicyclists and pedestrians could have a better chance to cross. However, this re-design would significantly lower the traffic capacity at this location, and it is assumed this loop ramp configuration was retained in the recent Caltrans re-design of the interchange specifically for traffic capacity purposes.

Advantages

- This alternative would have a relatively low cost given the short length of required structure.
- It provides a relatively direct route for all user groups, being directly adjacent to Hillsdale Blvd.
- It provides superior security being adjacent to a public roadway.
- It has no impacts on adjacent properties.

Disadvantages

- It requires all users to cross the same intersections and ramps that they currently have to cross, which was the original reason for considering a new over crossing.
- Additional bicyclists and pedestrians at these intersections/ramps would result in traffic and safety impacts.
- Caltrans would need to improve any changes to the intersections/ramps.
- To meet ADA requirements, additional fill/structure may be needed.

ALTERNATIVE 3 – Locate a new structure on the north side of the existing Hillsdale 101 Over Crossing, including a new structure over the northbound off-ramp (see Figure 3-1).

The design of the existing interchange would allow for a separated bridge/pathway connection from Norfolk west, including a new bridge over the northbound on-ramp, and a new structure

on the north side of existing over crossing. However, space constraints on the west side of the interchange would require all users to cross the existing southbound speed ramp and off-ramp intersections. As discussed in the second public workshop (see the Appendix for notes taken at the Public Workshops), in order to have a landing west of the interchange, a series of switchback ramps would be necessary. This would occupy a large amount of land on the parcel that is slated for a Kaiser development. These ramps would also impact the viewshed from the Kaiser building. Therefore, Alternative 3's landing on the west side of Highway 101 is east of the southbound on/off ramps. An analysis of this alternative concluded that:

- This alignment would connect well with the existing bicycle network.
- This alignment provides the best connectivity for bicycle commuters coming from the Caltrain station, since they are already on the north side of Hillsdale.
- No public land is available to construct a series of ramps that would allow an over crossing of the southbound ramps/intersection.

CENTER LANE MEDIAN PATHWAY – Install on the existing Hillsdale Boulevard Over Crossing a new pathway separated with barriers from the existing vehicle traffic.

The Center Lane Median Pathway alternative is not evaluated for several reasons, these are:

- Conflicts with Caltrans' Highway Design Manual - A median pathway does not meet Caltrans standards for bicycle and pedestrian path designs. Chapter 1000 of the Highway Design Manual specifically states that bike paths in medians of highways are not recommended.

- Conflicts with Project Evaluation Criteria - This option would score very poorly in the most important evaluation criteria for this project, safety, as measured by the number of locations users would come into conflict with vehicles. Other reasons these types of facilities are specifically identified as problematic by Caltrans and rarely developed are:

    - bicyclists are taught to ride to the right side of traffic-not to the left—and are legally bound to do so,
    - motorists simply will not be expecting to find bicyclists crossing in the middle of the intersection,
    - the time constraints caused by forcing all bicyclists to cross into the median will result in relatively low usage—and certainly not by the general public, and
    - this configuration will add to traffic congestion by requiring longer and more frequent signal phases for bicycles at intersections.

- Physical Constraints - There is not sufficient right-of-way on the existing over crossing to accommodate a median path.

3.3. EVALUATION OF ALTERNATIVE ALIGNMENTS

This section presents an evaluation of each of the three alternatives according to the evaluation criteria previously described. Each criterion had a weighting factor reflecting its relative importance from 0 (low benefit or negative impact) to 6 (high benefit or low negative impact) depending on the relative importance. At the conclusion of this section, a table showing how each alternative scored according to the evaluation criteria is presented.

ALTERNATIVES 1, 1A, 1B

Vehicle Conflicts and User Safety

Users would be completely separated from vehicles. There would be no crossing of Highway 101 on- or off-ramps by bicyclists or pedestrians. Exposure to vehicles would dramatically decrease from the existing conditions. Alternative 1B would have some traffic and safety issues with the ramp termination design on La Selva. All of the Alternatives would require some improvements to the Hillsdale/Norfolk and Hillsdale/Saratoga intersections to accommodate the expected increase in use.

Functionality / Access

Alternative 1 would require a slightly longer (about 200 feet) route than Hillsdale itself, but the actual travel time of users might be less considering people will not have to stop at any of the three intersections, giving it an above average functionality score. Alternative 1B would result in a considerably longer trip for many users, while Alternative 1A would provide an almost direct route for users coming up Hillsdale Court.

Traffic Impacts

Alternative 1 would generally have minimal traffic impacts. The Over Crossing would not cross any of the Highway 101 ramps, and diverts people away from busy ramps and intersections—providing a potential traffic capacity benefit.

Property Impacts

There would be no major property impacts with Alternative 1 or 1B. Alternative 1A would be located close to several homes (although buffered by a street and sound wall), and would require the purchase of a small piece of undeveloped land.

Cost

Alternative 1: $4.32 million

Alternative 1A: $0.96 million

Alternative 1B: $1.44 million

ALTERNATIVE 2

Vehicle Conflicts and User Safety

Path users would need to cross three intersections with Highway ramps to cross with this alternative, including an uncontrolled speed ramp. These intersections include two traffic lanes at the Highway 101 southbound on-ramp, one lane at the Highway 101 northbound on-ramp and four lanes at the Highway 101 northbound off-ramp. Uncontrolled speed ramps and uncontrolled right turn movements are normally very difficult for pedestrians and bicyclists to negotiate. The heavy traffic volumes and limited sight distances make matters more of an issue at these locations.

Functionality / Access

Bicyclists accessing this structure would use the same route being used today; however, westbound bicyclists would still need to cross to the south side of the Bridge. Pedestrians would use the existing sidewalk network on the south side of Hillsdale Boulevard to access the multi-use path.

Traffic Impacts

Alternative 2 would have traffic impacts at three Highway 101 ramps. This could potentially slow traffic from entering/exiting the Highway and add congestion to Hillsdale Boulevard.

Property Impacts

There would be no major property impacts with Alternative 2.

Cost

$0.82 million

ALTERNATIVE 3

Vehicle Conflicts and User Safety

Bicyclists and pedestrians would have to cross two intersections including an uncontrolled speed ramp for northbound traffic. Increased pedestrians and bicyclists at these locations may impact traffic capacity. Less experienced and able bicyclists and pedestrians who currently do not use the over crossing would continue to face the same issues with this alternative.

Functionality / Access

Bicyclists accessing the Over Crossing would use the same route used today however eastbound users would need to cross to the north side of the Bridge. Pedestrians would use the existing sidewalk network on the north side of Hillsdale Boulevard to access the multi-use path.

Traffic Impacts

The two ramps on the northwest side of the interchange would be impacted with Alternative 3, potentially adding traffic congestion to Hillsdale Boulevard.

Property Impacts

There would be impacts to properties adjacent to the ramps on the northwest portion of the interchange.

Cost

$2.45 million

3.4. ALTERNATIVES ANALYSIS

Each alignment was ranked according to the criteria described previously, as shown in the following table. At this preliminary level of analysis, the table is kept relatively simple to clarify the strengths and liabilities of each alternative.

CONFLICT POINTS

Two of the key evaluation elements considered in the analysis were safety conflict points and convenience/function. Concerns about safety were the number one reason people cited a need for a new facility, given the design and conditions on the existing over crossing. An alternative that did not solve this issue simply did not address the over riding purpose and need for the project. As can be seen in the table 3-1, there are currently eight conflict points people must negotiate to cross U.S. 101 on this corridor. The reduction in conflict points under Alternative 1 is better than both the existing conditions and Alternatives 2; Alternative 3 has the least number of conflict points.

Table 3-1
Conflict Points

Alternative	Conflict Points
Existing	8
Alternative 1	3
Alternative 1A	4
Alternative 1B	3
Alternative 2	5
Alternative 3	2

TRAVEL DISTANCE & TIME

The issue of convenience and functionality were another major criteria and issue raised by the public. Over crossings that do not provide reasonable convenience for people simply will not be used. This is especially true on the Hillsdale corridor, where user groups coming from north or south of Hillsdale will be impacted by the location of a new structure. However, any new structure will require all bicyclists to cross in one direction or the other. The two tables below show the critical differences in length and travel time between the alternatives. As can be seen,

while Alternative 1A is slightly longer than Alternative 2 or the existing conditions, by eliminating the need to stop at three intersections the net travel time is actually the best of all alternatives.

Table 3-2
Travel Distance

Alternative	Travel Distance
Existing	2,350 ft
Alternative 1	2,450 ft
Alternative 1A	2,550 ft
Alternative 1B	3,700 ft
Alternative 2	2,400 ft
Alternative 3	2,450 ft

Table 3-3
Travel Time

Alternative	Travel Time
Existing	3.92 minutes
Alternative 1	3.92 minutes
Alternative 1A	3.4 minutes
Alternative 1B	4.7 minutes
Alternative 2	4.09 minutes
Alternative 3	3.28 minutes

ALIGNMENT EVALUATION

Alternative 1 and 1A scored the highest due to the complete separation from motor vehicle traffic, user safety and minimal traffic impacts. Alternative 1 with Option 1B scored lower than the others due to its extra cost and additional traffic/safety impacts. Although Alternative 2 would be the least expensive, it has the most difficult access and impacts the most traffic. Lastly, Alternative 3 does not score above a 3 on any of the criteria.

Table 3-4
Alignment Evaluations

	1	1A	1B	2	3
Safety Criteria (0-6)					
Vehicle Conflicts / User Safety	6	6	6	0	3
Other Criteria (0-6)					
Functionality / Access	4	6	5	1	3
Traffic Impacts	6	6	6	0	3
Property Impacts	3	2	2	6	2
Cost	4	3	2	6	2
TOTALS	**23**	**23**	**21**	**13**	**13**

Rankings

Most Important Criteria	0 Many Vehicle Conflicts
	3 Neutral Many Vehicle Conflicts
	6 Low Many Vehicle Conflicts
Important Criteria	0 Difficult Access / Negative Impact / High Cost
	3 Mildly Difficult Access / Neutral Impact / Average Cost
	6 Easy Access / Little Impact / Low Cost

PREFERRED ALIGNMENT

The advantages and disadvantages of the Alternatives have been reviewed in detail. It is clear that Alternative 1 would provide a major improvement to bicyclists and pedestrians in San Mateo. Alternative 1A would also benefit San Mateo and improve the accessibility and usability of the Hillsdale 101 Over Crossing area. This is based on the criteria, scores in the alignment evaluations and public input provided at the Public Workshops. Figure 3-2 shows the preferred alternative.

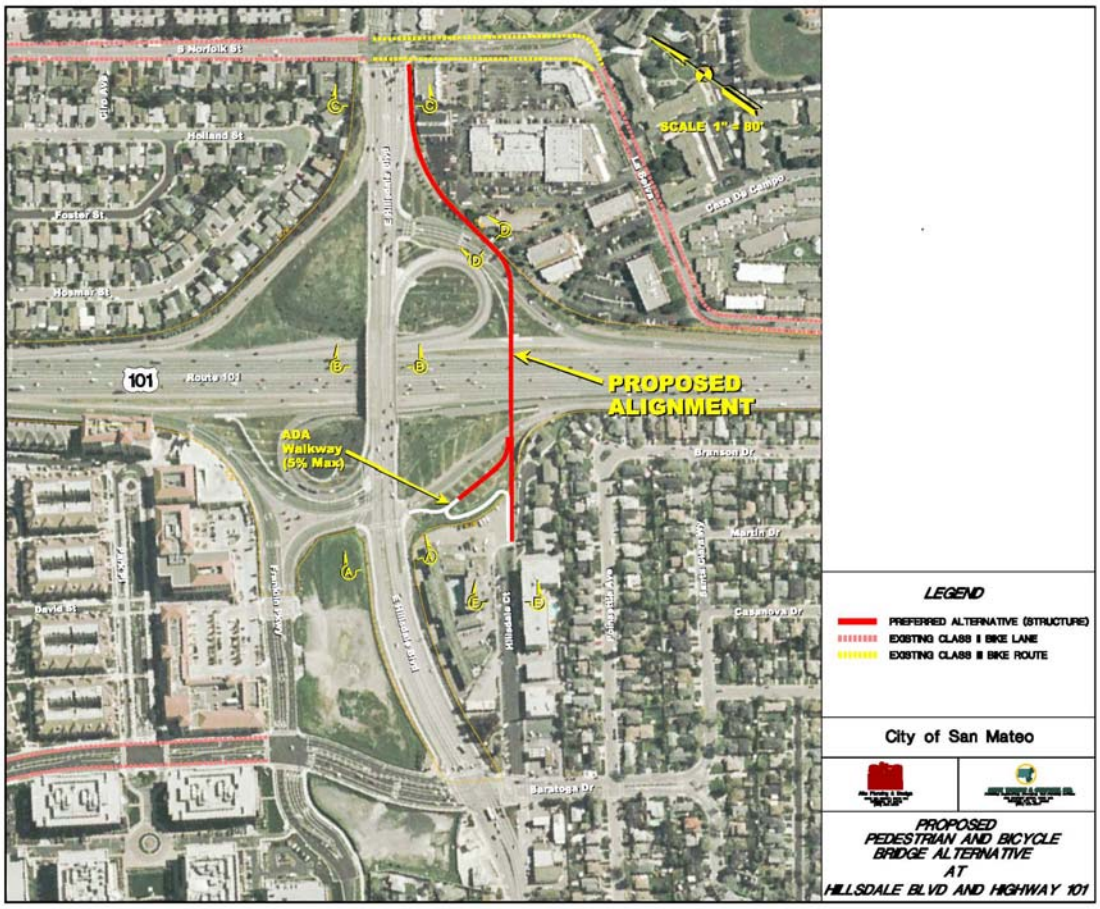

Figure 3-2 – Hillsdale 101 Over Crossing Preferred Alternative

Alternative 1A provides many benefits to Alternative 1. The additional ramp on the western side of Highway 101 would provide bicyclists easy and safe access to the Hillsdale 101 Over Crossing. Riding on Hillsdale Court provides a lower volume street in comparison to Hillsdale Boulevard if Alternative 1A was not built. Alternative 1A also provides an access point with less congestion for bicyclists. The existing sound wall adjacent to Highway 101 would block many of the existing residences from viewing the new Over Crossing from inside their home. Several rental properties at the end of Hillsdale Court would be able to see the new Over Crossing from their home and it would need to cross private property at the Hillsdale Court landing.

Alternative 1B provides some benefits to Alternative 1. The additional ramp on the east side of the Hillsdale 101 Over Crossing would provide better access to Los Prados Park and the surrounding neighborhood. There would be minimal conflicts with vehicles because La Selva is a neighborhood street and has moderately low traffic volumes. Due to the consolidated nature of the landing area for Alternative 1B, the ramp would be a series of scissor-ramps, resulting in a termination point that would leave users crossing the street at a blind intersection. Pedestrians and bicyclists would have to switchback to travel up or down these ramps and as a result providing less functionality.

At the Public Workshops, community bicyclists and pedestrians voiced that connectivity to the preferred alternative was important, specifically on the west side of Highway 101. Chapter 4 addresses some of these connectivity issues with a new Class I bicycle and pedestrian path and several on-street modifications.

3.5. RECOMMENDATIONS

We recommend additional environmental review and design development for Alternative 1 with Option 1A. This recommendation is made for the following reasons:

(1) Local agency support is readily available for this alignment, and

(2) It provides a safe and clear pathway for bicyclists and pedestrians to cross Highway 101

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4. PREFERRED ALTERNATIVE

The Preferred Alternative as well as access improvements for bicyclists and pedestrians to reach the Over Crossing are described below. Other issues relating to the structure, right-of-way, property impacts and management are also included in this Preferred Alternative Chapter.

4.1. DESCRIPTION

As described in the Alternative Analysis Chapter, the preferred alignment is Alternative 1 and Alternative 1A. The alignment would be built south of the existing Hillsdale 101 Over Crossing on an independent structure. There will be three landings of the bicycle and pedestrian Hillsdale 101 Over Crossing located at:

- the southwest corner of the Franklin Parkway and Highway 101 on-ramp intersection,
- the cul-de-sac at the eastern end of Hillsdale Court, and
- south of Hillsdale Boulevard between the Highway 101 northbound off-ramp and the Norfolk Street and Hillsdale Boulevard intersection.

Figure 4-1 shows the preferred alignment of the Hillsdale 101 Over Crossing. In order to provide the best access for bicyclists and pedestrians to the new Over Crossing, improvements are necessary to two of the neighboring intersections.

Figure 4-1 – Preferred Alternative

4.2. ACCESS IMPROVEMENTS

The intersections of Hillsdale Boulevard and Saratoga Drive and Franklin Parkway and Saratoga Drive could be improved to facilitate bicycle and pedestrian travel and provide a link to the Hillsdale 101 Over Crossing. This section provides two modifications for the Hillsdale Boulevard and Saratoga Drive intersection, one modification for the Franklin Parkway and Saratoga Drive intersection and potential lane modifications to the existing Hillsdale Boulevard 101 vehicle over crossing. Modifications of existing lanes are based on field measurements of the existing conditions. The City of San Mateo may need to conduct further analysis, including changes in levels of service, with these modifications before changing lane configurations or signal timing. In addition to the intersection and existing Over Crossing improvements, the Kaiser development on the northwest corner of the Hillsdale Boulevard/Highway 101 interchange may provide connectivity opportunities to the Hillsdale 101 Over Crossing in the future.

HILLSDALE BOULEVARD AND SARATOGA DRIVE

Figure 4-2 shows the first alternative for the Hillsdale Boulevard and Saratoga Drive intersection. For this modification, lane configurations stay the same as existing conditions. The only modifications are a slight shifting of lane widths to add bike pockets on Saratoga Drive. The bike pockets will help bicyclists travel straight through the intersection along Saratoga Drive, providing easier access to and from the Over Crossing.

In the northwest bound direction on Saratoga Drive, the existing through-left turn lane is 15 feet wide and the right-turn lanes are 12 and 18 feet wide. By creating two 12 foot wide right turn lanes, a six-foot bike pocket can be added in the northwest bound direction on Saratoga Drive. It should be placed between the through-left lane and the center right-turn lane.

In the southeast bound direction on Saratoga Drive, the outside right-turn lane is 15 feet wide and the inside right-turn lane is 11 feet wide. By decreasing the width of the outside lane to 11 feet, a four foot bike pocket can be placed in this direction. The bike pocket should be placed between the inside right-turn lane and the through-lane. The bike pocket would connect with a lane on the opposite side of the intersection.

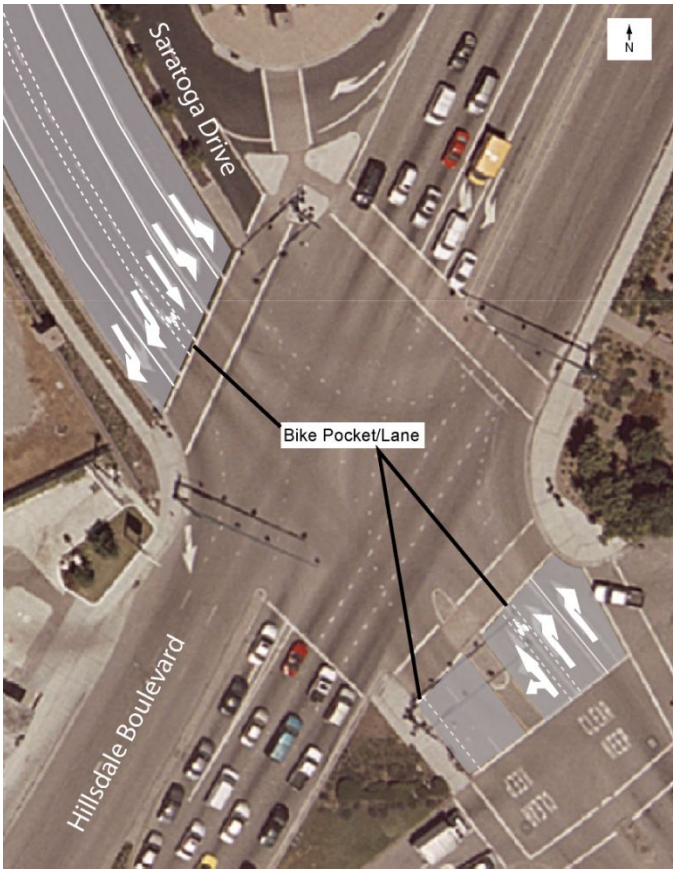

Figure 4-2 – Hillsdale Boulevard and Saratoga Drive Modification #1

Figure 4-3 shows the second alternative for the Hillsdale Boulevard and Saratoga Drive intersection modification. For this modification, lane configurations change in the southeast bound direction, and as in the case of Modification #1, bike pockets are added to the northwest bound and southeast bound directions on Saratoga Drive.

In the Hillsdale Boulevard and Saratoga Drive Modification #2, a right-turn lane is dropped in the southeast bound direction on Saratoga Drive. With the lane drop and the widening of the remaining lanes, a six-foot bike pocket can be added to this configuration. The bike pocket would connect with a bike lane on the opposite side of the intersection.

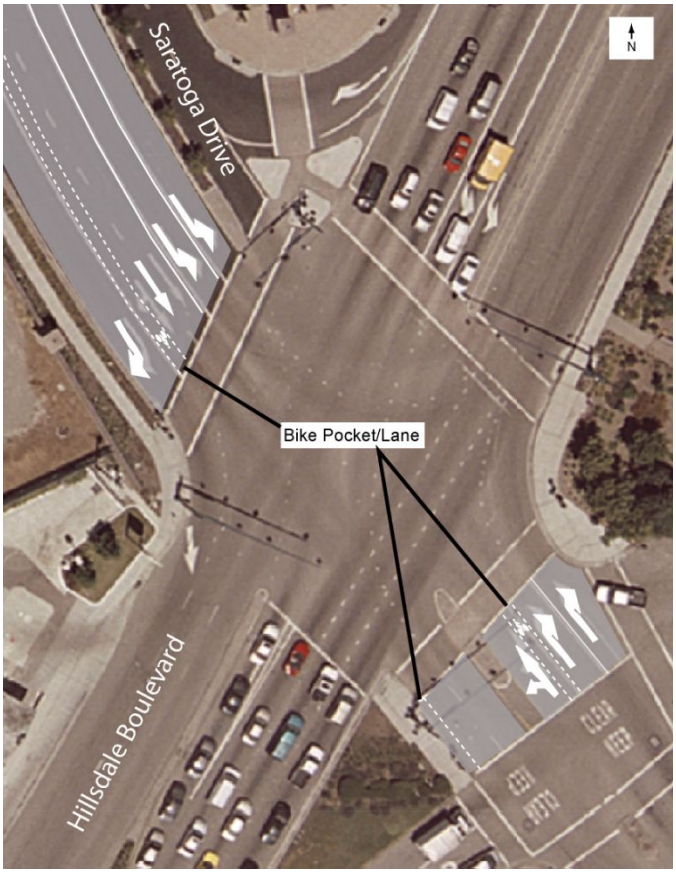

Figure 4-3 – Hillsdale Boulevard and Saratoga Drive Modification #2

FRANKLIN PARKWAY AND SARATOGA DRIVE

Figure 4-4 shows the Franklin Parkway and Saratoga Drive intersection modification. For this modification, lane configurations change on Franklin Parkway in the northeast bound direction to add a bike pocket. A bike lane is also added in the southwest bound direction on Franklin Parkway. These improvements will help bicyclists travel between the Hillsdale 101 Over Crossing and Franklin Parkway.

In the Franklin Parkway and Saratoga Drive Modification, a right-turn lane is dropped in the northeast bound direction on Franklin Parkway. With the lane drop and by widening the remaining lanes, a six foot bike pocket can be added to this configuration. The lane drop is possible due to relatively low right-turn volumes. A bike lane is added in the southwest bound direction on Franklin Parkway for bicyclists turning left off of northwest bound Saratoga Drive. Saratoga Drive has an existing wide right lane, providing space for bicyclists.

Figure 4-4 – Franklin Parkway and Saratoga Drive Modification

EXISTING HILLSDALE BOULEVARD OVERPASS

Figure 4-5 shows potential lane modifications on the existing Hillsdale Boulevard 101 vehicle over crossing. On the existing Over Crossing, four foot wide bike lanes are added and between the adjacent intersections and the Over Crossing four or five foot bike lanes are added. For this to occur, reductions in the vehicle travel lanes' width are necessary. These bicycle facilities could provide more experienced bicyclists an alternative route to the bicycle and pedestrian Over Crossing.

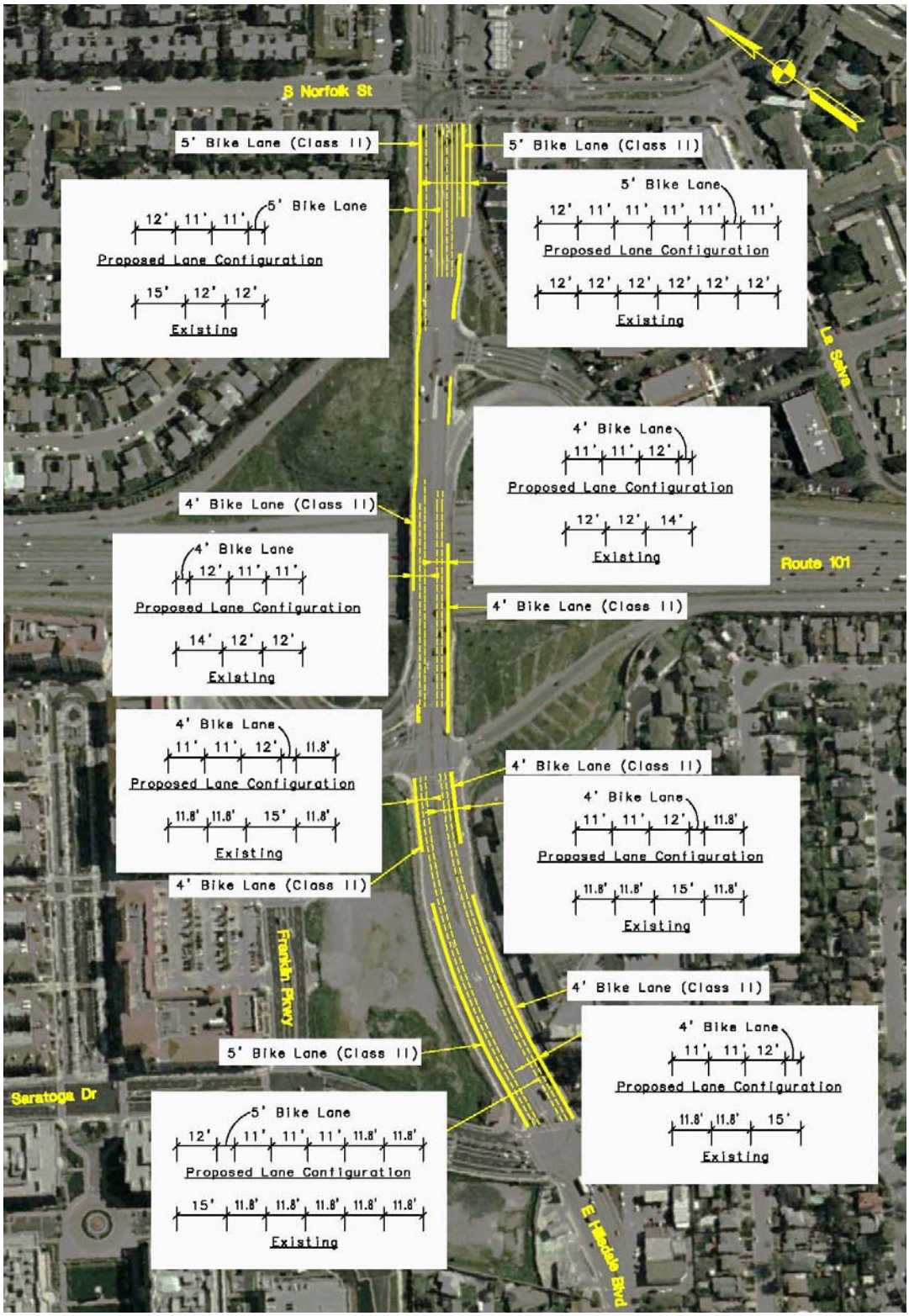

Figure 4-5 – Potential Lane Modifications on the existing Hillsdale Boulevard 101 vehicle over crossing

4.3. STRUCTURE DESCRIPTION

The Caltrans Highway Design Manual (HDM) requires a minimum vertical clearance of 16 ½ feet for structures over crossing freeways and expressways. For new construction of pedestrian over crossings and minor structures, the HDM requires that an additional two feet of clearance be provided. Therefore, the design for a pedestrian over crossing over Route 101 must provide a minimum of 18 ½ feet of clearance over the freeway. If the ultimate bridge design requires falsework for construction over the freeway, additional design height may be required to meet the minimum falsework clearances.

No specific bridge design has been determined, but a probable bridge type for the Hillsdale Blvd US 101 Pedestrian and Bicycle Bridge Over Crossing would be a cast-in-place/post tensioned concrete box girder bridge. This box girder bridge would span the width of the freeway. The ramp structures on both sides of the freeway, leading to the box girder bridge would probably be cast-in-place reinforced concrete slabs on pre-cast concrete driven piles. Other types of bridges such as pre-cast/pre-stressed girders, steel trusses, or long span structures could also be considered during the design process, but these more complex alternatives would increase the overall cost of the bridge.

Cast-in-place/post tensioned concrete box girder bridges are relatively less than the other types mentioned above. Aside from being torsionally rigid structures, the cast-in-place method of construction allows for curved alignments and can easily be shaped and textured to provide aesthetic features. This common construction method would also promote competitive bids.

There will be advantages and disadvantages associated with each type of structure chosen. One trade-off for the lower construction cost of cast-in-place bridges is a longer construction time than pre-cast girders or other types of structures not requiring falsework. Large trucks would require access to and from the project site throughout construction. Bridge falsework for constructing a cast-in-place bridge over Route 101 would temporarily impact traffic clearances. A second trade-off is that it may have to be constructed at a higher-grade elevation to allow for falsework clearance during the construction period.

4.4. RIGHT-OF-WAY AND PERMITTING ISSUES

The 101 Hillsdale Over Crossing would require coordination and approval with Caltrans through the bridge type selection, right-of-way impact, and the encroachment permit process. The over crossing would also be required to meet ADA standards.

This over crossing would be constructed through a Caltrans encroachment permit to the City of San Mateo. It is anticipated that the over crossing would not require the acquisition of any new rights-of-way for State highway purposes. Utility impacts would be minimal.

A Caltrans Project Study Report (PSR) and Project Report (PR) process would also be required since the estimated construction cost within State right-of-way will be greater than 1$ million.

The majority of the over crossing would be within State right-of-way except for a portion of the ramp and touchdown area on the west side of the freeway that would land on private property to access Hillsdale Court. It is anticipated that the City of San Mateo would have to acquire 0.2 acres of private right-of-way from Green Valley Enterprises to provide for this touchdown. The site is currently under planning review for redevelopment at the City of San Mateo and the City is working with the developer to provide connectivity opportunities in the future.

4.5. PROPERTY IMPACT MITIGATION

This project would impact existing private property at the west end where the structure will touch down to Hillsdale Court. Right-of-way acquisition would be needed to accommodate the pedestrian/bicycle over-crossing touchdown as discussed above. The ramp on this side would partially block views for approximately half dozen existing apartment units. This project could provide landscaping or other aesthetic treatments fronting the adjacent residential properties to remedy the visual obstruction that the elevated structure would pose.

4.6. VISUAL SIMULATIONS

Below are five visual simulations of potential options for the future Hillsdale 101 Over Crossing. In the simulations, the bridge is a simple structure with chain-linked fence as barriers. The Over Crossing depicted in these simulations is not necessarily the chosen design option for the structure. Each simulation includes a brief description of the view shown.

Figure 4-6 – Looking South from the Existing US 101 Hillsdale Over Crossing to the Bicycle/Pedestrian Over Crossing

Figure 4-7 – Looking South from Hillsdale at the US 101 Southbound On-Ramp. The Ramp Shown in this Visual Simulation Would Meet ADA Guidelines.

Figure 4-8 – Looking West Across US 101 from the Shopping Center, South of Hillsdale, on the Southeastern Corner of the Interchange.

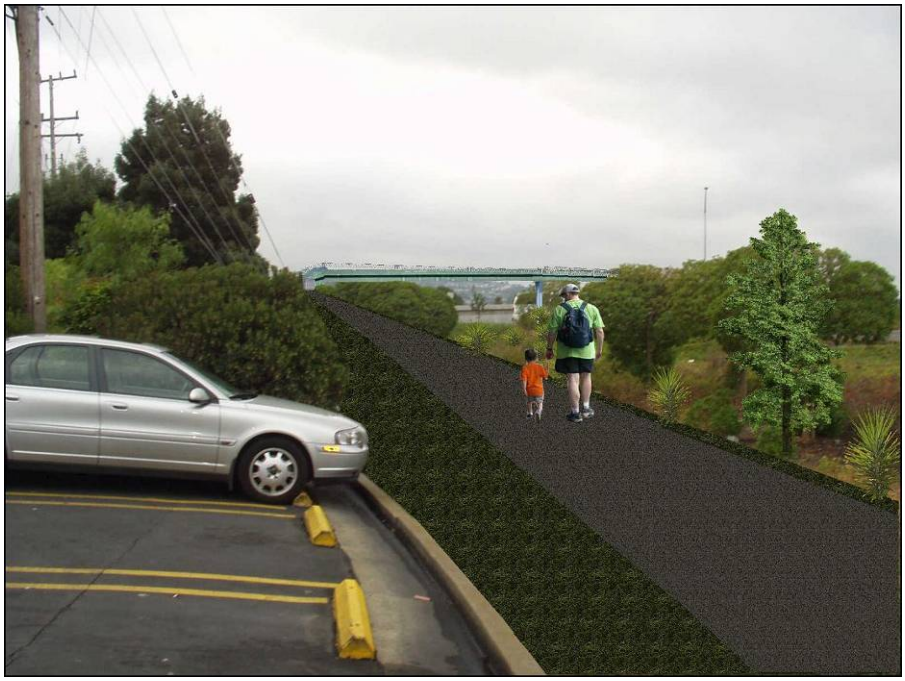

Figure 4-9 – Looking north towards the Hillsdale Over Crossing from the western side of Highway 101.

Figure 4-10 - Looking north towards the Hillsdale Over Crossing from the eastern side of Highway 101.

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5. DESIGN AND IMPLEMENTATION

This chapter addresses the implementation of the Hillsdale 101 Over Crossing project. Once the preferred alternative identified in this report is officially accepted by the implementing agencies, actual implementation of the project can begin. This chapter reviews those steps along with details on costs, design standards, and other items.

5.1. NEXT STEPS

Selection of the preferred alternative is the first implementation step. This report identifies Alternative 1A as the preferred alternative. The list below summarizes the next steps for this project.

1. **Project Approval:** The implementing agency (the City of San Mateo) needs to formally accept this report and the preferred alternative at the Public Works Commission and City Council levels.

2. **Project Sponsor:** The implementing agency, if different than the City of San Mateo, needs to take responsibility for the next steps.

3. **Caltrans Coordination:** The project is within Caltrans right-of-way, therefore reviewing the preferred alternative and conducting field review is necessary before continuing. To date, the project has been presented to Caltrans and the agency supports proceeding with the next steps.

4. **Project Study Report/Project Report (PSR/PR):** The project is within Caltrans right-of-way, making a PSR/PR necessary for state approval.

5. **Environmental Review:** An environmental analysis needs to be conducted per CEQA requirements. The public will have several opportunities to review and comment on the project and potential impacts in this process.

6. **Funding:** The City is planning on applying for Measure A funds that will become available in 2008. The City can pursue other funding sources immediately.

7. **Easement Acquisition:** The easement acquisition process can be initiated.

8. **Design:** The design process can proceed at the same time the environmental work is being completed. Next steps include title searches, surveying, review of "as-built" drawings, and soil borings. A contract for full design and engineering services could be let out once the environmental process indicates there are no fatal environmental flaws.

9. **Permitting:** An encroachment permit from Caltrans can be completed.

PROJECT DEVELOPMENT PROCESS WITH CALTRANS

In Step 4, Project Study Report/Project Report, the City of San Mateo will need to obtain formal Caltrans approval for the proposed project through formal initiation and approval documents. These documents are typically a Project Study Report (PSR), as the project initiation document, and a Project Report (PR) as the project approval document. The Hillsdale Boulevard 101 Over Crossing may be eligible for a combined PSR/PR, allowing both project initiation and project approval to be addressed in one document. The PSR or PSR/PR will define the purpose and need for the project, document the input process from project stakeholders, identify the alternatives that were studied, define a plan of action for delivering the project, and provide estimates of the project cost and schedule.

As part of the project initiation and approval, the City of San Mateo will need to develop and enter into a cooperative agreement with Caltrans to clarify the various party roles in designing, constructing, and maintaining the Over Crossing. A final cooperative agreement, ready to sign, will be included in the PSR or PSR/PR before approval.

The City will also have to evaluate the environmental impacts of the project in conformance with the California Environmental Quality Act (CEQA) and make a determination of the environmental effects of the project and the appropriate environmental documentation needed for Caltrans approval. This environmental evaluation will also be attached to the PSR or PSR/PR as part of the project approval process.

5.2. PHASING

The ability to construct a project in phases can be an important element because it may allow for agency allocation of funds over time, rather than all at once. Grant allocations are dispensed annually, but without guarantee of repeat receipt by any one applicant; each year an agency may have to apply for a mixture of different grants. Having the flexibility to hold off construction of less critical project elements until funding is secured is a significant advantage for the sponsoring agency.

The Hillsdale 101 Over Crossing project's goal to provide a connection over Highway 101 in San Mateo and improve connectivity for bicyclists and pedestrians makes it possible for the project to be developed in two phases. Improving on-street conditions for bicyclists and pedestrians at the intersections adjacent to the existing over crossing will immediately improve the route's safety, overall usability, and attractiveness. The second phase, a new over crossing over Highway 101 will tie into these intersection improvements and provide better conditions for bicyclists and pedestrians.

Potential phasing increments of Alternative 1A are shown below, along with estimated costs.

1. Completion of Feasibility Study $123,000

2. Soft Cost (Project Approval / Environmental Document, PS&E, R/W Engineering, Construction Management) $2,800,000
3. Estimated Easement Acquisition $525,000
4. Construction (Pathway, Structure) $6,382,00

5.3. COST ESTIMATE

Cost estimates have been developed to reflect the proposed alignment and alternatives envisioned in this report. Because the estimates have been developed without the benefit of specific design drawings, they are to be considered preliminary and subject to change.

Table 5-1 provides a detailed breakdown of the construction phase consistent for the preferred alternative. The total estimated cost for the preferred alternative is $6.9 million. This cost includes roadway, structure and right-of-way items.

The roadway items are estimated to cost approximately $2.0 million. As shown, this includes the earthwork, pavement structure section, drainage, specialty items, traffic items, roadway mobilization and roadway additions. The largest majority of the cost is the structure, at approximately $4.3 million. The over crossing is priced as 12-feet wide and 0.32 miles long. The last cost, right-of-way items, is priced at approximately $1 million. This includes relocating utilities and acquiring the necessary land to build the structure. The estimated easement acquisition is based on a recent sale of the properties needed and the percent needed for the over crossing.

TABLE 5-1
ALTERNATIVE 1A CAPITAL COSTS

I. ROADWAY ITEMS

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 1 - Earthwork					
Roadway Excavation	2,000	M3	$50	$100,000	
Clearing & Grubbing	1	LS	$15,000	$15,000	
Develop Water Supply	1	LS	$10,000	$10,000	
				Subtotal Earthwork	$125,000.00
Section 2 - Pavement Structural Section					
Asphalt Concrete	500	Tonn	$150	$75,000	
Aggregate Base	200	M3	$100	$20,000	
Aggregate Subbase		M3		$0	
Asphalt Concrete (OGAC)		Tonn		$0	
PCC Pavement		M3		$0	
Blanket & Edge Drains		M		$0	
				Subtotal Pavement Structural Section	$95,000
Section 3 - Drainage					
Structure Drainage Facilities	1	LS	$50,000	$50,000	
Storm Drains	300	M	$400	$120,000	
Storm Drain Pump Station		LS		$0	
Channel Improvements		LS		$0	
Project Drainage		LS		$0	
Storm Drain Inlets	4	EA	$3,500	$14,000	
				Subtotal Drainage	$184,000
Section 4 - Specialty Items					Section Cost
Concrete Barrier	20	M	$500	$10,000	
Retaining Walls	165	M2	$1,700	$280,500	
Curb, Gutter and Sidewalk	260	M	$300	$78,000	
Non-Storm Water Discharge	1	LS	$10,000	$10,000	
Resident Engineer Office Space	18	Mo	$8,000	$144,000	
Landscaping/Irrigation	1.0	ha	$200,000	$200,000	
Water Pollution Control	1	LS	$15,000	$15,000	
Environmental Mitigation		LS		$0	
Hazardous Waste Mitigation		M3		$0	
				Subtotal Specialty Items	$737,500
Section 5 - Traffic Items					
Lighting/TOS	1	LS	$75,000	$75,000	
Traffic Signal Modifications		EA		$0	
Ramp Meters		EA		$0	
Permanent Signing	1	LS	$5,000	$5,000	
Traffic Delineation Items	750	M	$4	$3,000	
Traffic Control System	1	LS	$100,000	$100,000	
Transportation Management Plan		LS		$0	
Temporary Railing (Type K)	1,000	M	$55	$55,000	
COZEEP		Hr		$0	
				Subtotal Traffic Items	$238,000
				TOTAL SECTIONS 1 thru 5	$1,379,500

Section 6 - Minor Items				
Subtotal Sections 1 thru 5	$1,379,500		10%	$137,950
			TOTAL MINOR ITEMS:	$138,000

Section 7 - Roadway Mobilization				
Subtotal Sections 1 thru 5	$1,379,500			
Minor Items	$138,000			
Sum	$1,517,500		10%	$151,750
			TOTAL ROADWAY MOBILIZATION	$152,000

Section 8 - Roadway Additions				
Supplemental Work				
Subtotal Sections 1 thru 5	$1,379,500			
Minor Items	$138,000			
Sum	$1,517,500		10%	$151,750
Contingencies				
Subtotal Sections 1 thru 5	$1,379,500			
Minor Items	$138,000			
Sum	$1,517,500		25%	$379,375
			TOTAL ROADWAY ADDITIONS	$531,000
			TOTAL ROADWAY ITEMS	$2,201,000
			(Subtotal Sections 1 - 8)	

II. STRUCTURE ITEMS	Structure (1)	Structure (2)	Structure (3)
Bridge Name			
Bridge No.			
Structure Type			
Width (M) - out to out	4.27		
Span Lengths (M)	409		
Total Area (SQ M)	1,750		
Footing Type (pile/spread)			
Cost per Sq. M.	$2,480		
Including:			
Mobilization: 10%			
Contingency: 25%			
Ramp Structure			
Remove Bridge			
Total Cost For Structure	$4,340,000		

TOTAL STRUCTURES ITEMS $4,340,000

III. RIGHT OF WAY ITEMS	Year 2006	Escalated at 3.5% per year
A. Acquisition, including excess lands and damages to remainder(s) and Goodwill	$500,000	$554,000
B. Utility Relocation (State/Local share)	$25,000	$27,700
C. Relocation Assistance	$0	$0
D. Clearance/Demolition	$0	$0
E. Title and Escrow Fees		
TOTAL RIGHT OF WAY ITEMS	$525,000	$581,700

Anticipated Date of Right of Way Certification (Date to which Values are Escalated): Year 2009

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$2,200,000	
TOTAL STRUCTURE ITEMS	$4,340,000	
SUBTOTAL CONSTRUCTION COSTS	$6,540,000	
TOTAL RIGHT OF WAY ITEMS	$525,000	
TOTAL PROJECT CAPITAL OUTLAY COSTS		$7,100,000

5.4. RECOMMMENDED PLANNING AND DESIGN STANDARDS

This section provides specific design and implementation guidelines and standards to ensure that the preferred Hillsdale 101 Over Crossing project is constructed to a consistent set of the highest and best standards currently available in the United States (Caltrans: Highway Design Manual Chapter 1000: Bikeway Planning and Design).

The design of pedestrian and bicycle over crossings of State Highways in California are governed by the Caltrans Highway Design Manual in Sections 105.2 (Pedestrian Grade Crossings), 105.3 (Accessibility Requirements), 208.6 (Pedestrian over crossings and under crossings), 208.10 (Bridge Railings), 309.2 (Vertical Clearances), the Americans with Disabilities Act (ADA) Design Guidelines, and Chapter 1000 (Bikeway Planning and Design). Signing is governed by the Manual of Uniform Traffic Control Devices (Part IX. Traffic Controls for Bicycle Facilities) (California Supplement).

Caltrans has developed specific design guidelines in the Highway Design Manual for pedestrian over crossings and Class I multi-use paths. It is useful to note that while there are bikeway design standards and pedestrian over crossing design standards, there are not specific bikeway over crossing standards. Given that the Hillsdale 101 Over Crossing is expected to be used as part of the City's bicycle network, a mixture of pedestrian over crossing and bikeway standards are included in this section.

These standards are intended to be a guide to engineers in their exercise of sound judgment in the design of projects. Design standards should meet or exceed the Caltrans standards to the maximum extent feasible. Lower standards may be used "when such use best satisfies the concerns of a given situation." Mandatory design standards "are those considered most essential to achievement of overall design objectives. Many pertain to requirements of law or regulations such as those embodied in the FHWA's controlling criteria." Mandatory standards are identified in Chapter 1000 of the Highway Design Manual with the use of bold text and the word "shall."

Except for the Caltrans guidelines, all design guidelines must be considered as simply design resources for the Hillsdale 101 Over Crossing project, to be supplemented by the reasonable judgment of professionals. The following sections establish the basic design parameters as developed by Caltrans. Mandatory standards are shown in bold face.

WARRANTS

The Highway Design Manual states that the need for a pedestrian over crossing should be studied in conjunction with pedestrian generating sources in the area, type of highway to be crossed, location of adjacent crossing facilities, land use, and the predominate type and age of persons expected to use the facility. These factors have been addressed in this Feasibility Study in Chapter 2 (Needs Analysis).

The Highway Design Manual states that historical pedestrian patterns should be maintained, and where vehicular crossings are inadequate, grade separated crossings for pedestrians should be

provided. "In general, if a circuitous route is involved, a pedestrian separation may be justified even though the number of pedestrians is small." The Hillsdale 101 Over Crossing fits this description.

ACCESSIBILITY REQUIREMENTS

New pedestrian over crossings must meet the requirements of the Americans with Disabilities Act (ADA) and specifically the ADA Accessibility Guidelines. Caltrans requires adherence to the accessibility guidelines in Title 24 of the California Code of Regulations and the ADA Accessibility Guidelines. Curb cuts at the ramp entrances, placement of bollards (leaving a minimum 60" clearance), and proposed maximum gradients will result in a project in compliance with the ADA.

PATH AND STRUCTURE WIDTH

The recommended minimum width for paved multi-use paths, according to the California Highway Design Manual, is eight feet, with two feet of lateral clearance on each side and eight feet of vertical clearance (see Figure 5-1). If the path is projected to have higher volumes of bicyclists and others, or if maintenance vehicles will be using the path on a regular basis, a minimum width of 12 feet is recommended with the same lateral and vertical clearances. The Hillsdale 101 Over Crossing project is recommended to be 12 feet wide with two-foot wide unpaved shoulders made of a compacted surface (often decomposed granite) wherever possible on the path that connects to the Over Crossing. The shoulders are located on each side of the paved surface to accommodate joggers and others who prefer a softer surface. The landing on the eastern side of the over crossing will be a 12-foot wide path as will any portion of the ADA ramp portions on the western side that is not elevated off of the ground. A two percent cross slope for drainage should be provided on all path segments.

INTERSECTIONS AND CROSSINGS

The Preferred Alternative has two road crossings, one on each end. These are high traffic volume intersections and have established pedestrian crossings. Path approaches at intersections should always have Stop or Yield signs to minimize conflicts with autos. Crossing signs may be placed in advance of path crossings to alert motorists. Ramps should be placed on sidewalk curbs for bicyclists and to meet ADA requirements.

DESIGN SPEED

According to the California Highway Design Manual, the minimum design speed for multi-use paths is 20 miles per hour, except on sections where there are long downgrades (steeper than four percent, and longer than 500-feet). **Speed bumps or other surface irregularities should never be used to slow bicycles.** To slow bicyclists at the western landing of the over crossing, a small dog-leg is recommended.

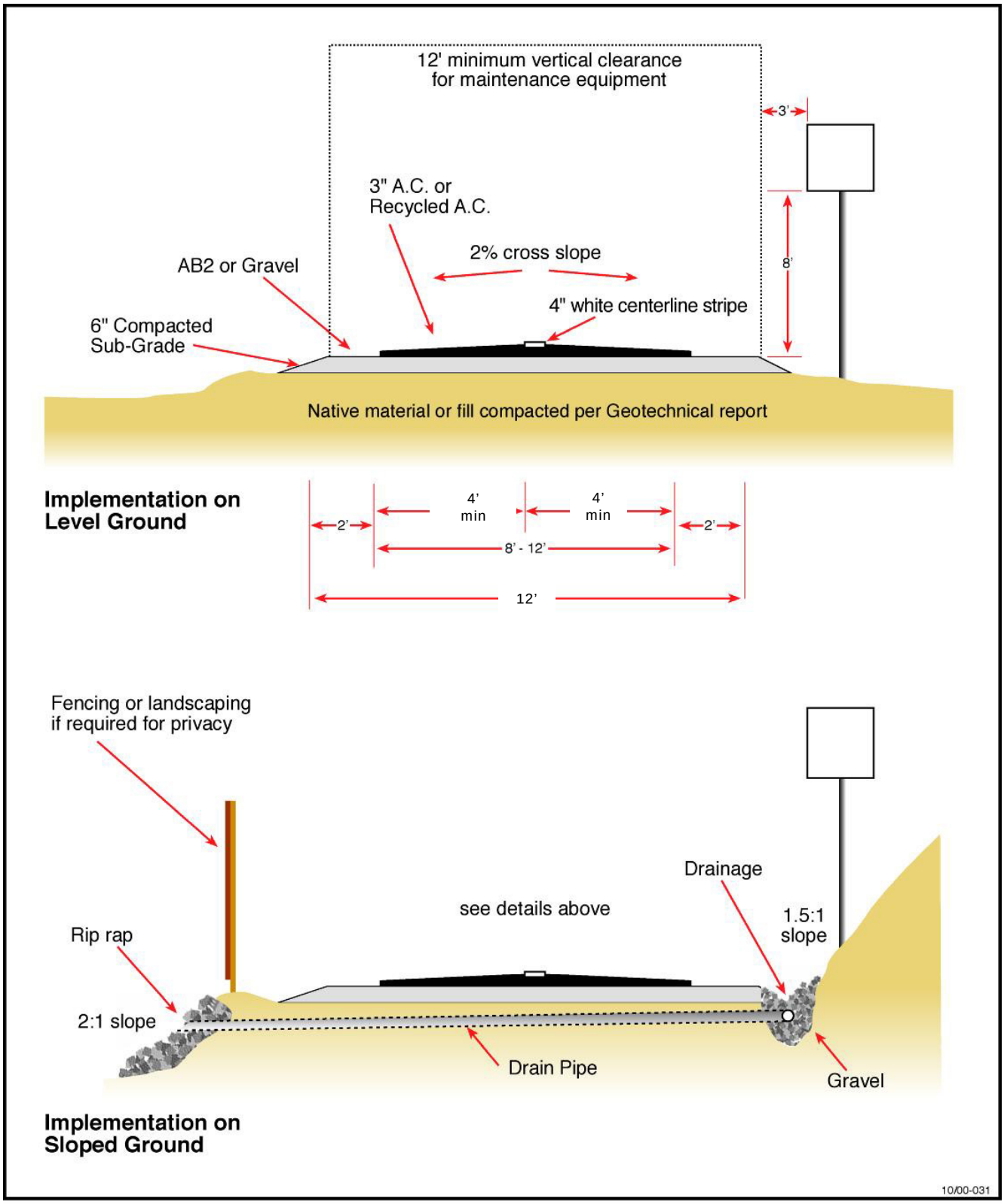

Figure 5-1 - Multi-Use Path Cross Section

HORIZONTAL ALIGNMENT

Recommended curve radii and super elevations should conform to Caltrans *Highway Design Manual* Chapter 1000 specifications, along with recommended stopping distances.

STRUCTURAL SECTION – PATH CONSTRUCTION

Multi-use path construction should be conducted in a similar manner as roadway construction, with sub-base thickness to be determined by soils condition and expansive soil types requiring special structural sections. Minimum asphalt thickness should be two inches of Type A or Type B as described by Caltrans Standard Specifications, with a six-inch thick Class 2 aggregate base. In areas on the path where there is expected to have regular use by patrol or maintenance vehicles, the preferred pathway material for the path is a four-inch reinforced concrete material with sub-base or six inches of reinforced concrete on compacted native material (if suitable). In other areas where these conditions do not exist, three-inch thick asphalt concrete may be suitable.

STRUCTURAL SECTION/COLUMN AND FOOTING LOCATION

The structure type for the Hillsdale 101 Over Crossing will be a reinforced concrete box girder bridge supported on 1.5 m (5 foot) diameter reinforced concrete columns and driven pile footings. Alternative column shapes are rectangular, octagonal or oblong with semi-circular ends.

As the required span and structure height decreases at the ends of the bridge, approach ramps of reinforced concrete slabs supported on small diameter column bents will be used. Required column diameter and spacing for the approach ramps will be controlled by the seismic loading. If soil conditions permit, pile caps will not be required and the small diameter columns of the approach ramps will cantilever from the existing grade to support the slab superstructure. The beginning and end of the approach ramps will be supported on diaphragm type abutments on driven piles. Design of the over crossing structure and approach ramps will conform to Caltrans' design specifications and meet all ADA standards.

Highway 101 at this location has four 12 foot lanes in each direction with a concrete median barrier. The existing median width is approximately 10 feet wide and this project will require construction of a bend in the median of Highway 101. Because the existing inside shoulders are approximately four feet wide and substandard, approval for a mandatory design exception from Caltrans per Table 302.1 of the Highway Design Manual (HDM) is required. During construction, an advisory design exception per Table 204.8 of the HDM for normal minimum width of traffic opening for falsework spans would also be required.

BRIDGE STRUCTURAL LOADS

The over crossing structures will conform to Caltrans' standard design loading of 85 pounds per square foot

SOIL CONDITION

As-Built Log of Test Borings (dated 1972) by Caltrans was reviewed. Based on this, the site is underlain by alluvial deposits, mainly composed of loose sand and silt above Elev. 0. The material changes to relatively compact and dense sand and gravel interbedded with clay and silt through approximate Elev. -40. Below that, primarily firm to hard clay with sand and gravel lenses was encountered to an approximate Elev. -100 feet, where the exploration was terminated. The ground water level was measured at approximate Elev. 1.5 feet.

DRAINAGE

Drainage is expected to be a minor issue for all portions of the over crossing and path. The project designer and City of San Mateo should work closely together to ensure that adequate drainage is provided and the impacts of flooding minimized. Drainage inlet grates, if required, will have openings narrow enough and short enough to insure that bicycle tires will not drop into the grates. A minimum two percent cross slope is recommended for adequate drainage of the path on all sections.

VERTICAL CLEARANCES OVER STATE HIGHWAYS

The minimum vertical clearance for pedestrian crossings over a freeway is 18.5 feet (5.6 meters), as shown in Figure 5-2, the Hillsdale 101 Over Crossing will meet this requirement.

RAILINGS AND SCREENS

Chain link railings will provide a protective barrier for pedestrians and bicyclists on the Hillsdale 101 Over Crossing. They will also deter users from dropping or throwing objects on the roadway below. Caltrans' chain link railing type 7 (modified) would be a viable option on the over crossing structure. This 6-foot high combination chain link fence-type railing, modified with a handrail, would satisfy both of Caltrans' safety requirements mentioned above. The railings would be installed on 6-inch concrete high curbs located on both sides of the structure. Sight distance at the bridge ends and view over the side of the bridge would be considered in the overall design.

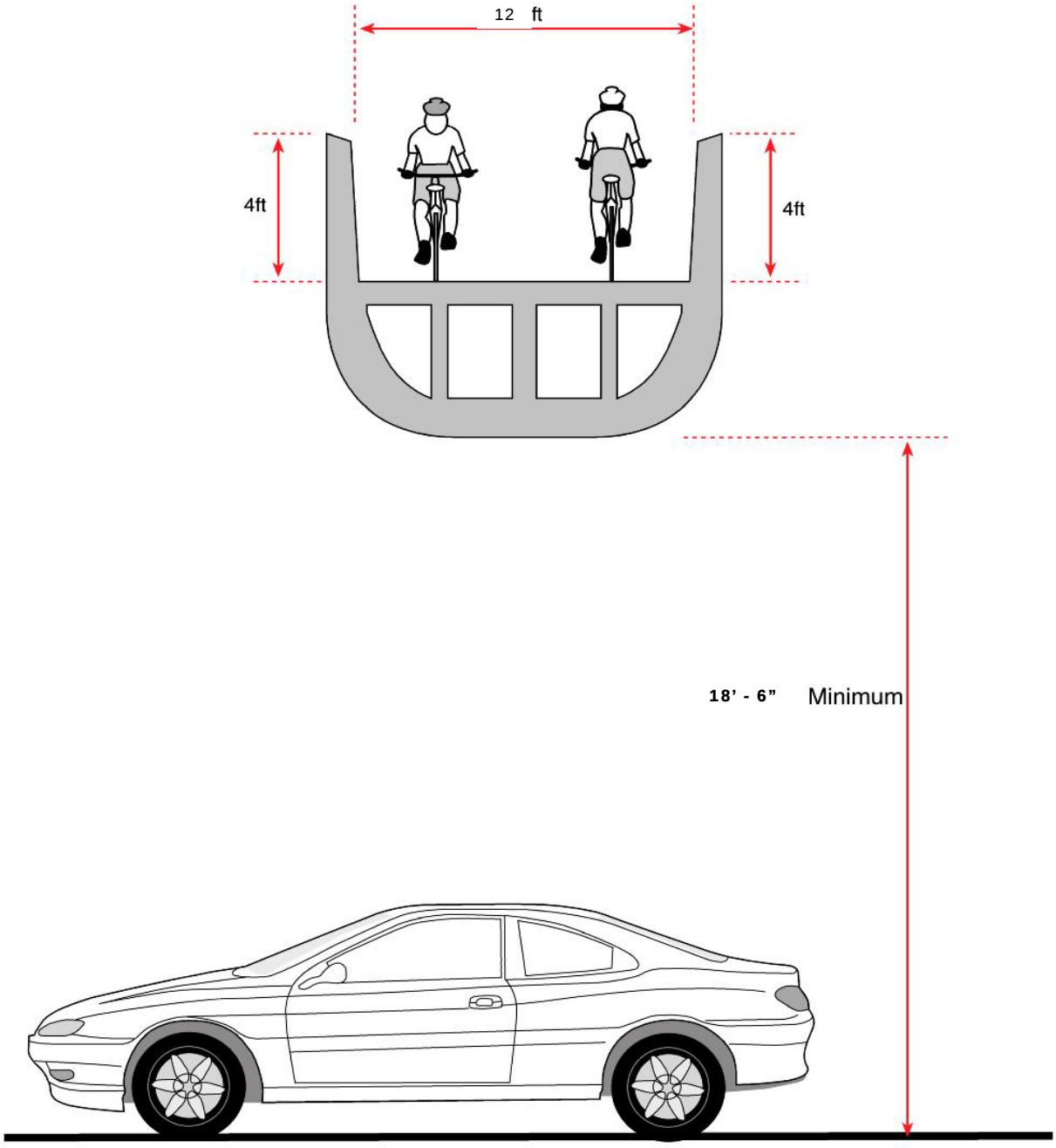

Figure 5-2 – Example Concrete Over Crossing Structure

BARRIER POSTS

Posts at path intersections and entrances (at the Hillsdale Court, Highway 101 southbound ramp and Norfolk Street entries) may be necessary to keep vehicles from entering. Posts should be designed to be visible to bicyclists and others, especially at night, with reflective materials, appropriate striping and lighting if appropriate. Posts should be designed to be easily moveable by emergency vehicles, such as bollards or a half gate and bollard, see Figures 5-3.

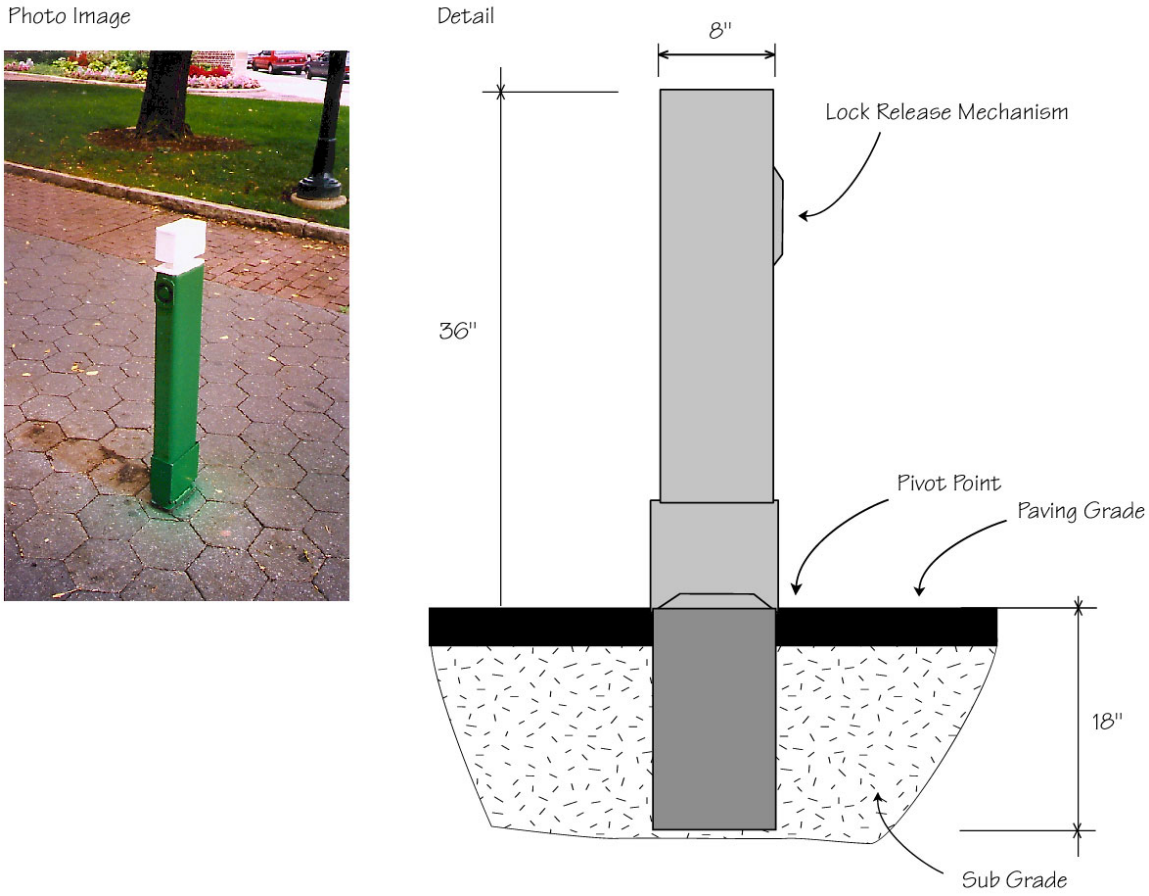

Figure 5-3 - Collapsible Bollard

SIGNING, MARKINGS, AND TRAFFIC CONTROL DEVICES

Uniform signs, markings, and traffic control devices shall be used per section 2376 of the Streets and Highways Code.

Multi-use path signing and markings should follow the guidelines as developed by Caltrans and the Manual on Uniform Traffic Control Devices. This includes advisory, warning, directional, and informational signs for bicyclists, pedestrians, and motorists. The over crossings will have a

yellow centerline stripe in order to help organize bicycle and pedestrian traffic flow on the structures, especially at the ramp entrances. The final striping, marking, and signing plan for the Hillsdale 101 Over Crossing should be reviewed and approved by a licensed traffic engineer or civil engineer.

Designs which deviate from the mandatory Caltrans design standards **shall** be approved by the Chief, Office of Project Planning and Design, or to delegated Project Development Coordinators. These standards represent the basic guidelines set forth by Caltrans. There are many conditions that are not explicitly covered in the Caltrans or AASHTO guidelines.

In general, all signs should be located two to four feet from the edge of the paved surface, have a minimum vertical clearance of 8.5 feet when located above the path surface and be a minimum of four feet above the path surface when located on the side of the path. All signs should be oriented so as not to confuse motorists. The designs (though not the size) of signs and markings should be the same as used for motor vehicles.

FENCING AND BARRIERS

The structure railings should be designed for both pedestrian and bicycle use. **Protective screening is required for all new over crossing structures in urban areas.** Barriers provide safety to users of the facility as well as those below.

CROSSINGS

Road crossings from separated paths and over crossings require two critical considerations: (1) path users will be enjoying an auto-free experience and may enter into an intersection unexpectedly, and (2) motorists will not expect to see bicycles or pedestrians from an unmarked location into the roadway. Bikeway crossings near ramp entrances should occur at established pedestrian crossings wherever possible, or at locations completely out of the influence of intersections. Bikeway approaches at intersections should always have Stop or Yield signs to minimize conflicts with autos. Stop signs and bicycle crossings may be placed in advance of crossings to stop and alert motorists.

Standard Crossing Features

This section summarizes some of the key attributes of all path crossings.

Signing

Crossing features for all roadways include warning signs both for vehicles and path users. The type, location, and other criteria are identified in the *Manual for Uniform Traffic Control Devices* (MUTCD) and the Caltrans *Highway Design Manual*. Consideration must be given for adequate warning distance based on vehicle speeds and line of sight, with visibility of any signing absolutely critical. Catching the attention of motorists jaded to roadway signs may require additional alerting devices such as a flashing light, roadway striping, or changes in pavement texture. Signing for path users must include a standard "STOP" sign and pavement marking,

sometimes combined with other features such as bollards to slow bicyclists. Care must be taken not to place too many signs at crossings lest they begin to lose their impact.

Directional signing may be useful for path users and motorists alike. For motorists, a sign reading "Path Xing" along with a path emblem or logo helps both warn and promote use of the path itself. For path users, directional signs and street names at crossings help direct people to their destinations. Care should be taken to keep vegetation and other obstacles out of the view line for motorists and path users.

Striping

A number of striping patterns have emerged over the years to delineate path crossings. A median stripe on the path approach will help to organize and warn path users. The actual crosswalk striping is a matter of local and state preference, and may be accompanied by pavement treatments to help warn and slow motorists. The effectiveness of crosswalk striping is highly related to local customs and regulations. In communities where motorists do not typically defer to pedestrians in crosswalks, additional measures may be required.

GRADES

The preferred Hillsdale 101 Over Crossing alignment has been designed to a maximum gradient of 8.3% on the east and west sides, with appropriate landings to reflect Americans with Disabilities Act (ADA) recommendations. The landing gradient at Hillsdale Court is greater than 8.3% but is intended for bicyclists use, however the entire structure is 5% maximum grade. While both Caltrans "Chapter 1000 (Planning and Design of Bikeways)" and AASHTO's *Guide for the Development of Bicycle Facilities* states that grades up to 10% are allowable for shorter distances on bike paths, the application of ADA standards on multi-use paths is less clear. The State has started requiring that all multi-use paths meet ADA standards under the expectation that they will be used by both bicycles and pedestrians.

UTILITIES AND LIGHTING

The Hillsdale 101 Over Crossing is proposed to have lighting on the structures and at the ramp entrances and crossings. Lighting will be designed to have a minimal impact onto adjacent properties by the lighting fixture type, focus of the lighting, and proximity of nearby uses. In no case will the new lighting on the preferred alignments exceed the lighting impact of existing street lights on nearby residential uses.

LANDSCAPING

Landscaping is planned along the over crossing on the western side adjacent to the Hillsdale Court landing. In addition to this landscaping, native plants may be planted to replace items lost during construction, to help stabilize slopes, or to help protect the privacy of adjacent parcels.

5.5. OPERATIONS AND MAINTENANCE

Operations and maintenance of the Hillsdale 101 Over Crossing is of utmost importance for the productive use of the facility, and the financial and liability resources of the City of San Mateo.

OPERATIONS

Operation activities on the Hillsdale 101 Over Crossing will consist primarily of monitoring and security. Monitoring accidents including identifying the primary cause and rectifying any physical deficiencies must be accomplished by the City. The local police department typically has the responsibility for collecting accident information identifying fault, while the City has the responsibility for identifying and improving physical or operational conditions that may have contributed to the accident. The City typically also has the responsibility for making the determination to warn path users of problems, and to close the path when conditions warrant.

SECURITY

Most multi-use paths in the United States do not have a dedicated police patrol of the facility. The City should provide routine police patrols on all of its multi-use paths and the Hillsdale 101 Over Crossing.

MAINTENANCE

Maintenance of the Hillsdale 101 Over Crossing will include the following regular activities:

Item	Frequency
Sign replacement/repair	1-3 years
Pavement marking replacement	1-3 years
Tree, Shrub, & grass trimming/fertilization	5 months- 1 year
Pavement sealing/potholes	5-15 years/30-40 years for concrete
Clean drainage system	1 year
Pavement sweeping	Monthly - annually as needed
Trash disposal	as needed
Lighting replacement/repair	1 year
Graffiti removal	Weekly - monthly as needed
Pruning	1-4 years
Remove fallen trees	As needed
Weed control	Monthly - as needed
Maintain emergency telephones	1 year

Many of these maintenance items are dependent on the type and amount of supporting infrastructure that is developed along the path.

SAFETY

Safety is not considered a significant potential problem on the Hillsdale 101 Over Crossing.

Safety will be addressed on the Hillsdale 101 Over Crossing in the following manner:

1. Adhere to the established design, operation, and maintenance standards presented in this document.
2. Supplement these standards with the sound judgment of professional engineers.
3. Maintain adequate recording and response mechanisms for reported safety and maintenance problems.
4. Thoroughly research the causes of each reported accident on the Hillsdale 101 Over Crossing. Respond to accident investigations by appropriate design or operation improvements.
5. Design the path, its structures, and access points to be accessible by emergency vehicles. Bollards at the path entries should be removable by the appropriate fire, ambulance, and police agencies.
6. Provide regular police patrols to the extent needed.

PRIVATE PROPERTY PROTECTION

The Hillsdale 101 Over Crossing will be located directly adjacent to private properties along some of its proposed alignment. Neighbor concerns regarding over crossing/path location near their properties typically include a loss of visual privacy, and concerns about increased crime, vandalism, noise, and fire. Wherever possible, the right-of-way should be located as far away as possible to protect the privacy of adjacent property owners. Criminal activity is not likely to occur along an over crossing or path that is well planned, designed, operated, maintained, and used.

PATH REPAIRS & CLOSURE

Over Crossing users will need to be managed during construction and periodic maintenance of the over crossing and when sections are closed or unavailable to users. Path users must be warned of impending closures, and given adequate detour information to bypass the closed over crossing. Users must be warned through the use of standard signing at the entrance to each of the over crossing ("Bridge Closed"), including (but not limited to) information on alternate routes and dates of closure. If the over crossing is closed, it must be gated or otherwise blockaded and clearly signed as closed to public use. Alternate routes should provide a reasonable level of directness and lower traffic volumes, and signed consistently. If no reasonable alternate routes are available, the route should have an "End Route" sign and provide access to the street and sidewalk system.

5.6. FUNDING

Funding for planning, design, and construction of the path can come from a variety of local, state, and federal funding. Most of these programs are competitive and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Local funding for projects typically comes from local capital improvement programs (CIPs) and can potentially come from Measure A funds. A review of different funding sources is below.

FEDERAL FUNDING

The primary federal source of surface transportation funding—including bicycle and pedestrian facilities—is SAFETEA-LU, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. SAFETEA-LU is the fourth in a series of Federal transportation funding bills. The $286.5 billion SAFETEA-LU bill, passed in 2005, authorizes federal surface transportation programs for the five-year period between 2005 and 2009.

SAFETEA-LU funding is administered through the State (Caltrans and Resources Agency) and regional planning agencies. Most, but not all, of these funding programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Specific funding programs under SAFETEA-LU include:

Congestion Mitigation and Air Quality (CMAQ) — Funds projects that are likely to contribute to the attainment of national ambient air quality standards. Funds are available for projects and programs in areas that have been designated in non-attainment or maintenance for ozone, carbon monoxide or particulate matter. Since the Bay Area is in attainment of national air quality standards for all pollutants except ozone, future Bay Area eligibility for CMAQ allocations is currently being determined.

Recreational Trails Program — $370 million nationally through 2009 for non-motorized trail projects.

Safe Routes to School Program — A new program with $612 million nationally through 2009.

Transportation, Community and System Preservation Program — $270 million nationally over five years (2006-2011) reserved for transit oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers.

The State of California uses both federal sources (such as the Recreational Trails Program) and its own budget to fund pedestrian projects and programs. In some cases, such as Safe Routes to School, Office of Traffic Safety, and Environmental Justice grants, project sponsors apply directly to the State for funding. In others, such as Bay Trail grants, sponsors apply to a regional agency.

STATE FUNDING

Bicycle Transportation Account — The State Bicycle Transportation Account (BTA) is an annual statewide discretionary program that is available through the Caltrans Bicycle Facilities Unit for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. Due to the passage of AB1772 in the year 2000, the BTA had $7.2 million available between 2000 and 2005. Following the year 2005, the fund dropped to $5 million per year. In funding cycle 2007/2008, there are $5 million in statewide BTA funds available. The local match must be a minimum of 10% of the total project cost.

Bicycle Transportation Account

http://www.dot.ca.gov/hq/LocalPrograms/bta/btaweb%20page.htm

Safe Routes to School (SR2S) — In September 2004, with the passage of SB 1087 (Soto), the State extended Safe Routes to School legislation for three additional years. The bill is scheduled to sunset on January 1, 2008. This program is meant to improve the safety of walking and cycling to school and encourage students to walk and bicycle to school through identification of existing and new routes to school and construction of pedestrian and bicycle safety and traffic calming projects. Caltrans is currently evaluating California's SR2S funding, in light of the new federal SR2S Program. Recent SAFETEA-LU legislation, which requires each state's Department of Transportation to designate a SR2S Coordinator, also contains a SR2S program. As of this printing, whether or not these programs will be combined in California or will remain autonomous has not been determined. Therefore, the amount of funds available is unknown at this point.

Caltrans, SR2S Program

www.dot.ca.gov/hq/LocalPrograms/saferoute2.htm

Office of Traffic Safety (OTS) Grants - The California Office of Traffic Safety distributes federal funding apportioned to California under the National Highway Safety Act and SAFETEA-LU. Grants are used to establish new traffic safety programs, expand ongoing programs to address deficiencies in current programs. Bicycle and pedestrian safety are included in the list of traffic safety priority areas. Eligible grantees include governmental agencies, state colleges and state universities, local city and county government agencies, school districts, fire departments, and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include: potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants. OTS expects to have $56 million in funding available statewide for FY 2006/07.

California Office of Traffic Safety, Grants Program

www.ots.ca.gov/grants/default.asp

REGIONAL FUNDING SOURCES

Safe Routes to Transit (SR2T) - Regional Measure 2 (RM2), approved in March 2004, raised the toll on seven state-owned Bay Area bridges by one dollar for 20 years. This fee increase funds various operational improvements and capital projects, which reduce congestion or improve travel in the toll bridge corridors.

Twenty million dollars of RM2 funding is allocated to the Safe Routes to Transit Program, which provides competitive grant funding for capital and planning projects that improve bicycle and pedestrian access to transit facilities. Eligible projects must be shown to reduce congestion on one or more of the Bay Area's toll bridges. The competitive grant process is administered by the Transportation and Land Use Coalition and the East Bay Bicycle Coalition. Competitive funding is awarded in five $4 million grant cycles. The first round of funding was awarded in December 2005. Future funding cycles will be in 2007, 2009, 2011 and 2013.

Transportation and Land Use Coalition, SR2T Program

www.transcoalition.org/c/bikeped/bikeped_saferoutes.html

Regional Bicycle and Pedestrian Program (RBPP) - The RBPP was created in 2003 as part of the long range Transportation 2030 Plan developed by the Bay Area Metropolitan Transportation Commission. The program—currently funded with Congestion Mitigation and Air Quality funds—funds regionally significant bicycle and pedestrian projects, and bicycle and pedestrian projects serving schools or transit. $200 million dollars are committed to this program over the 25-year period. Seventy five percent of the total funds are allocated to the county congestion management agencies based on population. The remaining 25 percent of funds are regionally competitive, with the county CMAs recommending the projects to be submitted to MTC for funding consideration.

Metropolitan Transportation Commission, RBPP Program

www.mtc.ca.gov/planning/bicyclespedestrians/regional.htm#bikepedprog

LOCAL FUNDING SOURCES

TDA Article 3

Transportation Development Act (TDA) Article 3 funds are available for transit, bicycle and pedestrian projects in California. According to the Act, pedestrian and bicycle projects are allocated two percent of the revenue from a ¼ cent of the general state sales tax, which is dedicated to local transportation. These funds are collected by the State, returned to each county based on sales tax revenues, and typically apportioned to areas within the county based on population. Eligible pedestrian and bicycle projects include construction and engineering for capital projects; maintenance of bikeways; bicycle safety education programs; and development of comprehensive bicycle or pedestrian facilities plans. A city or county is allowed to apply for funding for bicycle or pedestrian plans not more than once every five years. These funds may be used to meet local match requirements for federal funding sources.

Metropolitan Transportation Commission, TDA Funding Program

www.mtc.ca.gov/funding/STA-TDA/index.htm

San Mateo County Transportation Authority, Measure A Funding

Measure A is a sales tax measure established by San Mateo County voters in 1989 and was set to expire in 2008. In November 2004, Measure A was reauthorized by County voters for an additional 25 years. Measure A allows the collection of a 1/2-cent sales tax devoted to transportation projects and programs. Three-percent of Measure A funds is devoted to bicycle and pedestrian projects. The San Mateo Over Crossing project is on the Measure A potential project funding list and can compete for these funds.

San Mateo County Transportation Authority

http://www.smcta.com/index.asp

5.7. LIABILITY

In general, liability risks for neighbors of multi-use paths is well protected and probably reduced from current levels by the recreational use statute and other statutes. Assuming the Over Crossing is designed, built, and operated to established standards, there is no additional liability for the City of San Mateo.

APPENDIX: PUBLIC WORKSHOP MINUTES

PUBLIC WORKSHOP #1

MEETING MINUTES

DATE: July 13, 2006

TIME: 7:00 PM – 9:00 PM

LOCATION: San Mateo City Hall
330 W. 20th Street
San Mateo, California

ATTENDING: Larry Patterson (City of San Mateo Public Works Director), Gary Heap (City of San Mateo Project Manager), Michael Jones, Nora De Cuir, Brad Leveen, Joe Vu (Project Consultants) and members of the public.

SUMMARY OF DISCUSSION ITEMS

1. Introduction and welcome by Gary Heap.

2. Presentation by Alta on project purpose, process and proposed options.

3. Informal question and comment session, in concert with presentation, which produced the following:

COMMENT OR QUESTION BY CATEGORY
OVERALL PROJECT
Will this interchange project have any effect on Hillsdale Boulevard between Hillsdale and El Camino?
Why would the ramp have to loop around on Option 1B? Can we use the Hillsdale Court Option (IC) combined with Option 1A, essentially providing both options?
Can we combine Options 1A and 1B also?
Option 1C could be a more recreational route because it connects more directly to the Bay Trail.
Option 1C is good for school children coming from the La Selva area.
Better to build on vacant property rather than impact existing buildings.
Need for safe facility that can be used by kids.

COMMENT OR QUESTION BY CATEGORY
Connections to Caltrain Station are important.
We shouldn't be stuck with the speed ramps.
During peak times the signalized off ramps cause traffic congestion on the freeway.
Ramp intersections are Caltrans', Saratoga and Norfolk are the City, efforts underway to coordinate them (*Gary Heap).*
Keep cyclists off of sidewalk, put buttons (actuators) where cyclists can reach them without dismounting their bikes. Need place for cyclists to queue at intersections.
What about the impacts to the neighbors?
There is already a sound wall near Option 1.
When will you have ballpark costs?
We really want to get this build and we need to meet all the criteria for possible funding.
Is there a reason you can't be more direct while spanning all off ramps?
What about a tunnel?
Costs are huge for tunneling. (*Gary Heap*)
How much of the length of that structure can be accommodated by piling dirt higher?
Would take a good deal of extra right of way to use fill for the structure. (*Brad Leveen*)
What is the impact to these parking lots? They aren't being used for very much and using fill should be cheaper than a metal and concrete structure. You should bring up the idea of shoppers using it to access stores in exchange for using some of the existing parking lot area.
East side loop ramp seems to be the problem. Seems like the structure will cost us at least 25 million dollars for .33 miles.
Structure will probably be about 5 million for Option 1A/B/or C. (*Brad Leveen*)
This bridge would be the first thing you see when you arrive in San Mateo from northbound 101. It could be a gateway to San Mateo.
It will be very competitive for all funding (*Michael Jones*)
Usability and safety of Option 1 are better than Option 2.
Option 1 is best option for kids, but funding is key, because Option 1 is the most expensive.
Why isn't there an option using the parking structure (on northwest corner of interchange) to land the ramp?
The Caltrain Station can be accessed using other streets, instead of Hillsdale. Take Hillsdale to Pacific or Poinsettia to the south end of the train station.
Option 1C would be useful for La Selva apartment dwellers who may use the bridge.
You should talk to Foster City because getting to Foster City is really difficult.

COMMENT OR QUESTION BY CATEGORY
What about going straight across from the southern side to La Selva, acquiring right of way in the residential neighborhood?
BICYCLE
Hillsdale Boulevard is not bicycle friendly. Bike lanes should be included in the project.
Commuter who rides from Redwood Shores to downtown San Mateo notes a good deal of commuter cyclists on Norfolk.
Narrowing the lanes would slow the traffic on Hillsdale.
Want to avoid intersections like 3rd Avenue.
Concern that the appearance of a bike path would cause motorists to believe that bicycles are not allowed on the street at this location.
What happens when the Class I facility rejoins the road? The advantage of 1B is that it helps to reintegrate cyclists in the road network.
Likes 1B because of use of surface streets, likes 1C because of the bike access issues, 1C would need a lot of signage.
PEDESTRIAN
Some pedestrians are not coming to meetings like this because they don't speak English, but these are people you need to target.
How will pedestrians access Whole Foods?
We should have wider sidewalks by the vacant (hotel) parcel.
Option 1 provides a new facility for pedestrians. Other side does not provide as much for pedestrians.
Would it be helpful for pedestrians to connect down to Hillsdale Court?
Can we have a direct stair access to Option 1?

PUBLIC WORKSHOP #2

MEETING MINUTES

DATE: November 9th, 2006

TIME: 7:00 PM – 9:00 PM

LOCATION: San Mateo City Hall
330 W. 20th Street
San Mateo, California

ATTENDEES: Gary Heap - City of San Mateo Project Manager
Michael Jones, Matt Lasky – Alta Planning + Design
Brad Leveen, Joe Vu (Project Consultants) – Mark Thomas Co.

SUMMARY OF DISCUSSION ITEMS

1. Introduction and welcome by Gary Heap.

2. Presentation by Alta on project background, alternative analysis and proposed alignment.

3. Conceptual Plans and Structure Elevations discussion by Mark Thomas Co.

4. Informal question and comment session, with the following comments:

Question	Comment
How would the project be funded?	Funds are available in 2008 through Measure A. We are working on planning and design now in order to hit the ground running when the funds become available.
Can we hear more about Option 3, north of the overpass? Why is it less desirable?	To build Option 3, or a wide sidewalk/path on the existing structure, users would still have to cross the ramps thus not substantially improving the safety for bicyclists and pedestrians.
Option 3, on the north of the overpass looks like it connects the city bike system better.	This depends on your origin and destination. Plus, within the bridge project or in addition to this project we hope to improve the bicycle/pedestrian connections at the surrounding intersections.
What about an Option 3 but passing over the ramp on the northwest side of the interchange?	This is possible however it would require ~400 more feet of ramp. Plus it would be necessary for the City to negotiate for more right-of-way with a property owner that is not open to negotiation. This could dramatically delay the design and construction processes. This would be a very expensive undertaking for the City.

Question	Comment
Can we better connect the bridge to the City's existing bikeway system on the southside of the bridge?	Yes, the consultant will review the three surrounding intersections (2 on west, 1 on east) and make sure that there are bicycle and pedestrian aspects that facilitate these movements to the bridge.
What part of the proposed bridge is in city right-of-way vs. Caltrans right-of-way?	On the proposed alignment drawing, Caltrans' right-of-way is in red, private landholders in white, and none is owned by the City.
Why was the La Selva Street leg dropped from the proposed bridge?	The proposed option is better for bicycle connectivity. If there were a La Silva connection it would require a series of scissor ramps that would be difficult for bicyclists to maneuver. This leg is still an option to add but would add cost to the project.
Has this project been reviewed with the funding agency?	The Transportation Authority reviewed the different proposals; the proposed option was seen as the most feasible.
What is the estimated cost of the bicycle/pedestrian bridge?	For a bridge, including design and construction it is estimated to cost $4 to $7 million.
What is the timeframe to have the bridge built?	Based on the simplest of structures, it would take an estimated 1 year to design and 1 year to build. It would take longer for design and construction for a more complicated bridge design.
Can there be access to the shopping center on the east side of the bridge?	Yes, a stairway (spiral?) is possible but the consultants need to confirm ADA necessities
What are the prospects of extending the existing Class II bike lanes on Saratoga Drive?	The consultant will examine the existing bikeway facilities to access the proposed bridge as well as possible intersection improvements such as bike loops and bike pockets
Kaiser is proposing a medical office building on the block bound by Hillsdale, Saratoga, and Franklin Parkway. In their design they have a Class I path on Saratoga Drive.	The Kaiser developer has relocated the proposed on-site Class I bike path to the northern portion of the property fronting Franklin Parkway.
What are the next steps?	The planning and design should be complete and ready for formal review when the funding becomes available in 2880. In the meantime, the City will continue to work with Caltrans and their process for approval.
Is City Council supportive of the project?	Yes